

PIRLS 2011: reading achievement in England



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for Education

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Chapter 1 Attainment in PIRLS 2011

Chapter outline

This chapter summarises pupils' attainment in the Progress in International Reading Literacy Study (PIRLS) in 2011 and over time. Outcomes for England are compared with those of other countries.

Key findings

- England's average scale score of 552 is above the scale centre point of 500. This is significantly higher than thirty-one countries, and significantly lower than just five countries.
- This performance is an improvement over that on the 2006 survey. The highest scoring countries in 2006 (Hong Kong, the Russian Federation and Singapore) remain the highest scoring countries in 2011 and two new entrants, Finland and Northern Ireland, also scored significantly higher than England.
- Following a fall in 2006, England's performance is now very close to that achieved in 2001. Of the higher achieving countries (average scale score over 500), only two, the United States and Chinese Taipei, showed a greater improvement than England between 2006 and 2011.

1.1 Attainment in 2011

Table 1.1 shows the distribution of reading achievement in PIRLS 2011 for all 45 participating countries. Countries are shown in descending order of average reading achievement. The scale score for England was 552, significantly above the international average. The highest scoring participant was Hong Kong with a scale score of 571, and Morocco was the lowest scoring country with a scale score of 310.

England performed better than both Australia and New Zealand among the English-speaking countries; Northern Ireland performed better than England.

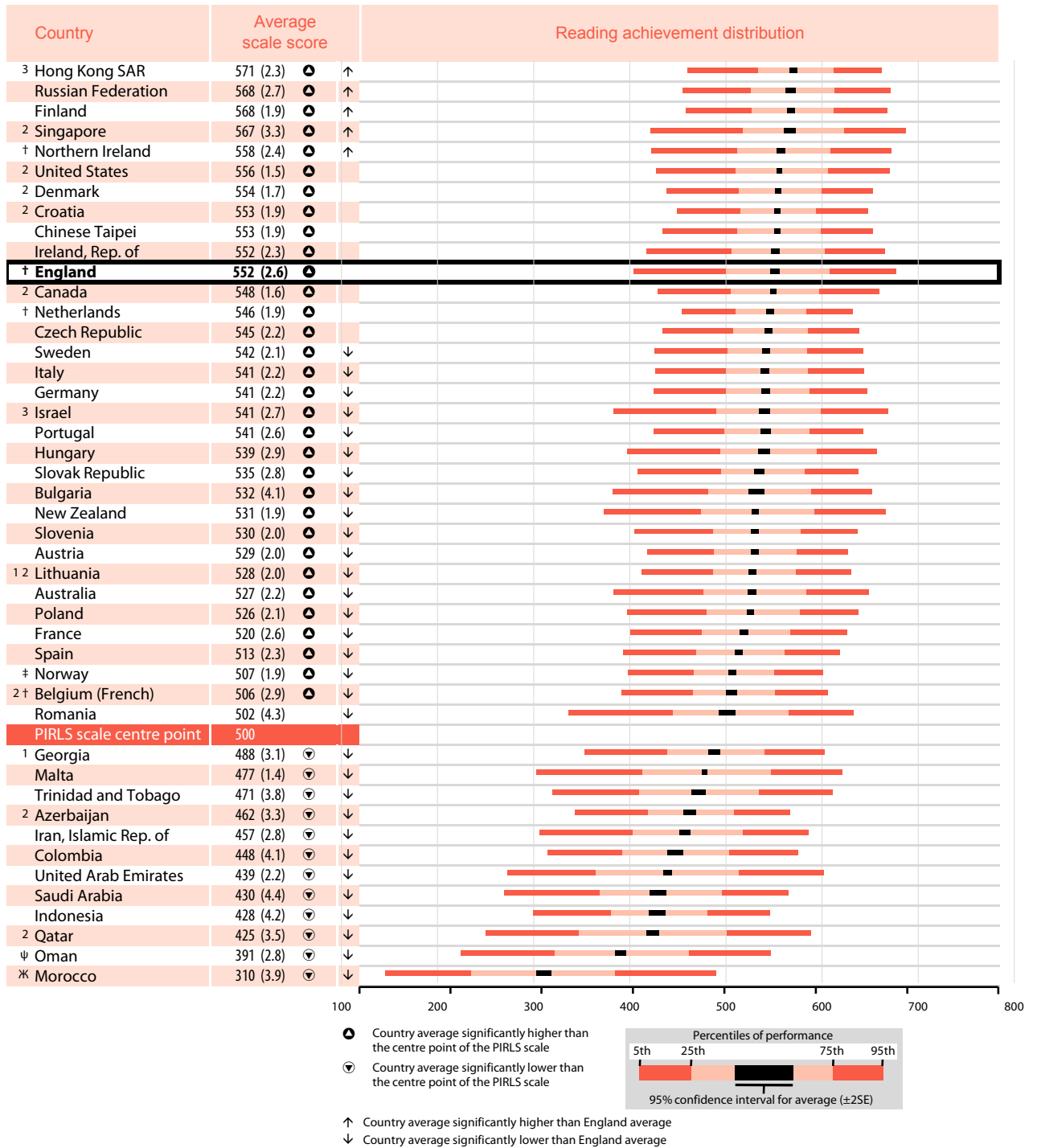
The three top performing countries in 2006, the Russian Federation, Hong Kong and Singapore, also performed very well in 2011, and two newcomers, Finland and Northern Ireland, also achieved high average scores.

Interpreting the data: achievement scale

The PIRLS reading achievement scale was established in PIRLS 2001 to have a centre point of 500 and a standard deviation of 100. It was designed to remain constant from assessment to assessment, allowing comparison over time.

Countries participating in PIRLS follow guidelines and strict sampling targets to provide samples that are nationally representative.

Table 1.1 Distribution of reading achievement



✱ Average achievement not reliably measured because the percentage of pupils with achievement too low for estimation exceeds 25%.

ψ Reservations about reliability of average achievement because the percentage of pupils with achievement too low for estimation does not exceed 25% but exceeds 15%.

See Appendix C.2 in the international report for target population coverage notes 1, 2, and 3.

See Appendix C.5 for sampling guidelines and sampling participation notes † and ‡.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source Exhibit 1.1 in the 2011 international PIRLS report

Interpreting the data: international rankings

In Table 1.1 the mean scores on the PIRLS achievement scale (with 95 per cent confidence intervals) are shown graphically as the darkened areas on the achievement distributions, and listed (together with their standard errors) in the first column in the table. There is an indication beside a country's mean scale score if the average achievement is significantly higher (large up arrow) or lower (large down arrow) than the scale mean of 500. There is also a smaller arrow used to indicate if a country's mean scale score is significantly higher (small up arrow) or lower (small down arrow) than that of England.

The standard error refers to uncertainty in estimates resulting from random fluctuations in samples. The smaller the standard error, the more precise the score is as an estimate of the population's score. The distribution of scores is discussed in chapter 2.

Five countries had significantly higher average achievement than England and the average achievement of a further eight countries was not significantly different from that of England. The remaining 31 countries had significantly lower average achievement. This data is shown in Table 1.2.

Table 1.2 Country performance compared with England

Countries scoring significantly higher than England			
Country	Average score	Country	Average score
Hong Kong SAR	571	Singapore	567
Russian Federation	568	Northern Ireland	558
Finland	568		
Countries not significantly different from England			
Country	Average score	Country	Average score
United States	556	England	552
Denmark	554	Canada	548
Croatia	553	Netherlands	546
Chinese Taipei	553	Czech Republic	545
Republic of Ireland	552		
Countries scoring significantly lower than England			
Country	Average score	Country	Average score
Sweden	542	Austria	529
Italy	541	Lithuania	528
Germany	541	Australia	527
Israel	541	Poland	526
Portugal	541	France	520
Hungary	539	Spain	513
Slovak Republic	535	Norway	507
Bulgaria	532	Belgium (French)	506
New Zealand	531	Romania	502
Slovenia	530	and a further 12 countries with average achievement below the centre point of 500	

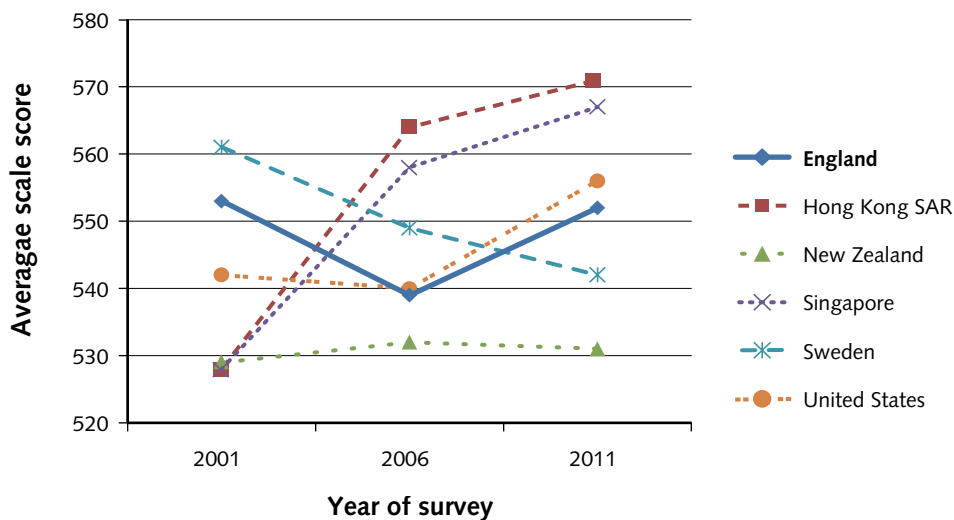
1.2 Trends in reading attainment

The 2011 survey was the third in the PIRLS series and the outcomes for selected countries which participated in all three surveys are shown in Figure 1.1. England's performance in 2011 was significantly higher than that in 2006 and was not significantly different from that in 2001. Of the higher achieving countries (those with an average achievement score of over 500), only two (the United States and Chinese Taipei) showed a greater improvement than England between 2006 and 2011.

This pattern in attainment in England is different from that of most other countries. Three countries, including Hong Kong and Singapore who are among the highest achieving, made significant improvements in both 2006 and 2011, although by far the greater improvements were between 2001 and 2006. The only other country to show consecutive significant improvements was Slovenia.

The United States recorded a significant improvement between 2006 and 2011, having seen no significant change between the first two surveys. New Zealand recorded no significant changes in either 2006 or 2011. Sweden recorded a significant decline between 2001 and 2006 and again between 2006 and 2011, as did one other country, Lithuania. PIRLS 2011 was the first survey for two high achieving countries, Finland and Northern Ireland.

Figure 1.1 Trends in attainment 2001–2011 for selected countries



Of the four countries which had a scale score of 550 or more in 2001 (Sweden, the Netherlands, England and Bulgaria), only one, England, maintained this distinction in 2011. Nevertheless, when the rankings are compared, from a position of third in the overall table in 2001, in 2011 England was 10th equal. This reflects both the changing composition of the surveys in terms of participating countries and the fact that some countries have made considerable progress over this period. Appendix B summarises the trends in performance over the three surveys.

Chapter 2 Range of attainment in 2011 and the trend

Chapter outline

This chapter outlines the distribution of attainment in PIRLS in 2011 and over time. The performance of the five highest achieving countries is compared to that of England.

PIRLS reports achievement at four points along the performance scale and these points are known as international 'benchmarks'. The proportions reaching each benchmark in 2011 are compared with the proportions in the previous two surveys.

Some sample items from PIRLS 2011 are included to illustrate the types of questions at each of the international benchmarks.

Key findings

- There was a wide distribution of scores in England. The highest attaining pupils were among the best readers in the survey, but the lower attaining readers did less well than the weakest readers in some other countries.
- This wide range of achievement was characteristic of England's performance in PIRLS 2001 and 2006.
- England had one of the largest proportions of pupils reaching the Advanced International Benchmark (18 per cent). There were significantly higher proportions at each benchmark in England compared to 2006.
- The proportion of pupils failing to meet the Low International Benchmark is similar to the proportion that do not achieve level 3 or above in National Curriculum tests of reading in England at the end of primary school.

2.1 The range in attainment

There was a wide distribution of PIRLS scores in England. Whilst the most able readers were among the best readers in the survey, the weakest readers achieved less well than the weakest readers in many other countries. A total of 274 scale points separated pupils in England at the 95th and the 5th percentiles, i.e. the top and the bottom five per cent of pupils; the international average was 249 scale points. Among the countries scoring higher than England in 2011, the range of attainment in Singapore was similarly wide, but the ranges in Hong Kong, the Russian Federation and Finland were noticeably narrower. This wide range in achievement in England has been evident in PIRLS results from the first survey in 2001.

High achieving pupils in England reached levels similar to the high achievers in Singapore and higher than the most able readers in the three top performing countries (Hong Kong, the Russian Federation and Finland). Conversely, low attaining pupils in England scored less well than the low attaining pupils in the high performing countries. This difference is illustrated in Figure 2.1 and Figure 2.2¹.

Figure 2.1 Box and whisker plots for selected countries (whiskers represent 5th and 95th percentiles)

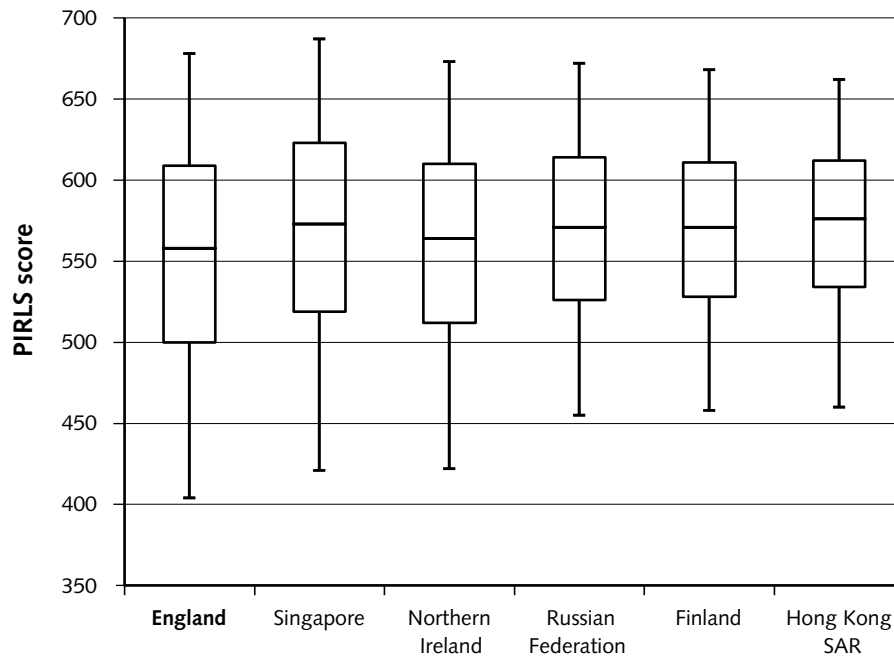
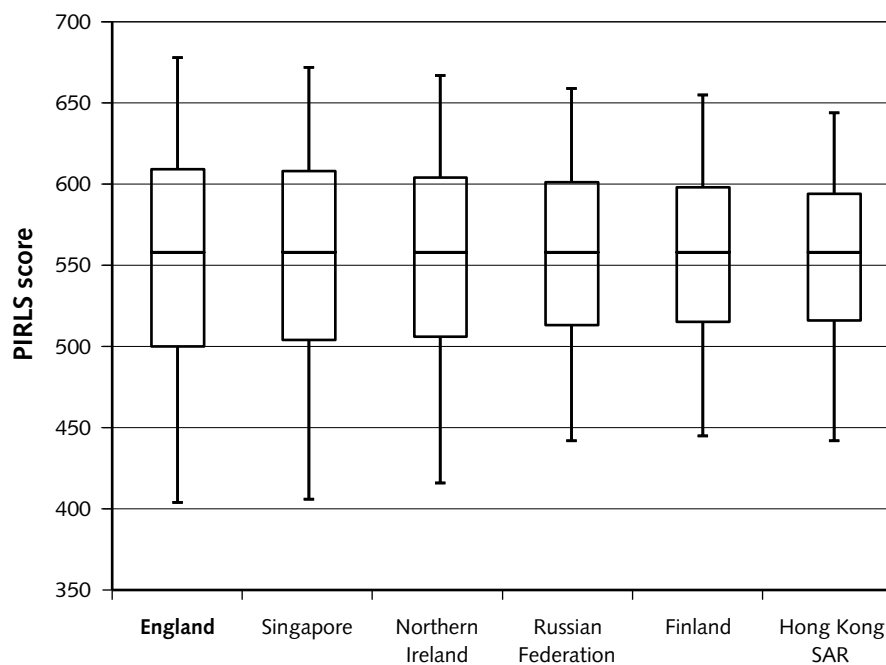


Figure 2.2 Box and whisker plots for selected countries (whiskers represent 5th and 95th percentiles, medians standardised to England)



¹ Figure 2.1 presents the score distributions of selected countries in a 'box-and-whisker' format where the box spans the 25th and 75th percentiles, the line in the box represents the 50th percentile (median) and the whiskers extend to the 5th and 95th percentiles. In order to compare the shape of the attainment distributions across countries, they have been standardised to the English median in Figure 2.2. This allows comparison of the extent of the distribution tails directly between countries. Figure 2.2 is *only* to explore distribution shape; it should not be used for any other purpose.

Figures 2.1 and 2.2 show that while England has the widest spread of scores, the distribution for Singapore is very similar. The difference between the distributions is greatest from the 5th to the 25th percentile, where England, Singapore and Northern Ireland (the three countries of this subset which tested in English) have a wider distribution than the other three countries. The same pattern is seen from the 75th to the 95th percentiles. Figures 2.1 and 2.2 also make it clear that the performance of pupils at the 5th and 25th percentiles in the Russian Federation, Finland and Hong Kong is better than that of pupils at these points in the other three countries. This is true both in absolute terms and relative to where the median lies.

2.2 Achievement at the international benchmarks

Achievement on the PIRLS scale is described at four points, known as international benchmarks. Certain reading behaviours and skills characterise performance at each benchmark and these are summarised in Table 2.1.

Table 2.1 International benchmarks of reading achievement

Advanced International Benchmark (scale score of 625)

When reading **literary** texts, pupils can:

- integrate ideas and evidence across a text to appreciate overall themes;
- interpret story events and character actions to provide reasons, motivations, feelings and character traits with full text-based support.

When reading **information** texts, pupils can:

- distinguish and interpret complex information from different parts of the text, and provide full text-based support;
 - integrate information across a text to provide explanations, interpret significance, and sequence activities;
 - evaluate visual and textual features to explain their function.
-

High International Benchmark (scale score of 550)

When reading **literary** texts, pupils can:

- locate and distinguish significant actions and details embedded across the text;
- make inferences to explain relationships between intentions, actions, events and feelings, and give text-based support;
- interpret and integrate story events and character actions and traits from different parts of the text;
- evaluate the significance of events and actions across the entire story;
- recognise the use of some language features (e.g., metaphor, tone, imagery).

When reading **information** texts, pupils can:

- locate and distinguish relevant information within a dense text or a complex table;
 - make inferences about logical connections to provide explanations and reasons;
 - integrate textual and visual information to interpret the relationship between ideas;
 - evaluate content and textual elements to make a generalisation.
-

Intermediate International Benchmark (scale score 475)

When reading **literary** texts, pupils can:

- retrieve and reproduce explicitly stated actions, events and feelings;
- make straightforward inferences about the attributes, feelings and motivations of main characters;
- interpret obvious reasons and causes and give simple explanations;
- begin to recognise language features and style.

When reading **information** texts, pupils can:

- locate and reproduce two or three pieces of information from within the text;
 - use subheadings, text boxes and illustrations to locate parts of the text.
-

Low International Benchmark (scale score 400)

When reading **literary** texts, pupils can:

- locate and retrieve an explicitly stated detail.

When reading **information** texts, pupils can:

- locate and reproduce explicitly stated information that is at the beginning of the text.
-

Appendix C compares the international benchmark descriptions with the English National Curriculum assessment focuses for reading.

Interpreting the data: international benchmarks

The PIRLS achievement scales summarise pupil performance on a scale with a centre point of 500 and a standard deviation of 100. PIRLS reports achievement at four points along the scale as international benchmarks. The Advanced International Benchmark is set at a scale score of 625, the High International Benchmark at 550, the Intermediate International Benchmark at 475, and the Low International Benchmark at 400. The benchmark descriptions summarise what pupils scoring at each PIRLS International Benchmark typically know and can do in reading.

Table 2.2 presents the percentage of pupils reaching each international benchmark, with countries in descending order according to the percentage reaching the Advanced International Benchmark.

Table 2.2 Performance at the international benchmarks of reading achievement

Country	Percentages of pupils reaching international benchmarks	Percentages of pupils reaching international benchmarks				Advanced International Benchmark (625)	High International Benchmark (550)	Intermediate International Benchmark (475)	Low International Benchmark (400)
		● Advanced	○ High	● Intermediate	○ Low				
² Singapore					24 (1.6)	62 (1.8)	87 (1.1)	97 (0.4)	
Russian Federation					19 (1.2)	63 (1.7)	92 (1.1)	99 (0.2)	
[†] Northern Ireland					19 (1.2)	58 (1.4)	87 (0.9)	97 (0.6)	
Finland					18 (0.9)	63 (1.3)	92 (0.7)	99 (0.2)	
[†] England					18 (1.1)	54 (1.3)	83 (1.1)	95 (0.5)	
³ Hong Kong SAR					18 (1.2)	67 (1.5)	93 (0.8)	99 (0.2)	
² United States					17 (0.7)	56 (0.8)	86 (0.6)	98 (0.3)	
Ireland, Rep. of					16 (0.9)	53 (1.4)	85 (0.8)	97 (0.5)	
³ Israel					15 (0.9)	49 (1.3)	80 (1.3)	93 (0.8)	
New Zealand					14 (0.7)	45 (1.1)	75 (0.9)	92 (0.5)	
² Canada					13 (0.7)	51 (1.1)	86 (0.6)	98 (0.2)	
Chinese Taipei					13 (0.9)	55 (1.3)	87 (0.7)	98 (0.3)	
² Denmark					12 (0.8)	55 (1.2)	88 (0.8)	99 (0.2)	
Hungary					12 (0.9)	48 (1.5)	81 (1.2)	95 (0.7)	
Bulgaria					11 (0.8)	45 (2.0)	77 (1.9)	93 (1.0)	
² Croatia					11 (0.7)	54 (1.3)	90 (0.7)	99 (0.2)	
Australia					10 (0.7)	42 (1.1)	76 (1.0)	93 (0.7)	
Italy					10 (0.7)	46 (1.4)	85 (1.1)	98 (0.4)	
Germany					10 (0.8)	46 (1.4)	85 (1.0)	98 (0.3)	
Portugal					9 (1.1)	47 (1.8)	84 (1.2)	98 (0.5)	
Sweden					9 (0.8)	47 (1.6)	85 (1.0)	98 (0.3)	
Czech Republic					8 (0.9)	50 (1.4)	87 (0.9)	98 (0.5)	
Slovak Republic					8 (0.6)	44 (1.5)	82 (1.3)	96 (0.8)	
Slovenia					8 (0.7)	42 (1.2)	79 (0.9)	95 (0.6)	
Poland					7 (0.6)	39 (1.2)	77 (0.9)	95 (0.5)	
Romania					7 (0.7)	32 (1.6)	65 (2.1)	86 (1.5)	
[†] Netherlands					7 (0.5)	48 (1.5)	90 (0.8)	100 (0.2)	
^{1 2} Lithuania					6 (0.5)	39 (1.4)	80 (1.2)	97 (0.4)	
France					5 (0.5)	35 (1.6)	75 (1.5)	95 (0.8)	
Austria					5 (0.5)	39 (1.5)	80 (0.9)	97 (0.3)	
Malta					4 (0.4)	24 (0.7)	55 (0.8)	78 (0.6)	
Spain					4 (0.5)	31 (1.3)	72 (1.2)	94 (0.7)	
Trinidad and Tobago					3 (0.5)	19 (1.4)	50 (1.9)	78 (1.5)	
United Arab Emirates					3 (0.3)	14 (0.6)	38 (1.0)	64 (0.9)	
¹ Georgia					2 (0.3)	21 (1.2)	60 (1.6)	86 (1.4)	
^{2 †} Belgium (French)					2 (0.5)	25 (1.4)	70 (1.7)	94 (1.1)	
² Qatar					2 (0.5)	12 (1.2)	34 (1.4)	60 (1.5)	
[‡] Norway					2 (0.4)	25 (1.5)	71 (1.3)	95 (0.7)	
Iran, Islamic Rep. of					1 (0.2)	13 (0.9)	45 (1.6)	76 (1.1)	
Colombia					1 (0.3)	10 (1.3)	38 (2.1)	72 (1.9)	
Saudi Arabia					1 (0.2)	8 (1.0)	34 (2.0)	65 (1.9)	
² Azerbaijan					0 (0.3)	9 (0.9)	45 (2.1)	82 (1.6)	
^ψ Oman					0 (0.1)	5 (0.4)	21 (0.9)	47 (1.2)	
Indonesia					0 (0.1)	4 (0.6)	28 (1.9)	66 (2.2)	
[⋈] Morocco					0 (0.0)	1 (0.2)	7 (0.7)	21 (1.3)	
International Median					8	44	80	95	

⋈ Average achievement not reliably measured because the percentage of pupils with achievement too low for estimation exceeds 25%.

ψ Reservations about reliability of average achievement because the percentage of pupils with achievement too low for estimation does not exceed 25% but exceeds 15%.

See Appendix C.2 in the international report for target population coverage notes 1, 2, and 3. See Appendix C.5 for sampling guidelines and sampling participation notes † and ‡.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source Exhibit 2.2 in the 2011 international PIRLS report

Interpreting the data: performance at the international benchmarks

Table 2.2 indicates the percentage of pupils reaching each of the four benchmarks and this information is summarised in the series of dots on the chart. Percentages are cumulative (reading the chart from left to right). Thus, for example, for each country the black dot shows the percentage reaching at least the Advanced Benchmark. The clear dot then shows the percentage reaching at least the High Benchmark and this figure includes those who reached the Advanced Benchmark. The darker shaded dot indicates the percentage reaching at least the Intermediate Benchmark, and this includes those in the two previous categories. The lighter shaded dot shows cumulatively how many reached at least the Low Benchmark. The position of that dot also indicates the percentage that did not reach any of the listed benchmarks.

England was one of eight countries in which more than 15 per cent of pupils reached the Advanced Benchmark. Singapore had almost a quarter of pupils reaching this benchmark, an achievement all the more notable considering that English is the sole language of the home for only 32 per cent of pupils in Singapore. The other countries with over 15 per cent of pupils at this benchmark include Northern Ireland, the United States and the Republic of Ireland, all of which also tested in English. In contrast to this finding of high achievement, there are fewer pupils (54 per cent) who achieve the next benchmark ('High') in England compared to other high performing countries.

The proportions of pupils in England reaching the international benchmarks can be compared with the end of key stage 2 results in reading in 2012². This cohort is the same as that involved in PIRLS 2011. In terms of test results, six per cent of pupils in England were working below level 3 and a further seven per cent were working at level 3, i.e. working below age expectations. In the same test, 48 per cent obtained level 5 and achieved above age expectations. Teacher assessment data is similar: five per cent of pupils were assessed as working below level 3, and a further nine per cent as working at level 3. Almost half (47 per cent) were assessed by their teachers to be working above age expectations.

² Department for Education (2012). *National Curriculum Assessments at Key Stage 2 in England, 2012 (Provisional)*. Available: <http://www.education.gov.uk/rsgateway/DB/SFR/s001087/index.shtml>

2.3 Trends in achievement at the international benchmarks

Table 2.3 shows the trend in the proportions of pupils reaching the international benchmarks over the course of the surveys in 2001, 2006 and 2011.

Table 2.3 Trends in percentages of pupils reaching the international benchmarks of reading achievement

Country	Advanced International Benchmark (625)			High International Benchmark (550)			Intermediate International Benchmark (475)			Low International Benchmark (400)		
	Per cent of pupils			Per cent of pupils			Per cent of pupils			Per cent of pupils		
	2011	2006	2001	2011	2006	2001	2011	2006	2001	2011	2006	2001
England	18	15 ↑	20	54	48 ↑	54	83	78 ↑	82	95	93 ↑	94
Hong Kong SAR	18	15 ↑	5 ↑	67	62 ↑	39 ↑	93	92	81 ↑	99	99	97 ↑
New Zealand	14	13	14	45	45	45	75	76	74	92	92	90
Russian Federation	19	19	5 ↑	63	61	39 ↑	92	90	80 ↑	99	98	96 ↑
Singapore	24	19	12 ↑	62	58	45 ↑	87	86	76 ↑	97	97	90 ↑
Sweden	9	11	15 ↓	47	53 ↓	59 ↓	85	88	90 ↓	98	98	98 ↓
United States	17	12 ↑	15 ↑	56	47 ↑	50 ↑	86	82 ↑	80 ↑	98	96 ↑	94 ↑

↑ 2011 percentage significantly higher

↓ 2011 percentage significantly lower

Table 2.3 shows relatively high proportions of pupils in England reaching the Advanced Benchmark in all three surveys, and also, compared to many other high achieving countries, a relatively large proportion failing to reach the Low Benchmark. The improvement in England's performance across all four benchmarks since the 2006 survey is also evident.

Exclusion rates may be supposed to have their greatest impact on the proportions of lower achieving pupils in some countries. The international target is that no more than five per cent of pupils are excluded from the assessment and the exclusion rate in England was 2.4 per cent in both 2006 and 2011. Hong Kong's overall exclusion rate increased dramatically in 2011 to 11.8 per cent from 3.9 per cent in 2006, although the proportion of pupils reaching the lowest benchmark was unchanged. Similarly, an increase in the exclusion rate in Singapore, from 0.9 per cent in 2006 to 6.3 per cent in 2011 was not followed by any change in the proportion of pupils reaching the lowest benchmark. In the United States, the exclusion rate rose in 2011 to 7.2 per cent from 5.9 per cent in 2006, whereas in the Russian Federation it fell from 5.9 per cent to 5.3 per cent. More information concerning exclusion rates is contained in Appendix C.6 in the international report³.

³ Mullis, I.V.S., Martin, M.O., Foy, P., and Drucker, K.T. (2012). *PIRLS 2011 international results in reading*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College. Available: <http://timssandpirls.bc.edu/pirls2011/reports/international-results-pirls.html>

2.4 Examples of performance at the international benchmarks

Examples A to D below show test items exemplifying attainment at each of the benchmark levels. Further examples are available in the international report⁴.

Interpreting the data: example items

The items exemplify attainment at each of the benchmark levels. The data beneath each item shows the percentage correct on average internationally, the percentage correct in England, and in the country which was most successful on the item. The items are the 'source version', and are not adapted or translated. Any translations and adaptations must be approved by the International Study Centre in order to verify that the changes made do not affect the demand or intent of the question.

Each item is classified by its reading purpose and process (see chapter 5 for more detail).

Example A – Low International Benchmark

England performed moderately well on this item with 91 per cent of pupils gaining a mark, a figure significantly higher than the international average of 89 per cent but lower than those of many countries which overall did less well than England. In the highest attaining country on this item, the Russian Federation, almost all pupils (99 per cent) selected the correct option.

Purpose: Literary experience

Process: Focus on and retrieve explicitly stated information and ideas

Description: Locate and retrieve explicitly stated detail from the beginning of the text

1. What did the farmer set out to look for at the beginning of the story?
- a calf
 - herders
 - rocky cliffs
 - an eagle chick

England: 91% (1.1) ▲

Highest percentage correct: Russian Federation 99% (0.4) ▲

International average: 89% (0.2)

() standard errors in parentheses

▲ per cent significantly higher than international average

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

⁴ Mullis, I.V.S., Martin, M.O., Foy, P., and Drucker, K.T. (2012). *PIRLS 2011 international results in reading*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College. Available: <http://timssandpirls.bc.edu/pirls2011/reports/international-results-pirls.html>

Example B – Intermediate International Benchmark

In England, almost three-quarters (73 per cent) of pupils gained the mark for this item although their mean score was not significantly above the international average. This can be compared with Singapore, the highest attaining country on this item, where 87 per cent of pupils were awarded a mark. As with example A, many countries which performed less well than England overall achieved a high mean score on this item.

Purpose: Literary experience

Process: Make straightforward inferences

Description: Make a straightforward inference about a character's reaction to a situation

2. At the beginning of the story, why did Tom think Jeremy was his enemy?

① He thought Jeremy was his enemy because Jeremy had a party and Tom wasn't invited, but his best friend was

The answer shown illustrates the type of response awarded the mark.

England: 73% (1.8)

Highest percentage correct: Singapore 87% (1.1) 📈

International average: 70% (0.3)

() standard errors in parentheses

📈 per cent significantly higher than international average

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Example C – High International Benchmark

On this high benchmark item, over half of the pupils from England (59 per cent) gained a mark, a significantly greater proportion than the international average of 50 per cent. In the highest achieving country on this item, the Russian Federation, 75 per cent of pupils were awarded a mark.

Purpose: Literary experience

Process: Interpret and integrate ideas and information

Description: Integrate evidence to show understanding of a character's intention

14. Use what you have read to explain why Tom's dad really made Enemy Pie.

① To make them spend the day with each other to become friends

The answer shown illustrates the type of response awarded the mark.

England: 59% (1.8) 📈

Highest percentage correct: Russian Federation 75% (1.8) 📈

International average: 50% (0.3)

() standard errors in parentheses

📈 per cent significantly higher than international average

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Example D – Advanced International Benchmark

This item required three separate responses, each worth one mark. Just under half (46 per cent) of pupils in England gained all three marks, a significantly greater proportion than the international average. The equivalent figure in the highest scoring country for this item (Hong Kong) was 62 per cent.

Purpose: Acquire and use information
 Process: Interpret and integrate ideas and information
 Description: Interpret and integrate textual and visual information to make three contrasts

13. Later discoveries proved that Gideon Mantell was wrong about what the *Iguanodon* looked like. Fill in the blanks to complete the table.

	What Gideon Mantell thought the <i>Iguanodon</i> looked like	What scientists today think the <i>Iguanodon</i> looked like
①	The <i>Iguanodon</i> walked on four legs.	The <i>Iguanodon</i> walks on 2 legs
①	The <i>Iguanodon</i> had a spike on his nose	The <i>Iguanodon</i> had a spike on its thumb.
①	The <i>Iguanodon</i> was 100 feet long.	The <i>Iguanodon</i> was 30 feet long

The answer shown illustrates the type of response that was awarded the maximum 3 marks.

England: 46% (2.2) ●
 Highest percentage correct: Hong Kong SAR 62% (2.3) ●
 International average: 32% (0.3)

() standard errors in parentheses

● per cent significantly higher than international average

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Chapter 3 Attainment by gender and by language context

Chapter outline

This chapter summarises pupils' attainment by gender in the 2011 survey and over time.

Contextual information about the frequency with which pupils speak English and the proportions of pupils in school who have English as an additional language is also outlined.

Key findings

- Girls performed significantly better than boys in PIRLS in England and in almost all other participating countries.
- The difference between the attainment of boys and girls was greater in England than in most other countries and has remained stable across all three PIRLS surveys.
- A fifth of pupils in the survey in England speak at least one other language in addition to English at home.

3.1 Attainment by gender

Girls consistently achieve higher than boys in national¹ and international reading assessments and, following this pattern, girls performed significantly better than boys in PIRLS in England and in almost all other participating countries.

England had one of the widest gender gaps in PIRLS 2001 and 2006 and this remains the case in 2011. Table 3.1 shows the average attainment in PIRLS for boys and girls in all participating countries. The extent of the difference is shown on the right and countries are ordered from the smallest to the largest difference.

There is no association between a country's overall achievement and the extent of the gender difference in PIRLS. The five highest achieving countries, Hong Kong, the Russian Federation, Finland, Singapore and Northern Ireland, all had gender differences that were equal to or greater than the international average. All ten of the countries with a gender difference of less than 10 scale points had a mean achievement lower than that of England.

The extent of the gender difference varied across English-speaking countries: the United States, for example, had a gender difference of 10 scale points, less than the international average. The gap between the performance of boys and girls in England and in New Zealand, at 23 and 20 scale points respectively, was greater than the average.

¹ In national reading assessments at the end of primary school in 2012 (involving the same cohort as PIRLS' pupils) test results indicate that 90 per cent of girls and 84 per cent of boys achieved the expected level or above. Department for Education (2012). *National Curriculum Assessments at Key Stage 2 in England, 2012 (Provisional)*. Available: <http://www.education.gov.uk/rsgateway/DB/SFR/s001087/index.shtml>

Table 3.1 Average reading achievement by gender

Country	Girls		Boys		Difference (absolute value)	Gender difference	
	Per cent of pupils	Average scale score	Per cent of pupils	Average scale score		Girls scored higher	Boys scored higher
Colombia	49 (1.3)	447 (4.6)	51 (1.3)	448 (4.6)	1 (3.9)		
Italy	50 (0.7)	543 (2.4)	50 (0.7)	540 (2.7)	3 (2.4)		
France	49 (0.8)	522 (3.4)	51 (0.8)	518 (2.4)	5 (2.7)		
Spain	49 (0.8)	516 (2.5)	51 (0.8)	511 (2.8)	5 (2.5)		
² † Belgium (French)	49 (0.9)	509 (3.1)	51 (0.9)	504 (3.1)	5 (2.3)		
³ Israel	51 (1.6)	544 (3.1)	49 (1.6)	538 (3.4)	6 (3.4)		
Czech Republic	49 (1.2)	549 (2.5)	51 (1.2)	542 (2.5)	6 (2.6)		
† Netherlands	51 (0.7)	549 (2.1)	49 (0.7)	543 (2.2)	7 (2.0)		
Austria	49 (1.2)	533 (2.2)	51 (1.2)	525 (2.3)	8 (2.3)		
Germany	49 (0.8)	545 (2.3)	51 (0.8)	537 (2.7)	8 (2.5)		
Slovak Republic	49 (0.8)	540 (3.1)	51 (0.8)	530 (2.8)	10 (2.1)		
² United States	51 (0.5)	562 (1.9)	49 (0.5)	551 (1.7)	10 (1.8)		
² Denmark	50 (0.7)	560 (1.9)	50 (0.7)	548 (2.1)	12 (2.2)		
² Canada	49 (0.6)	555 (1.7)	51 (0.6)	542 (2.1)	12 (2.0)		
Poland	48 (0.9)	533 (2.5)	52 (0.9)	519 (2.7)	14 (3.1)		
² Azerbaijan	47 (0.9)	470 (3.6)	53 (0.9)	456 (3.5)	14 (2.3)		
² Croatia	50 (0.8)	560 (2.1)	50 (0.8)	546 (2.2)	14 (2.2)		
Sweden	49 (1.0)	549 (2.4)	51 (1.0)	535 (2.5)	14 (2.7)		
Portugal	49 (1.2)	548 (3.0)	51 (1.2)	534 (2.8)	14 (2.4)		
‡ Norway	52 (1.0)	514 (2.2)	48 (1.0)	500 (2.7)	14 (3.1)		
Chinese Taipei	47 (0.6)	561 (2.1)	53 (0.6)	546 (2.1)	15 (2.1)		
Bulgaria	49 (0.9)	539 (4.5)	51 (0.9)	524 (4.3)	15 (3.5)		
Romania	48 (0.9)	510 (4.8)	52 (0.9)	495 (4.3)	15 (3.3)		
Ireland, Rep. of	49 (2.2)	559 (2.9)	51 (2.2)	544 (3.0)	15 (3.9)		
Hungary	49 (0.9)	547 (3.2)	51 (0.9)	532 (3.2)	16 (2.6)		
Slovenia	48 (0.8)	539 (2.2)	52 (0.8)	523 (2.7)	16 (3.1)		
† Northern Ireland	50 (1.2)	567 (2.5)	50 (1.2)	550 (3.2)	16 (3.4)		
³ Hong Kong SAR	46 (1.2)	579 (2.3)	54 (1.2)	563 (2.5)	16 (2.2)		
Australia	49 (1.1)	536 (2.7)	51 (1.1)	519 (2.7)	17 (3.1)		
² Singapore	49 (0.6)	576 (3.5)	51 (0.6)	559 (3.6)	17 (2.6)		
Malta	49 (0.5)	486 (1.9)	51 (0.5)	468 (2.0)	18 (2.8)		
Indonesia	51 (0.9)	437 (4.5)	49 (0.9)	419 (4.3)	18 (2.3)		
¹ ² Lithuania	48 (0.8)	537 (2.4)	52 (0.8)	520 (2.4)	18 (2.8)		
Russian Federation	49 (1.0)	578 (2.8)	51 (1.0)	559 (3.1)	18 (2.3)		
Iran, Islamic Rep. of	49 (2.9)	467 (4.3)	51 (2.9)	448 (4.3)	20 (6.4)		
New Zealand	49 (1.0)	541 (2.2)	51 (1.0)	521 (2.7)	20 (3.1)		
Finland	49 (0.8)	578 (2.3)	51 (0.8)	558 (2.2)	21 (2.3)		
¹ Georgia	48 (0.9)	499 (2.7)	52 (0.9)	477 (4.0)	22 (3.0)		
† England	49 (1.0)	563 (3.0)	51 (1.0)	540 (3.1)	23 (3.0)		
United Arab Emirates	50 (1.6)	452 (3.0)	50 (1.6)	425 (3.5)	27 (4.8)		
* Morocco	48 (0.8)	326 (4.0)	52 (0.8)	296 (4.6)	29 (3.9)		
² Qatar	47 (3.4)	441 (4.7)	53 (3.4)	411 (4.2)	30 (6.0)		
Trinidad and Tobago	49 (2.0)	487 (4.5)	51 (2.0)	456 (4.3)	31 (4.6)		
ψ Oman	49 (0.7)	411 (3.0)	51 (0.7)	371 (3.4)	40 (2.9)		
Saudi Arabia	52 (1.5)	456 (3.1)	48 (1.5)	402 (8.2)	54 (8.8)		
International Avg.	49 (0.2)	520 (0.5)	51 (0.2)	504 (0.5)	16 (0.5)		

✱ Average achievement not reliably measured because the percentage of pupils with achievement too low for estimation exceeds 25%.
 ψ Reservations about reliability of average achievement because the percentage of pupils with achievement too low for estimation does not exceed 25% but exceeds 15%.
 See Appendix C.2 in international report for target population coverage notes 1, 2, and 3.
 See Appendix C.5 for sampling guidelines and sampling participation notes † and ‡.
 () Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source Exhibit 1.5 in the 2011 international PIRLS report

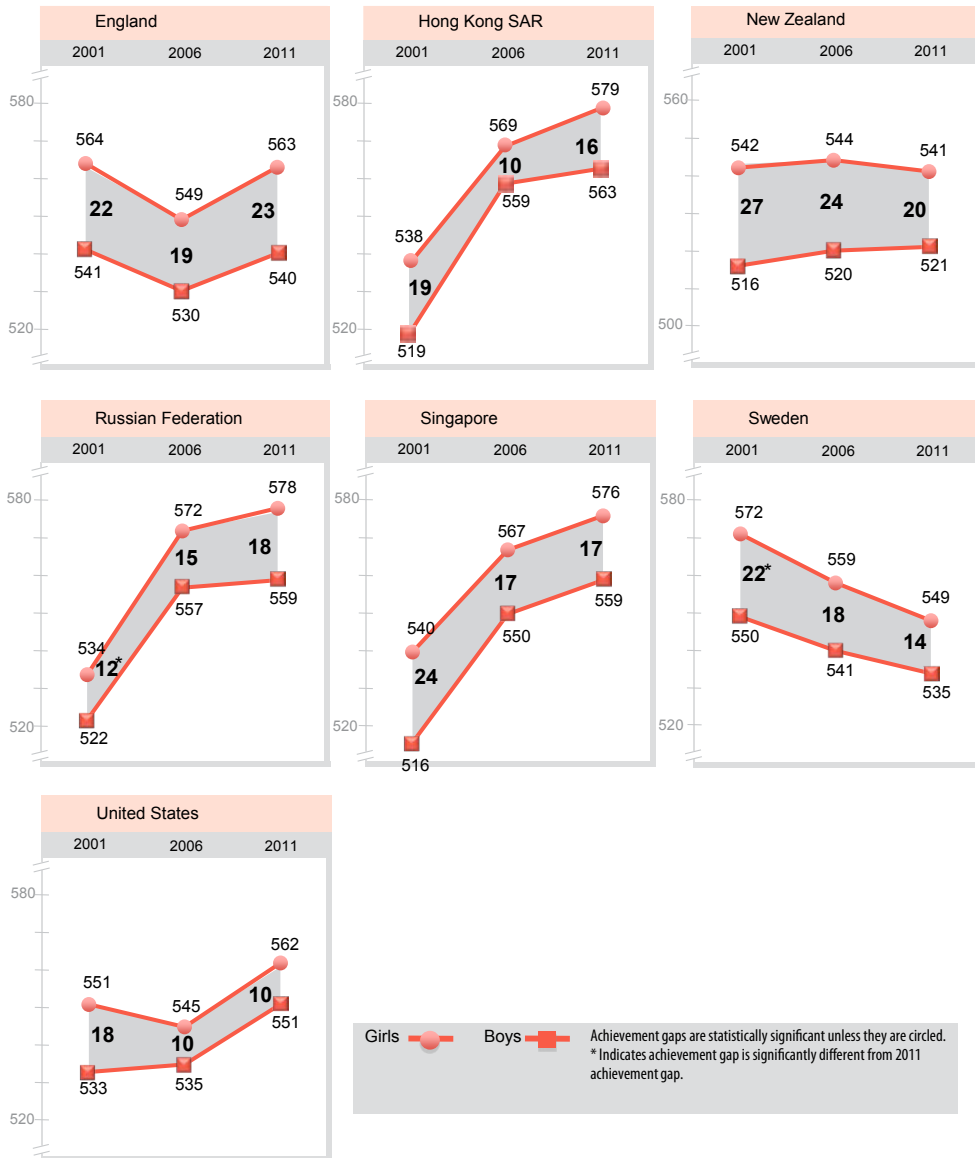
3.2 Trends in the performance of boys and girls in PIRLS

Girls have performed better than boys in all three PIRLS surveys in England. The extent of the difference has not changed significantly over time. From the group of comparator countries who have participated in all three PIRLS surveys, only two show significant change (see Table 3.2). In Sweden, the gap in 2011 was significantly

narrower than that in 2001; this has been accompanied, however, by an overall decline in scores over this time. In the Russian Federation, the gap between boys and girls has increased between 2001 and 2011. This is due to girls' achievement improving at a faster rate than that of boys.

Whilst the United States has not significantly reduced the gender gap since 2006, it has both improved performance and maintained a gap that is smaller than the international average.

Table 3.2 Trends in reading achievement by gender



Scale interval is 10 points for each country, but the part of the scale shown differs according to each country's average achievement.

Source Exhibit 1.7 in the 2011 international PIRLS report

3.3 Language context

The PIRLS assessments were undertaken in English in England but information was collected from the pupils as to whether they spoke another language at home, and if so, the frequency of this. The data in Table 3.3 indicates that a greater proportion of pupils with English as an additional language were involved in PIRLS in 2011 than in 2001, whereas the proportions in 2006 were similar to those in 2011.

Table 3.3 Pupils' reports of frequency of speaking English at home

Year of survey	Always		Sometimes		Never	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
2001 ²	88 (1.0)	559 (3.4)	11 (0.9)	510 (5.9)	1 (0.2)	–
2006 ³	76 (1.3)	546 (2.7)	23 (1.2)	532 (4.5)	1 (0.2)	–
2011	79 (1.7)	556 (2.8)	20 (1.6)	540 (4.4)	1 (0.2)	–

Dash indicates insufficient data to report achievement

In all three surveys there is an association between language use and attainment in that pupils who use solely English at home have higher mean achievement than those who use English *Sometimes*. It is notable this difference was considerably smaller in 2006 and 2011 than it was in 2001.

In 2011, headteachers were asked about the proportion of pupils in their school who spoke the language of the test as their first or only language. This is shown in Table 3.4, alongside the mean achievement of pupils.

Table 3.4 Schools with pupils having the language of the test as their first or only language

Reported by headteachers

Country	More than 90% of pupils		51–90% of pupils		50% of pupils or less	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
Australia	63 (3.8)	533 (2.9)	21 (2.8)	521 (5.7)	16 (3.1)	516 (9.0)
Canada	55 (2.7)	550 (1.9)	27 (2.6)	550 (4.5)	19 (2.0)	542 (3.9)
Chinese Taipei	49 (3.8)	556 (2.9)	36 (3.8)	551 (3.5)	15 (2.6)	549 (5.3)
England	60 (4.5)	558 (3.7)	19 (3.8)	550 (7.2)	21 (3.9)	532 (7.3)
Finland	85 (3.2)	569 (1.8)	15 (3.1)	562 (5.6)	1 (0.8)	~ ~
Hong Kong SAR	98 (1.2)	570 (2.4)	2 (1.2)	~ ~	0 (0.0)	~ ~
Ireland, Rep. of	64 (3.8)	560 (2.9)	33 (3.8)	539 (4.4)	3 (1.7)	510 (19.7)
New Zealand	65 (3.8)	542 (3.3)	26 (3.4)	525 (5.3)	9 (2.1)	494 (11.1)
Northern Ireland	88 (3.1)	560 (2.8)	7 (2.4)	546 (10.5)	4 (1.9)	549 (12.4)
Russian Federation	73 (3.7)	570 (3.2)	17 (2.8)	565 (4.5)	9 (2.3)	562 (11.7)
Singapore	2 (0.0)	~ ~	32 (0.0)	582 (5.3)	65 (0.0)	558 (4.3)
Sweden	57 (3.6)	549 (3.3)	28 (3.1)	545 (4.1)	15 (2.9)	507 (8.1)
United States	54 (2.5)	567 (2.6)	31 (2.5)	554 (3.6)	14 (1.8)	529 (4.0)
International Avg.	68 (0.4)	515 (0.5)	17 (0.4)	511 (1.6)	14 (0.3)	490 (2.2)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent. A tilde (~) indicates insufficient data to report achievement.

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Source Exhibit 5.3 in the 2011 international PIRLS report

In England, a fifth of pupils are in schools where headteachers estimate that at least half the pupils have English as an additional language. Their attainment is well above the international average at 532 scale points. The equivalent figures in PIRLS 2006 were nine per cent of pupils whose average achievement was 483 scale points⁴.

National data⁵ reports 17 per cent of pupils of compulsory school age and above in maintained primary schools in 2010/11 having English as an additional language, an increase from 13 per cent in 2006⁶. Headteachers in Hong Kong reported little variation in language among their pupils whereas the opposite was the case in Singapore.

² Twist, L., Sainsbury, M., Woodthorpe, A. and Whetton, C. (2003). *Reading All Over the World: Progress in International Reading Literacy Study (PIRLS)*. National Report for England. Slough: NFER.

³ Twist, L., Schagen, I. and Hodgson, C. (2007). *Readers and Reading the National Report for England 2006 (PIRLS: Progress in International Reading Literacy Study)*. Slough: NFER.

⁴ Twist, L., Schagen, I. and Hodgson, C. (2007). *Readers and Reading the National Report for England 2006 (PIRLS: Progress in International Reading Literacy Study)*. Slough: NFER.

⁵ Department for Education (2011). *Statistical First Release: Schools, pupils and their characteristics, January 2012*. Available: <http://www.education.gov.uk/rsgateway/DB/SFR/s001012/index.shtml>

⁶ Department for Education and Skills (2006). *Statistical First Release: Schools, pupils and their characteristics January 2006. (Final)*. Available: <http://www.dfes.gov.uk/rsgateway/DB/SFR/>

Chapter 4 Pupils' engagement

Chapter outline

This chapter focuses on pupils' attitudes towards reading. It reports their enjoyment, motivation and confidence in reading, with comparisons to outcomes of previous PIRLS surveys. It also covers pupils' self-reported engagement in reading lessons and teachers' reports of their approaches to engaging pupils in learning.

Key findings

- Over a quarter of pupils in England gave responses that showed they enjoyed reading but a fifth of pupils gave responses that placed them in the *Do not like reading* category. In England and within all other countries, pupils who reported the most enjoyment in reading also attained the highest scores.
- In contrast to what is seen within countries, between countries, those with the highest average reading scores tended to have a high proportion of pupils in the *Do not like reading* category.
- Two-thirds of pupils in England reported high levels of motivation to read. Internationally, pupils in countries with the highest average reading performance reported the lowest levels of motivation to read.
- Pupils in England were close to the international average for reported reading confidence.
- Although trends over time are difficult to identify due to changes in the analysis methodology, it appears that pupils' enjoyment of, and motivation for, reading were similar to and possibly higher than the levels seen in 2001 and 2006.
- Between countries, pupils in countries with the highest achievement reported the lowest levels of engagement in reading lessons. In England, a third of pupils reported a high level of engagement in reading lessons.
- In England, teachers' reported use of strategies intended to engage pupils in their learning was high compared to other countries.

Several countries of interest have been included in this chapter, due to their similarities with England or their high performance. These include English-speaking countries, the high performing Pacific Rim countries, Finland and Sweden. Other countries have been included where their data is of particular interest.

Interpreting the data: indices and scales

In order to summarise data from a questionnaire, responses to several related items are sometimes combined together to form an index or scale. The respondents to the questionnaire items are grouped according to their responses. Where teacher responses have been reported in an index or scale, the analysis has classified pupils as being within a particular category based on their teachers' responses. The way in which responses have been categorised is shown at the foot of the index or scale in each case. Data in an index or scale can often be more reliable and valid than the responses to individual items.

4.1 Pupils' attitudes towards reading: liking reading

Enjoyment of reading is regarded as pupils' interest in, enjoyment of and frequency of reading for pleasure. Table 4.1 shows the proportions of pupils who reported high, medium and low levels of enjoyment in reading for England and for comparator countries, along with the mean achievement of pupils in each category. Countries are listed in descending order of the proportion of pupils who expressed the most positive attitude. England's average scale score of 9.8 is within the *Somewhat like reading* category. The measure of pupils' reading enjoyment was based on pupils' responses to eight items; more details on how the scale was created can be seen below the table.

The percentage of pupils in England (26 per cent) who were categorised as *Liking reading* was close to the international mean (28 per cent). This was 20 percentage points below Portugal and nine above Qatar, the countries with the highest and lowest proportion of pupils in this category respectively. Several countries with high average reading attainment were among those where pupils reported low levels of reading enjoyment. The Republic of Ireland, however, combined both high attainment and relatively high levels of reported reading enjoyment.

In England, 20 per cent of pupils were in the lowest reading enjoyment category, five percentage points above the international mean (15 per cent). The Republic of Ireland, Canada and New Zealand were the English-speaking countries with the lowest proportion of pupils in this category (14 per cent). The United States was the English-speaking country with the highest proportion in this category (22 per cent).

As within almost all countries, pupils in England who had higher levels of enjoyment in reading had higher average achievement than their peers. The average achievement score for pupils in the highest enjoyment category was 70 scale points higher, at 589, than for those in the lowest category.

Table 4.1 Pupils like reading (comparator countries)

Reported by pupils

Pupils were scored on the *Pupils Like Reading* scale according to their degree of agreement with six statements and how often they did two reading activities outside of school. Pupils who **Like reading** had a score on the scale of at least 11.0, which corresponds to their “agreeing a lot” with three of the six statements and “agreeing a little” with the other three, as well as doing both reading activities outside of school “every day or almost every day,” on average. Pupils who **Do not like reading** had a score no higher than 8.2, which corresponds to their “disagreeing a little” with three of the six statements and “agreeing a little” with the other three, as well as doing both reading activities only “once or twice a month,” on average. All other pupils **Somewhat like reading**.

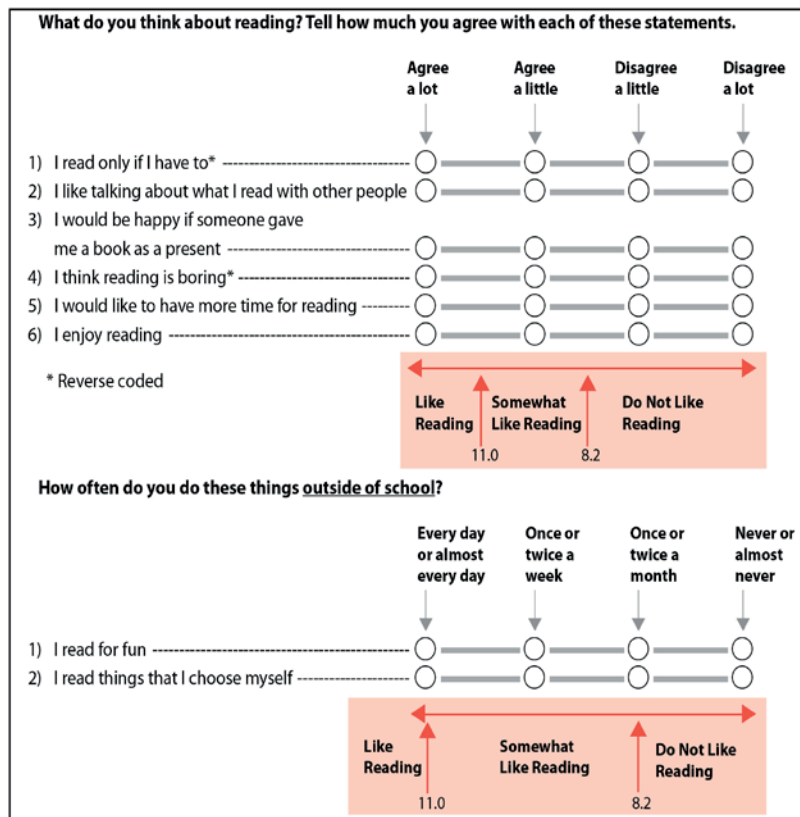
Country	Like reading		Somewhat like reading		Do not like reading		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Ireland, Rep. of	37 (1.2)	580 (2.5)	49 (0.9)	543 (3.0)	14 (0.9)	514 (4.9)	10.4 (0.07)
Canada	35 (0.6)	574 (2.1)	51 (0.6)	539 (1.9)	14 (0.5)	520 (2.7)	10.3 (0.03)
New Zealand	32 (0.9)	574 (2.7)	53 (0.8)	515 (2.4)	14 (0.6)	497 (3.6)	10.2 (0.05)
Australia	30 (0.9)	565 (2.7)	52 (0.8)	518 (2.8)	19 (0.7)	494 (4.0)	9.9 (0.05)
Northern Ireland	29 (1.3)	590 (3.3)	51 (1.0)	554 (2.7)	20 (0.9)	527 (3.5)	9.9 (0.07)
United States	27 (0.6)	586 (2.1)	51 (0.7)	551 (1.7)	22 (0.6)	536 (2.4)	9.7 (0.03)
England	26 (1.1)	589 (3.9)	53 (0.9)	545 (2.9)	20 (1.0)	519 (4.0)	9.8 (0.06)
Russian Federation	26 (1.0)	587 (3.2)	61 (0.8)	564 (3.0)	13 (0.7)	554 (3.3)	10.0 (0.05)
Finland	26 (1.0)	596 (2.6)	54 (0.9)	568 (2.3)	21 (0.9)	534 (2.2)	9.7 (0.06)
Chinese Taipei	23 (1.0)	585 (2.7)	57 (0.8)	550 (1.9)	20 (1.0)	523 (3.2)	9.7 (0.05)
Singapore	22 (0.8)	610 (3.5)	63 (0.8)	560 (3.4)	15 (0.6)	538 (4.2)	9.8 (0.04)
Hong Kong SAR	21 (1.0)	596 (2.6)	62 (0.8)	568 (2.5)	16 (0.8)	550 (3.2)	9.7 (0.05)
Sweden	21 (0.9)	571 (3.6)	58 (1.3)	541 (2.5)	21 (1.1)	516 (2.5)	9.6 (0.05)
International Avg.	28 (0.2)	542 (0.5)	57 (0.1)	506 (0.5)	15 (0.1)	488 (0.8)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Source Exhibit 8.1 in the 2011 international PIRLS report



4.2 Pupils' attitudes towards reading: motivation to read

Motivation to read is defined as pupils' views of reading as a learning tool and as a tool to facilitate independent thought. Table 4.2 shows the proportions of pupils in comparator countries in each of three categories on the *Motivated to read* scale, along with their average achievement. England and relevant countries of interest are listed in order of the percentage of pupils who were categorised as being *Motivated*. This scale was created from pupils' responses to six questions and more detail on how the scale was created can be seen below the table. England's average scale score of 9.4 indicates that most pupils are motivated to some extent, despite a low ranking internationally.

The percentage of pupils who were categorised as *Motivated* ranged from 92 per cent (Georgia) to 52 per cent (Hong Kong); England had 65 per cent of pupils in this category. Pupils in countries with the highest average reading performance reported the lowest levels of motivation to read. The Russian Federation is an exception, recording both high achievement and high levels of motivation. Despite many high achieving countries having the lowest levels of motivation, within most countries, the association between pupils' achievement and their motivation is positive. In England and a number of other countries, however, the average achievement of pupils in the *Somewhat motivated* category was similar to that of pupils in the *Motivated* category.

In England, for only one of the six statements comprising this scale (*I like it when a book helps me to imagine other worlds*) does the average achievement of pupils increase the more they agree with the statement. In all other cases the highest average achievement is gained by those who *agree a little* or *disagree a little* with the statement.

Table 4.2 Pupils motivated to read (comparator countries)

Reported by pupils

Pupils were scored according to their degree of agreement with six statements on the *Pupils Motivated to Read* scale. Pupils **Motivated** to read had a score on the scale of at least 8.7, which corresponds to their "agreeing a lot" with three of the six statements and "agreeing a little" with the other three, on average. Pupils who were **Not motivated** had a score no higher than 6.8, which corresponds to their "disagreeing a little" with three of the six statements and "agreeing a little" with the other three, on average. All other pupils were **Somewhat motivated** to read.

Country	Motivated		Somewhat motivated		Not motivated		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Russian Federation	83 (0.7)	571 (2.7)	15 (0.7)	565 (3.8)	2 (0.2)	~ ~	10.3 (0.04)
Ireland, Rep. of	75 (1.0)	554 (2.6)	20 (0.9)	551 (4.1)	4 (0.4)	523 (5.6)	10.0 (0.05)
New Zealand	72 (0.9)	536 (2.1)	23 (0.9)	533 (3.7)	5 (0.4)	483 (6.6)	9.8 (0.04)
Canada	72 (0.6)	551 (1.7)	24 (0.6)	549 (2.2)	4 (0.2)	530 (5.2)	9.8 (0.03)
Australia	71 (1.0)	532 (2.7)	23 (0.9)	527 (3.2)	7 (0.5)	493 (5.7)	9.7 (0.05)
United States	71 (0.6)	560 (1.5)	23 (0.5)	557 (2.3)	6 (0.3)	530 (4.5)	9.7 (0.03)
Sweden	66 (1.2)	540 (2.2)	30 (1.1)	547 (3.1)	4 (0.5)	529 (7.4)	9.4 (0.04)
Northern Ireland	65 (1.2)	561 (2.7)	29 (1.0)	561 (2.9)	7 (0.6)	533 (5.5)	9.4 (0.05)
England	65 (1.4)	551 (2.9)	28 (1.2)	559 (3.2)	7 (0.5)	531 (7.8)	9.4 (0.06)
Chinese Taipei	62 (1.3)	566 (2.0)	27 (0.9)	542 (2.6)	12 (0.7)	512 (4.0)	9.4 (0.06)
Singapore	60 (0.7)	576 (3.5)	31 (0.6)	562 (3.6)	8 (0.4)	533 (5.6)	9.3 (0.03)
Finland	59 (1.1)	570 (2.2)	34 (1.0)	571 (2.4)	7 (0.6)	543 (4.4)	9.2 (0.05)
Hong Kong SAR	52 (1.0)	577 (2.4)	34 (0.8)	570 (2.8)	15 (0.8)	551 (3.8)	8.9 (0.05)
International Avg.	74 (0.1)	518 (0.4)	21 (0.1)	503 (0.7)	5 (0.1)	474 (1.3)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source Exhibit 8.2 in the 2011 international PIRLS report

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Do you read for any of the following reasons? Show how much you agree with each of these statements.

Tick **one** box for each row.

	Agree a lot		Agree a little		Disagree a little		Disagree a lot
a) I like to read things that make me think	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>
b) It is important to be a good reader	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>
c) My family like it when I read	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>
d) I learn a lot from reading	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>
e) I need to read well for my future	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>
f) I like it when a book helps me to imagine other worlds	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>

4.3 Pupils' confidence in reading

Confidence in reading relates to pupils' perceptions of their own reading ability, comparisons they make between themselves and peers and with reading in other subjects. Pupils responded to seven individual items relating to their confidence in reading. These were combined to form a scale with three categories. The individual questions and the scale can be seen below Table 4.3. England's average scale score of 10.0 is within the *Somewhat confident* range.

In Table 4.3 England and comparator countries are listed in descending order of the percentage of pupils who were categorised as *Confident*. Israel had the highest proportion of pupils in this category (49 per cent) while Morocco had the lowest (17 per cent). In England, 37 per cent of pupils were categorised as *Confident*, a similar proportion to the international average, while 10 per cent were in the *Not confident* category. The average achievement score of pupils in England who were categorised as *Confident* was 100 scale points higher, at 589, than that of pupils who were *Not confident*. The proportions of pupils in England in the *Not confident* and *Somewhat confident* categories were also similar to the international average. Pupils in the Republic of Ireland reported the highest levels of confidence in reading among English-speaking pupils, with 44 per cent in the *Confident* category.

Within all countries greater reading confidence was associated with higher average achievement. However, when comparing countries, three with the highest achievement internationally (Hong Kong, the Russian Federation and Singapore) had some of the lowest percentages of pupils in the *Confident* category.

Table 4.3 Pupils' confidence in reading (comparator countries)

Reported by pupils

Pupils were scored according to their degree of agreement with seven statements on the *Pupils Confident in Reading* scale. Pupils **confident** in reading had a score on the scale of at least 10.6, which corresponds to their "agreeing a lot" with four of the seven statements and "agreeing a little" with the other three, on average. Pupils who were **Not confident** had a score no higher than 7.9, which corresponds to their "disagreeing a little" with four of the seven statements and "agreeing a little" with the other three, on average. All other pupils were **Somewhat confident** in reading.

Country	Confident		Somewhat confident		Not confident		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Finland	48 (1.2)	590 (2.0)	47 (1.1)	552 (2.3)	5 (0.5)	507 (6.7)	10.5 (0.05)
Sweden	47 (0.8)	565 (2.5)	48 (0.9)	527 (2.4)	5 (0.4)	471 (6.1)	10.5 (0.04)
Ireland, Rep. of	44 (1.1)	580 (2.1)	49 (1.1)	537 (2.9)	8 (0.6)	490 (5.0)	10.3 (0.05)
Canada	41 (0.7)	578 (1.7)	51 (0.6)	536 (1.7)	9 (0.4)	497 (3.1)	10.2 (0.04)
United States	40 (0.9)	588 (1.6)	49 (0.7)	545 (1.5)	11 (0.4)	503 (2.4)	10.2 (0.04)
Australia	37 (0.9)	568 (2.4)	53 (0.8)	515 (2.5)	10 (0.6)	451 (5.4)	10.1 (0.04)
England	37 (1.1)	589 (2.8)	53 (1.2)	539 (3.0)	10 (0.6)	483 (6.0)	10.0 (0.05)
Northern Ireland	35 (1.0)	591 (3.1)	55 (1.1)	549 (2.8)	10 (0.6)	501 (4.7)	10.0 (0.04)
Russian Federation	28 (0.8)	601 (3.0)	59 (0.8)	564 (2.8)	14 (0.6)	526 (4.0)	9.6 (0.04)
New Zealand	27 (0.8)	585 (2.9)	61 (0.8)	523 (2.2)	13 (0.6)	471 (4.2)	9.6 (0.04)
Singapore	26 (0.7)	607 (3.3)	61 (0.6)	565 (3.0)	13 (0.6)	504 (5.2)	9.5 (0.03)
Chinese Taipei	21 (0.8)	585 (2.7)	57 (0.8)	554 (1.9)	22 (0.9)	520 (2.8)	9.2 (0.04)
Hong Kong SAR	20 (0.9)	601 (2.4)	62 (0.8)	571 (2.6)	18 (0.9)	538 (3.3)	9.2 (0.05)
International Avg.	36 (0.2)	547 (0.4)	53 (0.1)	502 (0.4)	11 (0.1)	456 (0.8)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Source Exhibit 8.3 in the 2011 international PIRLS report

How well do you read? Show how much you agree with each of these statements.

Tick **one** box for each row.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
	↓	↓	↓	↓

a) I usually do well in reading ----- ○ ——— ○ ——— ○ ——— ○

b) Reading is easy for me ----- ○ ——— ○ ——— ○ ——— ○

c) Reading is harder for me than for many of the children in my class*----- ○ ——— ○ ——— ○ ——— ○

d) If a book is interesting, I don't care how hard it is to read ----- ○ ——— ○ ——— ○ ——— ○

e) I have trouble reading stories with difficult words*----- ○ ——— ○ ——— ○ ——— ○

f) My teacher tells me I am a good reader ----- ○ ——— ○ ——— ○ ——— ○

g) Reading is harder for me than any other subject* ----- ○ ——— ○ ——— ○ ——— ○

←-----→

Confident Somewhat Confident Not Confident

10.6 7.9

*reverse coded

4.4 Comparison with reported 2006 outcomes related to attitudes (where applicable)

As England participated in PIRLS in 2001 and 2006, potential trends relating to attitudes can be investigated. Due to a change in the analysis method used in PIRLS 2011, a direct comparison between the scales cannot be made. However, three of the items used to construct the enjoyment and motivation scales (*I enjoy reading*, *I think reading is boring* and *I need to read well for my future*) have remained consistent, and they can be viewed in more detail to look for trends over time. The percentages of pupils in each category across the three surveys can be seen in Table 4.4. As this table shows, positive attitudes towards reading are at levels similar to, or possibly higher than, those seen in 2001 and 2006.

Table 4.4 Pupil attitudes to reading over time in England¹

Item	Year of survey	Agree a lot Per cent of pupils	Agree a little Per cent of pupils	Disagree a little Per cent of pupils	Disagree a lot Per cent of pupils
I enjoy reading	2001	53	23	10	14
	2006	48	28	10	14
	2011	57	26	8	9
I think reading is boring*	2001	15	16	17	52
	2006	15	17	20	48
	2011	9	15	21	55
I need to read well for my future	2001	64	22	8	6
	2006	59	25	9	7
	2011	68	23	6	3

*Item reverse coded

4.5 Pupils' reported engagement in reading lessons

Pupil engagement is considered to be the ease and extent of pupils' access to lessons, in terms of the presence of mental stimulation and the absence of mental distractions. Table 4.5 shows the engagement of pupils in England and comparator countries, ranked in descending order based on the percentage of pupils in the *Engaged* category. This scale was formed from the analysis of responses to seven items in the pupil questionnaire. The questions used to make this scale can be seen below the table². England's average scale score is 9.6, well within the *Somewhat engaged* category.

The percentage of pupils in the *Engaged* category ranged from 71 per cent (Indonesia) to 15 per cent (Finland). Whilst in most countries the most engaged pupils are also the highest achieving, when countries are compared, this relationship between engagement and achievement changes. Many of the highest achieving countries internationally had the lowest proportions of pupils in the *Engaged* category; England had 34 per cent of pupils in this category, below the international mean of 42 per cent. In England, the percentage of pupils in the *Not engaged* category (9 per cent) was very similar to the international mean (8 per cent). Within most countries, including England, these were the lowest achieving pupils on average. In England and a number of comparator countries (New Zealand, Northern Ireland, Russian Federation and Sweden), pupils' achievement scores were similar in the *Engaged* and *Somewhat engaged* categories.

¹ This data is from the 2001, 2006 and 2011 almanacs containing all pupil questionnaire data and standard errors are not available.

² Items h) and i) did not contribute to the scale, and item d) was reverse coded.

Table 4.5 Pupils' engagement in reading lessons (comparator countries)

Reported by pupils

Pupils were scored according to their degree of agreement with seven statements on the *Engaged in Reading Lessons* scale. Pupils **Engaged** in reading lessons had a score on the scale of at least 10.5, which corresponds to their "agreeing a lot" with four of the seven statements and "agreeing a little" with the other three, on average. Pupils who were **Not engaged** had a score no higher than 7.4, which corresponds to their "disagreeing a little" with four of the seven statements and "agreeing a little" with the other three, on average. All other pupils were **Somewhat engaged** in reading lessons.

Country	Engaged		Somewhat engaged		Not engaged		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Russian Federation	53 (1.1)	571 (3.0)	42 (0.9)	567 (3.3)	5 (0.3)	560 (6.6)	10.6 (0.05)
United States	43 (0.8)	565 (1.9)	49 (0.6)	554 (1.6)	8 (0.4)	539 (3.1)	10.0 (0.04)
Ireland, Rep. of	43 (1.5)	557 (2.5)	49 (1.2)	550 (3.0)	8 (0.7)	541 (5.6)	10.0 (0.07)
Canada	39 (0.9)	558 (1.9)	54 (0.7)	545 (1.9)	7 (0.4)	531 (4.4)	9.9 (0.03)
Northern Ireland	37 (1.4)	561 (3.5)	55 (1.2)	559 (2.9)	8 (0.7)	551 (5.4)	9.8 (0.06)
New Zealand	34 (1.1)	534 (3.1)	57 (1.0)	533 (1.8)	9 (0.7)	520 (7.0)	9.7 (0.04)
England	34 (1.5)	551 (4.0)	57 (1.2)	554 (2.8)	9 (0.8)	541 (6.1)	9.6 (0.06)
Australia	33 (1.1)	538 (3.7)	56 (0.9)	526 (2.5)	11 (0.7)	509 (4.4)	9.6 (0.05)
Chinese Taipei	31 (1.3)	561 (2.5)	54 (0.9)	555 (2.1)	14 (1.0)	531 (4.6)	9.4 (0.06)
Singapore	31 (0.8)	575 (3.6)	57 (0.7)	568 (3.6)	13 (0.6)	554 (4.4)	9.5 (0.03)
Sweden	29 (1.3)	541 (3.1)	63 (1.0)	545 (2.4)	9 (0.8)	528 (4.4)	9.5 (0.05)
Hong Kong SAR	24 (1.0)	578 (2.5)	58 (0.7)	571 (2.5)	18 (1.0)	563 (3.8)	9.1 (0.06)
Finland	15 (0.8)	568 (3.6)	65 (1.0)	573 (2.1)	20 (1.0)	553 (2.8)	8.7 (0.04)
International Avg.	42 (0.2)	519 (0.5)	50 (0.2)	510 (0.5)	8 (0.1)	494 (1.0)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source Exhibit 8.7 in the 2011 international PIRLS report

Think about the reading you do for school. How much do you agree with these statements about your reading lessons?

Tick **one** box for each row.

	Agree a lot	Agree a little	Disagree a little	Disagree a lot
a) I like what I read about in school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) My teacher gives me interesting things to read	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I know what my teacher expects me to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I think of things not related to the lesson	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) My teacher is easy to understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I am interested in what my teacher says	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) My teacher gives me interesting things to do	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) The things my teacher asks me to read are difficult	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) My teachers are good at letting me know how my learning can be improved	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Engaged Somewhat Engaged Not Engaged

10.5 7.4

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

4.6 Teachers' reported approach to engaging pupils in learning

Teachers of pupils participating in PIRLS responded to six questions relating to the use of engaging practices in their teaching, although it should be noted that this was not solely in relation to the teaching of reading. The responses to these six questions were used to form one scale; the questions can be seen below Table 4.6. In England, the average scale score of 10.5 is one of the highest scale scores and confirms that teachers reported using engaging practices in *most lessons*.

Table 4.6 shows the percentage of pupils in each category based on their teachers' responses, ranked in descending order of the percentage of pupils whose teachers reported using engaging teaching strategies in *most* of their lessons. The country scoring highest on this scale was Romania, with 94 per cent of pupils taught by teachers who reported using engaging teaching strategies in *most lessons*. At the other end of the scale, only 23 per cent of pupils in Denmark were placed in this category. The international mean was 71 per cent. In England, teachers of 91 per cent of pupils reported using engaging teaching strategies in at least *most* of their lessons. This is higher than in all comparator countries, where proportions ranged from 88 per cent (United States) to 33 per cent (Finland).

Table 4.6 Teaching to engage pupils in learning (comparator countries)

Reported by teachers

Pupils were scored according to their teachers' responses to how often they used each of six teaching practices on the *Engaging Pupils in Learning* scale. Pupils with teachers who used engagement practices in **Most lessons** had a score on the scale of at least 9.1, which corresponds to their teachers using three of the six practices "every or almost every lesson" and using the other three in "about half the lessons," on average. Pupils with teachers who used engagement practices in **Some lessons** had a score no higher than 5.9, which corresponds to their teachers using three of the six practices in "some lessons" and using the other three in "about half the lessons," on average. All other pupils had teachers who used engagement practices in **About half the lessons**.

Country	Most lessons		About half the lessons		Some lessons		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
England	91 (2.2)	551 (3.0)	9 (2.2)	548 (11.5)	0 (0.2)	~ ~	10.5 (0.14)
United States	88 (1.6)	556 (1.7)	11 (1.5)	560 (6.6)	0 (0.3)	~ ~	10.8 (0.08)
Russian Federation	82 (3.0)	569 (2.8)	17 (2.9)	565 (6.7)	1 (0.7)	~ ~	10.7 (0.16)
Northern Ireland	r 78 (3.7)	559 (3.1)	21 (3.8)	565 (6.6)	1 (0.6)	~ ~	9.8 (0.13)
Australia	r 77 (3.3)	534 (3.0)	23 (3.3)	523 (4.7)	0 (0.2)	~ ~	10.0 (0.13)
Canada	76 (1.6)	549 (1.7)	23 (1.7)	546 (4.0)	1 (0.5)	~ ~	10.1 (0.09)
Singapore	71 (2.4)	569 (4.2)	27 (2.4)	560 (6.3)	2 (0.8)	~ ~	10.0 (0.12)
Ireland, Rep. of	67 (3.2)	552 (2.8)	32 (3.2)	552 (4.6)	1 (0.5)	~ ~	9.8 (0.14)
New Zealand	66 (3.0)	537 (2.6)	34 (3.0)	527 (5.0)	0 (0.2)	~ ~	9.6 (0.09)
Hong Kong SAR	60 (4.6)	567 (3.4)	35 (4.7)	576 (4.5)	5 (1.9)	572 (15.1)	9.5 (0.19)
Sweden	r 47 (4.0)	542 (3.1)	52 (4.1)	544 (3.4)	1 (0.8)	~ ~	8.9 (0.15)
Chinese Taipei	39 (4.3)	551 (3.2)	46 (3.8)	556 (2.7)	15 (3.1)	549 (5.5)	8.5 (0.22)
Finland	33 (3.2)	570 (2.9)	61 (3.2)	566 (2.3)	6 (1.4)	574 (7.0)	8.3 (0.11)
International Avg.	71 (0.5)	513 (0.5)	27 (0.5)	509 (1.1)	2 (0.1)	~ ~	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

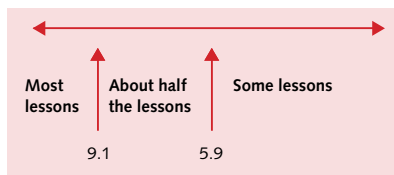
Source Exhibit 8.6 in the 2011 international PIRLS report

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

How often do you do the following in teaching this class?

Tick **one** circle for each row.

	Every or almost every lesson	About half the lessons	Some lessons	Never
a) Summarise what pupils should have learned from the lesson	↓ <input type="radio"/>	↓ <input type="radio"/>	↓ <input type="radio"/>	↓ <input type="radio"/>
b) Relate the lesson to pupils' daily lives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Use questioning to elicit reasons and explanations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Encourage all pupils to improve their performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Praise pupils for good effort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Bring interesting materials to class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Chapter 5 Reading attainment: purposes and processes in PIRLS 2011

Chapter outline

PIRLS assesses pupils' ability in two different areas of reading: the ability to read different types of content and the ability to use different types of skills while reading. In PIRLS these two areas of reading are referred to as 'reading purposes' and 'reading processes'.

This chapter summarises pupils' attainment in both of these areas of reading. It also compares the performance of boys and girls in these areas.

The outcomes for England are compared with those of the 2006 survey.

Comparisons are made with several other participating countries: Australia, Canada, Chinese Taipei, Finland, Hong Kong, the Republic of Ireland, New Zealand, Northern Ireland, the Russian Federation, Sweden, Singapore and the United States.

Key findings

- Pupils in England performed equally well on the two reading purpose scales: reading for literary purposes and reading to acquire and use information.
- Performance on both purpose scales was significantly* higher in England in 2011 than in 2006.
- On the processes of reading comprehension scales, pupils in England scored higher on the interpreting, integrating and evaluating scale, than on the retrieving and straightforward inferencing scale.
- The scale score for England on both reading process scales was significantly higher in 2011 than in 2006.
- In England, girls achieved significantly higher mean scores than boys on both of the reading purpose scales and both of the comprehension process scales.

5.1 England's attainment by reading purposes

Table 5.1 presents the average achievement of England and comparator countries in the two purposes for reading identified in PIRLS: reading for literary experience, and reading to acquire and use information. Performance on the two scales is compared relative to overall reading achievement.

* Findings listed as 'significant' throughout this report are statistically significant.

Interpreting the data: the reading purpose scales

It is important to note that the two numerical scale scores representing the two reading purposes are not directly comparable, since they represent different constructs, and the assessments may be of different levels of demand. However, to allow comparison of the relative performance of each country for each purpose, Item Response Theory scaling was used so that pupil attainment in the two reading purposes could be placed on the same overall reading scale (international mean = 500).

Pupils in England performed equally well on the two reading purpose scales. Although many countries performed relatively higher in one of the reading purposes compared to their overall performance, that was not the case in England. Pupils in Hong Kong, Singapore and Chinese Taipei performed significantly better on informational reading, whereas pupils in Northern Ireland, the United States, the Republic of Ireland, Canada, Sweden and New Zealand scored more highly on literary reading. Other comparator countries (the Russian Federation, Finland and Australia), like England, showed no significant discrepancy in performance between the two reading purposes.

England's scores on both scales were significantly higher than the scores achieved in 2006.

Table 5.1 Achievement in reading purposes (comparator countries)

Country	Overall reading average scale score	Literary		Informational		Difference	
		Average scale score	Difference from overall reading score	Average scale score	Difference from overall reading score	Purpose score lower than overall reading score	Purpose score higher than overall reading score
³ Hong Kong SAR	571 (2.3)	565 (2.5)	-6 (1.1) ▼	578 (2.2)	7 (1.2) ▲		
Russian Federation	568 (2.7)	567 (2.7)	-1 (0.8)	570 (2.7)	1 (1.1)		
Finland	568 (1.9)	568 (2.0)	1 (0.7)	568 (2.0)	0 (0.8)		
² Singapore	567 (3.3)	567 (3.5)	0 (1.4)	569 (3.3)	2 (1.0) ▲		
[†] Northern Ireland	558 (2.4)	564 (2.7)	5 (1.4) ▲	555 (2.6)	-4 (1.7) ▼		
² United States	556 (1.5)	563 (1.8)	6 (1.0) ▲	553 (1.6)	-4 (1.0) ▼		
Chinese Taipei	553 (1.9)	542 (1.9)	-11 (1.0) ▼	565 (1.8)	12 (0.7) ▲		
Ireland, Rep. of	552 (2.3)	557 (2.7)	6 (1.3) ▲	549 (2.3)	-3 (1.1) ▼		
[†] England	552 (2.6)	553 (2.8)	1 (1.7)	549 (2.6)	-2 (1.5)		
² Canada	548 (1.6)	553 (1.7)	5 (0.7) ▲	545 (1.7)	-3 (0.9) ▼		
Sweden	542 (2.1)	547 (2.4)	5 (1.2) ▲	537 (2.4)	-5 (1.4) ▼		
New Zealand	531 (1.9)	533 (2.3)	2 (1.1) ▲	530 (2.0)	-1 (1.2)		
Australia	527 (2.2)	527 (2.2)	0 (1.0)	528 (2.2)	1 (0.7)		

▲ Subscale score significantly higher than overall reading score
▼ Subscale score significantly lower than overall reading score

■ Literary reading
■ Informational reading

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

See Appendix C.2 in international report for target population coverage notes 1, 2, and 3.

See Appendix C.5 for sampling guidelines and sampling participation notes † and ‡.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source: Exhibit 3.1 in PIRLS 2011 report

5.2 England's attainment by comprehension processes

The reading skills identified in the PIRLS framework (referred to as processes) are:

- focus on and retrieve explicitly stated information
- make straightforward inferences
- interpret and integrate ideas and information
- examine and evaluate content, language and textual elements.

The two text-based processes (retrieval and straightforward inferencing) were combined to form a single scale, and the other two processes more concerned with reasoning (interpreting and integrating, and examining and evaluating) were combined to form another scale. Each of the two scales includes about half of the assessment items.

Interpreting the data: the reading comprehension process scales

As with the reading purpose scales, it is important to note that the two numerical scale scores representing the different reading processes are not directly comparable, since they represent different constructs, and the assessments may be of different levels of demand. However, to allow comparison of the relative performance of each country for the major reading comprehension processes, Item Response Theory scaling was used to place achievement in the text-based processes and the reasoning processes on the same overall reading scale (international mean = 500).

When the two scales are compared, pupils in England scored nine scale points higher on the interpreting, integrating and evaluating scale than on the retrieval and straightforward inferencing scale. This difference was statistically significant and mirrors the finding in 2006.

The two highest achieving countries (Hong Kong and the Russian Federation), as well as a number of English-speaking countries (Northern Ireland, United States, Canada and New Zealand), also scored significantly more highly on the interpreting, integrating and evaluating scale.

Nine out of the 13 comparator countries included in Table 5.2 performed significantly better on the interpreting, integrating and evaluating scale. The remaining four countries (Finland, the Republic of Ireland, Sweden and Australia) performed equally well on both processes.

As with the reading purposes scales, England's scores on both reading process scales were significantly higher than the scores achieved in 2006.

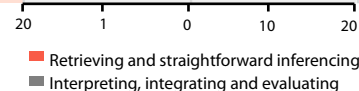
Table 5.2 Achievement in comprehension processes (comparator countries)

Country	Overall reading average scale score	Retrieving and straightforward		Interpreting, integrating, and evaluating		Difference	
		Average scale score	Difference from overall reading score	Average scale score	Difference from overall reading score	Process score lower than overall reading score	Process score higher than overall reading score
³ Hong Kong SAR	571 (2.3)	562 (2.0)	-8 (1.0) ▼	578 (2.4)	7 (1.0) ▲		
Russian Federation	568 (2.7)	565 (2.7)	-3 (1.2) ▼	571 (2.6)	2 (0.9) ▲		
Finland	568 (1.9)	569 (2.0)	1 (0.9)	567 (1.8)	-1 (0.7)		
² Singapore	567 (3.3)	565 (3.4)	-2 (1.3)	570 (3.4)	3 (1.2) ▲		
† Northern Ireland	558 (2.4)	555 (2.5)	-3 (1.0) ▼	562 (2.5)	4 (1.0) ▲		
² United States	556 (1.5)	549 (1.5)	-7 (0.7) ▼	563 (1.6)	6 (0.6) ▲		
Chinese Taipei	553 (1.9)	551 (1.8)	-1 (0.8)	555 (1.9)	2 (0.7) ▲		
Ireland, Rep. of	552 (2.3)	552 (2.8)	0 (1.8)	553 (2.2)	2 (0.9) ▲		
† England	552 (2.6)	546 (2.6)	-6 (1.3) ▼	555 (2.7)	4 (1.1) ▲		
² Canada	548 (1.6)	543 (1.5)	-5 (0.6) ▼	554 (1.5)	5 (0.4) ▲		
Sweden	542 (2.1)	543 (2.1)	1 (1.0)	540 (2.1)	-1 (0.9)		
New Zealand	531 (1.9)	527 (2.0)	-4 (0.9) ▼	535 (1.9)	4 (1.4) ▲		
Australia	527 (2.2)	527 (2.6)	-1 (1.3)	529 (2.2)	2 (1.0)		

- ▲ Subscale score significantly higher than overall reading score
- ▼ Subscale score significantly lower than overall reading score

See Appendix C.2 in international report for target population coverage notes 1, 2, and 3.
See Appendix C.5 for sampling guidelines and sampling participation note †.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.



SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Source: Exhibit 3.3 in PIRLS 2011 report

5.3 England's purpose and process differences by gender

Table 5.3 shows that, in England, girls scored significantly higher than boys on both reading for literary purposes and reading to acquire and use information. Girls scored 28 scale points higher than boys on the literary scale and 21 points higher on the informational scale.

Girls also had significantly better performance than boys on both reading process scales. Girls scored 22 scale points higher on the retrieval and straightforward inferencing scale and 24 points higher on the interpreting, integrating and evaluating scale.

In all the comparator countries girls performed better than boys on all scales, for reading purposes and reading comprehension processes. On all four scales the difference between boys and girls in England was greater than the international average. These differences repeat the patterns found in 2006.

Table 5.3 Achievement in reading purposes and comprehension processes by gender (comparator countries)

Country	Reading purposes				Comprehension processes			
	Literary		Informational		Retrieving and straightforward inferencing		Interpreting, integrating and evaluating	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Australia	539 (3.0) ▲	516 (3.2)	534 (2.9) ▲	522 (2.7)	536 (3.1) ▲	517 (3.1)	538 (2.8) ▲	521 (2.7)
² Canada	562 (2.0) ▲	544 (2.2)	549 (1.9) ▲	542 (2.0)	549 (1.8) ▲	538 (1.9)	560 (1.8) ▲	548 (2.0)
Chinese Taipei	550 (2.2) ▲	535 (2.3)	572 (2.1) ▲	560 (2.0)	560 (2.2) ▲	544 (2.3)	561 (2.2) ▲	549 (2.3)
[†] England	567 (2.9) ▲	539 (3.4)	560 (3.0) ▲	539 (3.2)	557 (3.0) ▲	535 (3.2)	568 (3.1) ▲	544 (3.2)
Finland	582 (2.4) ▲	556 (2.4)	575 (2.6) ▲	561 (2.6)	579 (2.7) ▲	560 (2.3)	578 (2.4) ▲	557 (2.0)
³ Hong Kong SAR	577 (2.8) ▲	555 (2.7)	582 (2.5) ▲	574 (2.3)	569 (2.4) ▲	556 (2.5)	588 (2.6) ▲	570 (2.7)
Ireland, Rep. of	569 (3.1) ▲	546 (3.4)	553 (3.1) ▲	545 (3.0)	558 (3.7) ▲	546 (3.1)	562 (2.9) ▲	545 (2.9)
New Zealand	546 (2.7) ▲	521 (3.3)	537 (2.4) ▲	522 (2.8)	536 (2.4) ▲	519 (2.8)	545 (2.5) ▲	526 (2.5)
[†] Northern Ireland	575 (3.2) ▲	552 (3.5)	561 (3.1) ▲	549 (3.4)	563 (2.8) ▲	548 (3.4)	571 (2.8) ▲	553 (3.3)
Russian Federation	578 (2.8) ▲	557 (3.1)	577 (2.9) ▲	563 (2.9)	574 (3.2) ▲	557 (3.0)	581 (2.7) ▲	561 (3.0)
² Singapore	578 (3.9) ▲	556 (3.8)	576 (3.5) ▲	563 (3.6)	573 (3.5) ▲	557 (3.7)	579 (3.6) ▲	562 (3.7)
Sweden	557 (3.1) ▲	538 (2.6)	543 (2.7) ▲	531 (3.1)	549 (2.6) ▲	537 (2.6)	549 (2.5) ▲	532 (2.6)
² United States	570 (2.3) ▲	555 (1.9)	556 (1.9) ▲	549 (1.9)	554 (1.8) ▲	544 (1.7)	568 (2.0) ▲	557 (1.9)
International Avg.	522 (0.5) ▲	502 (0.5)	519 (0.5) ▲	507 (0.5)	521 (0.5) ▲	505 (0.5)	519 (0.5) ▲	502 (0.5)

▲ Average significantly higher than other gender

See Appendix C.2 in international report for target population coverage notes 1, 2, and 3.

See Appendix C.5 for sampling guidelines and sampling participation notes †.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source: Exhibit 3.7 in PIRLS 2011 report

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS

Chapter 6 The curriculum and teaching

Chapter outline

This chapter focuses on how reading skills are taught to young children. It reports the frequency of practices within school, the age at which a range of reading skills and strategies first receive a major emphasis, and the use of computer technology in reading lessons.

Key findings

- Generally, pupils in higher performing countries spent less time on reading activities than the average, while pupils in English-speaking countries spent more. The amount of time teachers of pupils in England spent on the teaching of reading, including reading across the curriculum was below the international average, although internationally, responses regarding the time spent teaching reading varied greatly.
- England had the highest proportion of pupils in schools where the teaching of a range of reading skills was emphasised at or before the academic year in which they turned eight (Year 3 in England).
- In England and internationally, the average achievement of pupils who began learning a range of reading skills earlier was higher than the average achievement of those who were introduced to the skills later.
- The percentage of pupils in England whose teachers reported they practised a range of comprehension skills and strategies on at least a weekly basis was close to or above the international mean.
- Internationally, the average achievement scores were the same regardless of whether or not computers were available for use in reading lessons. Average achievement in England was similar for pupils who did and who did not have access to a computer for reading lessons. More pupils in the top performing countries used computers in reading lessons than did those in less well performing countries.

Several countries of interest have been included in this chapter, due to their similarities with England or their high performance. These include English-speaking countries, the high performing Pacific Rim countries, Finland, Sweden and Denmark¹. Other countries have been included where their data is of particular interest.

¹ Denmark is included in the comparator group of countries in this section due to the country's policy with regard to subject teaching in primary schools.

Interpreting the data: indices and scales

In order to summarise data from a questionnaire, responses to several related items are sometimes combined together to form an index or scale. The respondents to the questionnaire items are grouped according to their responses. Where teacher responses have been reported in an index or scale, the analysis has classified pupils as being within a particular category based on their teachers' responses. The way in which responses have been categorised is shown at the foot of the index or scale in each case. Data in an index or scale can often be more reliable and valid than the responses to individual items.

6.1 Teaching time

Time spent on the teaching of language and reading was calculated using the methodology shown at the foot of Table 6.1, using teachers' reports of weekly language teaching hours, and headteachers' reports of school days per year, school days per week, and teaching hours per day. Table 6.1 shows teaching time spent on language and reading, for England and all comparator countries, listed in descending order of amount of total teaching hours per year. 'Language' was defined as the language of the test.

Compared to the international mean, it can be seen that teachers in England reported spending slightly more time teaching explicit reading skills, but less time teaching reading skills across the curriculum.

The amount of time spent on the teaching of reading and reading activities in a typical week was less than that reported in 2006. In 2011, teachers in England reported spending about three hours per week on these activities compared with almost three and a half hours in 2006.

Internationally, there were large differences in the amount of time devoted to the teaching of reading and reading activities. Of the 11 top performing countries, teachers in eight reported spending less time teaching reading across the curriculum, including time spent on the teaching of reading than the average amount of time internationally. Conversely, most English-speaking countries reported more time spent on this than the average internationally.

Table 6.1 Teaching time spent on language and reading (comparator countries)

Reported by headteachers and teachers

Country	Teaching hours per year				
	Total	Language teaching	Time spent on reading as part of language teaching	Reading across the curriculum, including time spent on reading teaching	
United States	1077 (7.9)	r 275 (8.5)	s 131 (4.9)	r 246 (9.5)	
Hong Kong SAR	r 1060 (11.4)	r 207 (5.6)	r 73 (3.1)	r 102 (6.6)	
Singapore	1012 (0.0)	242 (5.5)	56 (1.8)	127 (6.0)	
Australia	1008 (6.9)	s 356 (10.4)	s 119 (5.1)	s 197 (11.0)	
Chinese Taipei	r 989 (13.4)	192 (5.2)	41 (2.0)	65 (2.8)	
England	r 987 (7.7)	r 277 (7.6)	r 77 (4.0)	r 123 (9.5)	
Northern Ireland	r 970 (11.0)	s 274 (7.7)	s 80 (3.7)	s 155 (9.9)	
Canada	957 (4.5)	r 284 (6.1)	r 101 (3.0)	r 186 (8.6)	
New Zealand	932 (4.9)	r 349 (8.3)	r 131 (3.9)	r 220 (6.7)	
Denmark	860 (8.1)	219 (3.7)	63 (1.8)	108 (5.2)	
Ireland, Rep. of	854 (0.0)	175 (3.4)	56 (1.5)	159 (9.3)	
Sweden	s 849 (11.4)	s 223 (11.0)	s 75 (3.5)	s 156 (13.1)	
Finland	779 (9.8)	188 (5.3)	55 (2.4)	99 (5.5)	
Russian Federation	r 660 (8.0)	200 (2.4)	58 (1.3)	130 (3.8)	
International Avg.	905 (2.1)	232 (1.2)	70 (0.5)	146 (1.4)	

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

An "r" indicates data are available for at least 70% but less than 85% of the pupils. An "s" indicates data are available for at least 50% but less than 70% of the pupils.

Source Exhibit 8.4 in the 2011 international PIRLS report

Total Teaching Hours per Year	=	Headteacher Reports of School Days per Year	x	Headteacher Reports of Teaching Hours per Day
Language Teaching Hours per Year	=	Teacher Reports of Weekly Language Teaching Hours	x	Headteacher Reports of School Days per Year

Time spent on reading as part of language teaching and hours spent on reading across the curriculum are also based on teacher reports of weekly teaching.

6.2 Emphasis in the early years on reading skills and strategies

Headteachers reported the age at which the teaching of specific reading skills was emphasised. A full list of these skills can be seen below Table 6.2 (items a, b and c did not contribute to the scale).

Table 6.2 lists England and comparator countries in descending order of the percentage of pupils in schools where the teaching of these skills and strategies had a major emphasis at or before the academic year in which pupils turn eight. This is Year 3 in England.

In England, 84 per cent of pupils are in schools where the teaching of these skills and strategies is emphasised by the end of Year 3. This is the highest proportion of all countries and it is notable that the four countries with the highest percentage of pupils who are taught this range of reading skills at or before the academic year in which they turn eight (England, United States, Australia and New Zealand) are all English-speaking countries.

Table 6.2 Emphasis in early years on reading skills and strategies (comparator countries)

Reported by headteachers

Pupils were scored according to their headteachers' responses about the earliest school year at which each of eleven reading skills and strategies were emphasised. Pupils in schools where their headteachers reported reading skills and strategies were emphasised **At or before the academic year in which pupils are eight (Y3)** had a score on the scale of at least 11.1, which corresponds to all eleven skills and strategies being emphasised at Y3 (second grade), on average. Pupils in schools where their headteachers reported reading skills and strategies were emphasised **During or after the academic year in which pupils are ten (Y5)** had a score no higher than 6.5, which corresponds to all eleven skills and strategies being emphasised at Y5 (fourth grade), on average. All other pupils attended schools where reading skills and strategies were emphasised **During the academic year in which pupils are nine (Y4)**.

Country	At or before the academic year in which pupils are eight		During the academic year in which pupils are nine		During or after the academic year in which pupils are ten		Average achievement
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
England	84 (3.3)	553 (3.2)	15 (3.2)	538 (7.3)	1 (0.9)	~ ~	552 (2.6)
United States	r 75 (2.7)	558 (1.7)	24 (2.7)	557 (3.8)	1 (0.5)	~ ~	556 (1.5)
Australia	73 (4.0)	528 (2.9)	27 (4.0)	531 (5.9)	0 (0.0)	~ ~	527 (2.2)
New Zealand	73 (3.6)	538 (2.8)	27 (3.6)	523 (7.2)	0 (0.0)	~ ~	531 (1.9)
Canada	55 (2.7)	549 (2.5)	44 (2.7)	547 (2.9)	1 (0.4)	~ ~	548 (1.6)
Northern Ireland	r 55 (4.6)	561 (3.0)	45 (4.6)	557 (4.6)	0 (0.0)	~ ~	558 (2.4)
Russian Federation	50 (3.7)	567 (4.0)	50 (3.7)	570 (3.7)	0 (0.0)	~ ~	568 (2.7)
Singapore	46 (0.0)	567 (4.0)	54 (0.0)	566 (5.4)	0 (0.0)	~ ~	567 (3.3)
Ireland, Rep. of	40 (4.0)	558 (3.9)	60 (4.0)	547 (3.4)	0 (0.0)	~ ~	552 (2.3)
Sweden	r 37 (4.5)	543 (4.0)	63 (4.5)	541 (3.1)	0 (0.0)	~ ~	542 (2.1)
Denmark	21 (2.4)	555 (4.5)	79 (2.4)	553 (1.9)	1 (0.5)	~ ~	554 (1.7)
Chinese Taipei	17 (3.0)	556 (5.2)	80 (3.0)	552 (2.0)	3 (1.4)	555 (7.1)	553 (1.9)
Hong Kong SAR	16 (3.5)	579 (6.7)	81 (3.8)	569 (2.9)	3 (1.6)	548 (15.3)	571 (2.3)
Finland	10 (2.6)	569 (5.6)	87 (2.8)	568 (2.0)	3 (1.5)	555 (8.2)	568 (1.9)
International Avg.	28 (0.5)	522 (1.1)	68 (0.5)	511 (0.6)	4 (0.2)	450 (3.3)	

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Note: 'At or before the academic year in which pupils are eight' is year 3 in England, and second grade; 'during the academic year in which pupils are nine' is year 4 or third grade; 'during or after the academic year in which pupils are ten' is from year 5, and from fourth grade.

Source Exhibit 6.4 in the 2011 international PIRLS report

The data from the four highest achieving countries shows a wide range in regard to this question. In the Russian Federation and Singapore, around half of pupils were in schools where the teaching of these early reading skills was emphasised at this age. In contrast, in Hong Kong and Finland the figures were 10 and 16 per cent respectively. In all four countries (the Russian Federation, Singapore, Hong Kong and Finland) the statutory age for starting school is later than that of three of the English-speaking countries which appear at the top of the table; in the United States, children customarily attend kindergarten before entering statutory education.

The remaining English-speaking countries (Canada, Northern Ireland and the Republic of Ireland), all have an above average proportion of pupils in schools where the teaching of these skills and strategies had a major emphasis at or before the academic year in which pupils turn eight. Whilst in Canada the age of starting school varies by province, in Northern Ireland and in the Republic of Ireland, pupils start school at a relatively young age. More information is available in the PIRLS encyclopaedia².

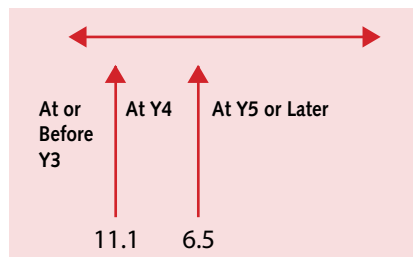
Overall, the international average achievement scores suggest that within countries, earlier teaching of a range of reading skills and strategies is associated with higher reading achievement but there is considerable variation. In a number of countries, including the high-achieving Singapore and Finland, attainment is consistent regardless of whether pupils are in schools where the skills are emphasised at age eight or at age nine.

² Mullis, I.V.S., Martin, M.O. and Minnich, C. (2012). *PIRLS 2011 Encyclopaedia: Education Policy and Curriculum in Reading (Volumes 1 and 2)*. Boston: TIMSS and PIRLS International Study Center, Lynch School of Education, Boston College.

In which year group do the following reading skills and strategies first receive a major emphasis in teaching in your school?

Tick **one** circle for each row.

	Year 2 or earlier	Year 3	Year 4	Year 5	Not in these year groups
a) Knowing letters of the alphabet -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Knowing letter-sound relationships -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Reading words -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Reading isolated sentences -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Reading connected text -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) Locating information within the text -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) Identifying the main idea of a text -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) Explaining or supporting understanding of a text -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) Comparing a text with personal experience -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j) Comparing different texts -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
k) Making predictions about what will happen next in a text -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
l) Making generalisations and drawing inferences based on a text -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
m) Describing the style or structure of a text -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
n) Determining the author's perspective or intention -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



6.3 Teachers' focus on specific comprehension skills and strategies

In order to assess how teachers develop pupils' reading comprehension skills and strategies, teachers were asked to specify the frequency with which pupils in their class practised a range of reading skills and strategies. Table 6.3 shows the results of this questioning, listing England and comparator countries alphabetically.

There are four comprehension skills which were reported to be more likely to be taught at least weekly in England than on average internationally. These are: making predictions, making generalisations and drawing inferences, describing a text's style or structure, and determining the author's perspective or intention. In respect of the other five skills listed in Table 6.3, the pattern in England followed that seen internationally. Across the countries, there is no clear link to achievement in the emphases given to these various skills.

Several comparator countries, including Australia, New Zealand and Singapore, showed a similar pattern to England. However, teachers in these countries tended to report a greater emphasis on the comprehension skill of pupils comparing what they have read with experiences they have had, than teachers in England. Teachers in Canada and the Republic of Ireland showed similar patterns to teachers in England but placed rather less emphasis on elements of critical literacy – describing the style or structure of the text and determining the author's perspective or intention – than teachers in England.

The four Scandinavian countries in PIRLS, Denmark, Finland, Norway and Sweden, tended to report less emphasis on these skills than the international average.

Table 6.3 Teachers develop pupils' reading comprehension skills and strategies (comparator countries)

Reported by teachers

Country	Per cent of pupils whose teachers ask them to do the following at least weekly								
	Locate information within the text	Identify the main ideas of what they have read	Explain or support their understanding of what they have read	Compare what they have read with experiences they have had	Compare what they have read with other things they have read	Make predictions about what will happen next in the text	Make generalisations and draw inferences	Describe the style or structure of the text	Determine the author's perspective or intention
Australia	r 96 (1.6)	r 95 (2.2)	r 96 (1.7)	r 87 (2.4)	r 72 (3.7)	r 92 (1.4)	r 92 (1.9)	r 84 (2.8)	r 73 (3.4)
Canada	96 (0.9)	94 (1.1)	96 (0.9)	82 (1.7)	72 (1.9)	87 (1.5)	88 (1.5)	57 (2.3)	57 (2.3)
Chinese Taipei	89 (2.7)	87 (3.0)	73 (3.7)	65 (4.2)	51 (4.4)	47 (4.5)	62 (4.1)	52 (4.4)	66 (3.8)
Denmark	86 (2.2)	86 (2.6)	86 (2.2)	65 (3.1)	51 (3.6)	50 (3.5)	54 (3.4)	41 (3.5)	40 (3.4)
England	97 (1.4)	97 (1.4)	95 (1.8)	78 (3.3)	74 (3.5)	96 (1.4)	93 (1.9)	82 (3.2)	72 (3.6)
Finland	86 (2.2)	88 (2.8)	80 (2.8)	67 (3.5)	39 (3.5)	44 (3.4)	66 (3.2)	24 (2.6)	15 (2.1)
Hong Kong SAR	100 (0.0)	96 (1.9)	96 (1.9)	81 (3.6)	70 (3.9)	78 (4.0)	84 (3.3)	77 (4.2)	82 (3.7)
Ireland, Rep. of	98 (0.9)	97 (1.1)	96 (1.3)	87 (2.5)	68 (3.6)	91 (2.1)	83 (3.0)	58 (3.7)	52 (4.2)
New Zealand	99 (0.5)	98 (0.7)	97 (0.9)	89 (2.3)	74 (3.0)	94 (1.6)	94 (1.4)	72 (2.4)	72 (2.5)
Northern Ireland	r 99 (1.1)	r 94 (2.5)	r 98 (1.3)	r 67 (3.8)	r 59 (3.7)	r 84 (3.4)	r 82 (3.4)	r 64 (4.4)	r 50 (4.6)
Russian Federation	100 (0.0)	99 (0.7)	99 (0.6)	92 (2.0)	88 (2.7)	84 (2.6)	98 (0.8)	83 (3.0)	96 (1.3)
Singapore	95 (1.2)	95 (1.2)	95 (1.2)	89 (1.8)	81 (2.1)	90 (1.7)	90 (1.7)	78 (2.4)	72 (2.3)
Sweden	r 96 (1.2)	r 78 (3.5)	r 77 (4.0)	r 56 (4.1)	r 27 (3.3)	r 38 (4.0)	r 53 (4.6)	r 19 (3.3)	r 12 (2.3)
United States	r 99 (0.5)	r 99 (0.3)	r 99 (0.3)	r 95 (1.1)	r 90 (1.6)	r 98 (0.9)	r 98 (0.9)	r 81 (2.1)	r 84 (1.8)
International Avg.	96 (0.2)	95 (0.3)	95 (0.2)	81 (0.4)	70 (0.5)	74 (0.4)	80 (0.4)	66 (0.5)	63 (0.5)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent. An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 8.8 in the 2011 international PIRLS report

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

6.4 Use of computers in reading lessons

Teachers were asked to report computer activities during reading lessons; this included whether computers were available for use during reading lessons and the frequency of their use for various computer-based tasks. The results can be seen in Table 6.4, where England and comparator countries are listed in descending order of the percentage of pupils in classes which have access to one or more computers, as reported by teachers.

Forty-seven per cent of pupils in England were in classes with access to one or more computers for reading lessons, just above the international mean. The percentage of pupils in classes with access to a computer for reading lessons was equal to or higher than the overall international mean in nine of the 11 highest performing countries, the exceptions being Croatia and the Russian Federation. Of the four highest achieving countries, in two (Finland and Singapore) a majority of pupils had access to computers in reading lessons. In Hong Kong and the Russian Federation, access to computers in reading lessons was not as widespread.

When comparing pupils in classes which did not have access to a computer with those in classes which did, the international average achievement was identical (513 for both), and generally there was little variation between these achievement scores within countries.

When looking at the percentage of pupils who use computers for the four different reading tasks (see Table 6.4) at least monthly, the use of computers for these tasks by pupils in England was broadly in line with the average use internationally; the most common use reported in England and internationally was to look up information.

Table 6.4 Computer activities during reading lessons (comparator countries)

Reported by teachers

Country	Computers available for reading lessons			Per cent of pupils whose teachers have them use computers at least monthly			
	Per cent of pupils	Average achievement		To look up information	To read stories or other texts	To write stories or other texts	To develop reading skills and strategies with instructional software
	Yes	Yes	No				
Denmark	87 (2.0)	553 (1.9)	564 (3.9)	76 (2.6)	65 (2.7)	83 (2.3)	54 (3.5)
New Zealand	86 (2.2)	534 (2.4)	532 (8.8)	83 (2.4)	70 (2.9)	79 (2.7)	55 (3.0)
Australia	r 82 (2.9)	533 (3.3)	525 (6.4)	r 76 (3.2)	r 68 (3.4)	r 74 (3.2)	r 58 (3.5)
United States	r 74 (2.2)	554 (2.0)	562 (3.8)	r 61 (2.4)	r 53 (2.3)	r 49 (2.4)	r 55 (2.6)
Sweden	r 73 (3.8)	543 (2.5)	544 (4.5)	r 64 (4.2)	r 44 (4.3)	r 65 (4.1)	r 43 (4.8)
Northern Ireland	r 65 (4.2)	559 (3.1)	562 (5.6)	r 61 (4.3)	r 51 (4.4)	r 63 (4.2)	r 40 (4.8)
Finland	64 (3.1)	568 (2.3)	569 (2.9)	59 (3.6)	41 (3.3)	53 (3.4)	34 (3.4)
Singapore	64 (2.8)	563 (4.6)	572 (4.8)	58 (2.7)	51 (2.8)	47 (2.8)	47 (2.7)
Ireland, Rep. of	56 (3.7)	555 (2.9)	548 (3.5)	50 (3.9)	42 (3.7)	43 (3.7)	30 (3.4)
Chinese Taipei	48 (3.9)	553 (2.5)	553 (2.8)	36 (3.8)	39 (3.7)	20 (2.9)	37 (3.5)
England	47 (4.0)	547 (4.1)	555 (4.2)	43 (4.2)	34 (4.5)	40 (4.1)	26 (4.1)
Canada	46 (2.5)	550 (2.4)	547 (2.2)	43 (2.4)	34 (2.6)	40 (2.5)	24 (2.2)
Hong Kong SAR	45 (4.7)	569 (3.7)	572 (3.7)	38 (4.6)	36 (4.6)	10 (2.9)	34 (4.6)
Russian Federation	29 (3.6)	568 (7.1)	568 (2.3)	24 (2.8)	20 (2.5)	23 (2.7)	20 (3.0)
International Avg.	45 (0.5)	513 (0.9)	513 (0.6)	38 (0.5)	32 (0.5)	32 (0.5)	29 (0.5)

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

An "s" indicates data are available for at least 50% but less than 70% of the pupils.

Source Exhibit 8.14 in the 2011 international PIRLS report

Chapter 7 The school teaching environment

Chapter outline

This chapter presents findings relating to the school teaching environment, as reported by teachers and headteachers. The first sections relate to teachers' specialisms during training, their views on career satisfaction and the extent to which teachers share their practice. These are followed by sections that examine the extent to which academic success is emphasised, and on perceptions of safety, orderliness and discipline. The final sections deal with teacher reports of the extent of the impact of disruptive and uninterested pupils on their teaching, and pupils' reports of the extent to which they experience bullying.

Outcomes for England are compared with those of other countries.

Comparisons over time are made where possible. However, a number of the scales have been altered since previous surveys, and therefore reliable comparisons have not been possible.

Key findings

- In England, the majority of pupils (74 per cent) are taught reading by teachers whose training included an emphasis on *English language*.
- In England, 94 per cent of pupils had teachers who reported that they were *Satisfied* or *Somewhat satisfied* with their careers.
- Teachers in England reported high levels of collaboration to improve teaching.
- Headteachers and teachers in England reported among the highest levels of emphasis on academic success.
- The vast majority of pupils in England had teachers who reported that their schools were safe and orderly and three-quarters of pupils attended schools where the headteacher reported hardly any problems of discipline or safety.
- The vast majority of pupils in England had teachers who felt that their teaching was rarely limited by disruptive or uninterested pupils.
- Reports of bullying from pupils in England corresponded very closely with international averages; 45 per cent of pupils reported that they were *Almost never* bullied but 20 per cent reported that they experienced bullying behaviours *About weekly*.

Interpreting the data: scaled data from teachers and headteachers

Much of the data in this chapter is reported by teachers and headteachers. Reported percentages refer to pupils and can usually (unless otherwise indicated) be interpreted as the percentage of pupils whose teacher or headteacher reported a particular practice or gave a particular response to a questionnaire item.

When interpreting the data from pupils, headteachers and teachers it is important to take account of the relative sample sizes. Participants are expected to sample a minimum of 150 schools and a minimum of 4,000 pupils. Numbers of schools participating internationally ranged from 96 to 1,111. This wide range reflected the fact that some participants had fewer than 150 schools available and some participants chose to over-sample schools. The majority of participants sampled between 150 and 200 schools.

For PIRLS 2011 in England, the number of participating schools was 129. The numbers of participants within these schools were:

- 3,927 pupils
- 123 headteachers completed the School Questionnaire
- 174 teachers completed the Teacher Questionnaire.

7.1 Teachers' educational emphasis on language and reading areas during training

Teachers were asked to indicate the extent to which, during their formal education and training, their studies emphasised specialist areas related to language and the teaching of reading. The question and results are shown in Table 7.1.

The most common specialist area of study, reported by teachers of 74 per cent of pupils in England, was *English language*. This was in line with the international average.

Forty-eight per cent of pupils had teachers whose studies emphasised *Pedagogy/teaching reading* and 17 per cent had teachers whose formal education and training studies had emphasised *Reading theory*. These figures compare with respective international averages of 62 and 33 per cent in these areas.

Among the comparator countries, teachers in the Russian Federation, the Republic of Ireland and Hong Kong reported the greatest emphasis on *Language study* (i.e. the language of the test) during their education and training. In terms of studying *Pedagogy and the teaching of reading*, teachers from the Russian Federation, the Republic of Ireland and Singapore reported more emphasis than other comparator countries. Teachers who reported the greatest emphasis on *Reading theory* in their formal education and training were from the Russian Federation, the Republic of Ireland, Sweden and the United States.

Table 7.1 Emphasis on language and reading in teachers' formal education and training (comparator countries)

Reported by teachers

Country	Language			Pedagogy / teaching reading			Reading theory		
	Per cent of pupils		Average achievement	Per cent of pupils		Average achievement	Per cent of pupils		Average achievement
	Area emphasised	Area not emphasised	Area not emphasised	Area emphasised	Area not emphasised	Area not emphasised	Area emphasised	Area not emphasised	
Australia	r 75 (3.4)	537 (3.7)	515 (4.4)	r 62 (4.1)	534 (4.5)	527 (4.8)	r 28 (4.2)	539 (5.6)	528 (3.6)
Canada	53 (2.6)	545 (2.0)	552 (2.8)	45 (2.9)	548 (3.3)	549 (2.0)	24 (2.5)	551 (4.7)	547 (1.9)
Chinese Taipei	22 (3.3)	547 (3.7)	555 (2.2)	31 (4.2)	555 (3.5)	552 (2.4)	9 (2.4)	552 (6.2)	553 (2.0)
England	74 (3.5)	553 (3.3)	545 (6.4)	48 (4.4)	552 (4.8)	549 (3.7)	17 (3.1)	551 (7.6)	551 (3.0)
Finland	24 (3.0)	568 (3.9)	568 (2.1)	28 (3.1)	568 (3.3)	568 (2.1)	8 (1.7)	566 (7.5)	568 (1.9)
Hong Kong SAR	83 (4.1)	570 (2.7)	574 (7.6)	71 (4.4)	568 (2.8)	576 (4.7)	22 (4.0)	572 (6.0)	570 (2.8)
Ireland, Rep. of	85 (2.6)	550 (2.5)	565 (5.3)	76 (3.2)	553 (2.8)	548 (4.2)	36 (3.7)	555 (3.7)	550 (3.0)
New Zealand	70 (3.2)	538 (2.7)	522 (5.2)	66 (3.0)	534 (3.5)	532 (4.2)	30 (2.5)	528 (5.2)	536 (2.9)
Northern Ireland	r 62 (4.5)	560 (4.2)	561 (3.4)	r 44 (4.9)	563 (4.2)	557 (4.0)	r 20 (3.6)	563 (8.0)	559 (3.2)
Russian Federation	95 (1.7)	569 (2.7)	552 (21.0)	95 (1.3)	569 (2.6)	559 (20.5)	76 (3.4)	567 (3.0)	574 (6.7)
Singapore	77 (2.4)	567 (4.0)	565 (6.5)	73 (3.2)	569 (4.0)	562 (6.5)	25 (2.6)	574 (7.0)	564 (3.9)
Sweden	r 81 (3.4)	543 (2.5)	542 (5.4)	r 58 (4.2)	546 (3.4)	539 (2.8)	r 36 (4.0)	544 (3.4)	543 (3.1)
United States	r 52 (2.6)	556 (3.0)	556 (2.6)	r 63 (2.5)	555 (2.3)	557 (3.5)	r 36 (2.1)	552 (2.8)	558 (2.6)
International Avg.	72 (0.5)	513 (0.5)	510 (1.3)	62 (0.5)	513 (0.6)	511 (1.0)	33 (0.5)	514 (0.8)	512 (0.6)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent. An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 7.2 in the 2011 international PIRLS report

The index was constructed according to teachers' responses to the following questions.

As part of your formal education and/or training, to what extent did you study the following areas?

Tick **one** circle for each row.

		Not at all			Overview or introduction to topic			It was an area of emphasis
a) English -----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	
b) Pedagogy/teaching reading --	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	
c) Educational psychology -----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	
d) Teaching reading to children with reading difficulties -----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	
e) Reading theory -----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	
f) Special education -----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	
g) Second language learning ----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	
h) Assessment methods in reading -----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	-----	<input type="radio"/>	

The areas of language, pedagogy and reading theory might be expected to play a significant part in the study of education generally, and of reading in particular. While teachers in the Russian Federation and the Republic of Ireland report greater emphases on each of these three areas than other comparator countries, this can be contrasted with teachers in Finland and Chinese Taipei who report the lowest emphases across all three.

There does not appear to be any clear pattern of pupil attainment within individual countries in relation to the different areas of emphasis in their teachers' formal training and education.

7.2 Teachers' reported career satisfaction

Teachers were asked to indicate the extent to which they were satisfied with their profession as a teacher. The questions and details of the scoring are shown in Table 7.2.

Based on their responses, teachers were categorised as being *Satisfied*, *Somewhat satisfied* or *Less than satisfied* with their career as a teacher. The average scale score of 9.9 is just below the threshold for the *Satisfied* category and country scores on the scale range from 11.6 to 8.6.

In England, 52 per cent of pupils had teachers who reported that they were *Satisfied* with their career and a further 42 per cent had teachers who were *Somewhat satisfied*. Teachers of only six per cent of pupils reported that they were *Less than satisfied*. The percentage of pupils in England falling into each category corresponded closely to the international averages on this scale.

Among the comparator countries, the highest percentage of pupils who had *Satisfied* teachers were in the Republic of Ireland and the Russian Federation with 69 and 60 per cent respectively, compared with an international average of 54 per cent of pupils taught by *Satisfied* teachers.

The highest percentage of pupils who had *Less than satisfied* teachers were in Hong Kong (12 per cent), Sweden (12 per cent) and Singapore (11 per cent) compared with an international average of five per cent.

No clear pattern of pupil attainment was apparent within or across individual countries in relation to teachers' reported levels of career satisfaction.

A similar question was asked in the PIRLS 2006 survey but significant changes to the component items means that direct comparisons on this scale were not possible. However, examination of teacher responses to the individual items presented in both the 2006 and 2011 surveys (items a, b, c and d under Table 7.2 below) suggest that there has been very little change in patterns of teacher response.

Table 7.2 Teacher career satisfaction (comparator countries)

Reported by teachers

Pupils were scored according to their teachers' degree of agreement with six statements on the *Teacher Career Satisfaction* scale. Pupils with **Satisfied** teachers had a score on the scale of at least 10.0, which corresponds to their teachers "agreeing a lot" with three of the six statements and "agreeing a little" with the other three, on average. Pupils with **Less than satisfied** teachers had a score no higher than 6.5, which corresponds to their teachers "disagreeing a little" with three of the six statements and "agreeing a little" with the other three, on average. All other pupils had **Somewhat satisfied** teachers.

Country	Satisfied		Somewhat satisfied		Less than satisfied		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Ireland, Rep. of	69 (2.9)	551 (2.5)	29 (2.9)	555 (4.7)	2 (0.8)	~ ~	10.8 (0.12)
Russian Federation	60 (3.0)	570 (3.9)	36 (2.9)	566 (3.5)	4 (1.2)	565 (9.5)	10.2 (0.12)
New Zealand	55 (3.3)	534 (3.5)	41 (3.0)	533 (4.0)	5 (1.2)	528 (7.7)	10.1 (0.14)
Northern Ireland	54 (4.3)	564 (4.0)	41 (4.5)	555 (4.2)	5 (1.9)	557 (12.6)	10.1 (0.18)
Australia	53 (3.9)	536 (3.3)	41 (3.8)	528 (4.8)	6 (1.5)	512 (9.4)	9.9 (0.15)
England	52 (4.0)	550 (3.9)	42 (3.7)	550 (5.4)	6 (1.9)	557 (9.8)	9.9 (0.17)
Canada	52 (2.3)	550 (2.1)	43 (2.0)	547 (3.2)	5 (1.0)	540 (4.4)	9.9 (0.09)
United States	47 (2.6)	559 (2.5)	47 (2.5)	554 (2.8)	6 (0.9)	554 (5.0)	9.6 (0.10)
Finland	42 (3.1)	570 (2.7)	50 (3.5)	567 (2.5)	8 (2.2)	564 (4.7)	9.4 (0.13)
Hong Kong SAR	38 (3.9)	567 (4.0)	50 (3.3)	576 (3.5)	12 (3.4)	560 (9.4)	9.1 (0.17)
Singapore	35 (2.9)	572 (6.0)	54 (2.8)	561 (5.0)	11 (1.8)	578 (9.0)	8.9 (0.11)
Chinese Taipei	31 (3.9)	557 (2.8)	64 (4.0)	551 (2.5)	5 (0.9)	552 (10.3)	8.9 (0.11)
Sweden	29 (3.6)	538 (3.8)	59 (3.8)	543 (2.9)	12 (2.8)	546 (8.2)	9.0 (0.16)
International Avg.	54 (0.5)	516 (0.6)	40 (0.5)	509 (0.8)	5 (0.2)	511 (1.9)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils

Source Exhibit 7.5 in the 2011 international PIRLS report

The index was constructed according to teachers' responses to the following questions.

How much do you agree with the following statements?

Tick **one** circle for each row.

Agree a lot **Agree a little** **Disagree a little** **Disagree a lot**

a) I am content with my profession as a teacher ----- ○ ——— ○ ——— ○ ——— ○

b) I am satisfied with being a teacher at this school ----- ○ ——— ○ ——— ○ ——— ○

c) I had more enthusiasm when I began teaching than I have now* ----- ○ ——— ○ ——— ○ ——— ○

d) I do important work as a teacher ----- ○ ——— ○ ——— ○ ——— ○

e) I plan to continue as a teacher for as long as I can ---- ○ ——— ○ ——— ○ ——— ○

f) I am frustrated as a teacher* -- ○ ——— ○ ——— ○ ——— ○

←—————→

Satisfied **Somewhat Satisfied** **Less than Satisfied**

10.0 6.5

*reverse coded

7.3 Teacher reports of collaboration to improve teaching

Teachers were asked to indicate the extent to which they worked with their colleagues in particular aspects of teaching. The questions and details of the scoring are shown in Table 7.3. On the basis of their responses to the questions, teachers were categorised as *Very collaborative*, *Collaborative* or *Somewhat collaborative*. The average scale score of 10.6 for teachers in England is higher than any comparator countries and was in the *Very collaborative* category.

As the average scale score indicates, teachers in England reported high levels of collaboration to improve teaching. Teachers of 48 per cent of pupils were categorised as being *Very collaborative*, and a further 44 per cent as being *Collaborative*. This compares with international averages of 35 and 54 per cent respectively.

Teachers in England had a pattern of response similar to those in the United States. Teachers in Australia and New Zealand also reported high levels of collaboration, whereas teachers in Northern Ireland and the Republic of Ireland reported least collaboration among the comparator countries.

Internationally, no clear patterns of pupil attainment appear associated with categories in this scale.

Table 7.3 Collaboration to improve teaching (comparator countries)

Reported by teachers

Pupils were scored according to their teachers' responses to how often they interacted with other teachers in each of five teaching areas on the *Collaborate to improve teaching* scale. Pupils with **Very collaborative** teachers had a score on the scale of at least 11.0, which corresponds to their teachers having interactions with other teachers at least "one to three times per week" in each of three of the five areas and "two or three times per month" in each of the other two, on average. Pupils with **Somewhat collaborative** teachers had a score no higher than 7.2, which corresponds to their teachers interacting with other teachers "never or almost never" in each of three of the five areas and "two or three times per month" in each of the other two, on average. All other pupils had **Collaborative** teachers.

Country	Very collaborative		Collaborative		Somewhat collaborative		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
United States	48 (2.9)	556 (2.4)	42 (2.7)	556 (2.9)	10 (1.5)	560 (5.5)	10.5 (0.11)
England	48 (4.5)	554 (4.3)	44 (4.4)	548 (4.6)	8 (2.6)	548 (11.8)	10.6 (0.19)
Australia	r 44 (3.7)	532 (4.5)	44 (3.9)	532 (4.6)	12 (2.6)	526 (7.4)	10.3 (0.15)
New Zealand	41 (3.0)	528 (3.7)	53 (3.2)	540 (3.6)	6 (1.5)	514 (16.7)	10.3 (0.10)
Sweden	r 37 (4.6)	541 (3.7)	52 (4.4)	540 (3.1)	12 (2.9)	556 (6.1)	10.0 (0.22)
Russian Federation	31 (3.8)	566 (5.3)	67 (4.0)	569 (2.9)	1 (0.8)	~ ~	10.3 (0.08)
Singapore	29 (2.0)	569 (6.2)	64 (2.4)	567 (4.3)	8 (1.6)	563 (10.5)	9.9 (0.08)
Finland	27 (2.8)	571 (3.9)	58 (2.7)	567 (2.4)	15 (2.0)	566 (3.4)	9.6 (0.13)
Canada	24 (2.1)	546 (2.7)	58 (2.3)	549 (2.7)	17 (1.7)	550 (3.7)	9.5 (0.10)
Hong Kong SAR	23 (4.0)	566 (5.6)	66 (3.9)	570 (3.3)	11 (2.4)	579 (6.2)	9.5 (0.15)
Chinese Taipei	23 (3.5)	558 (3.8)	57 (3.9)	553 (2.4)	20 (3.6)	547 (4.6)	9.4 (0.18)
Northern Ireland	r 21 (4.0)	562 (6.6)	55 (4.9)	559 (3.6)	24 (3.7)	560 (6.5)	9.3 (0.22)
Ireland, Rep. of	16 (2.7)	556 (7.0)	60 (3.4)	547 (2.8)	25 (3.1)	562 (4.3)	8.8 (0.15)
International Avg.	35 (0.5)	513 (0.8)	54 (0.5)	512 (0.6)	11 (0.3)	510 (1.9)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 8.5 in the 2011 international PIRLS report

The index was constructed according to teachers' responses to the following questions.

How often do you have the following types of interactions with other teachers?

Tick **one** circle for each row.

	Daily or almost daily	1-3 times per week	2 or 3 times per month	Never or almost never
a) Discuss how to teach a particular topic -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Collaborate in planning and preparing teaching materials -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Share what I have learned about my teaching experiences -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Visit another classroom to learn more about teaching -	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) Work together to try out new ideas -----	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

←
↑
↑
→

Very Collaborative
Collaborative
Somewhat Collaborative

11.0
7.2

7.4 Schools' emphasis on academic success – views of teachers and headteachers

Headteachers and teachers were asked to rate the emphasis placed on academic success within their school by teachers, parents and pupils. The questions and details of the scoring are shown in Table 7.4. The same set of questions was given to both headteachers and teachers and included questions about the level of parental support and pupil motivation, as well as teachers' understanding of curricula goals and their expectations of pupils. The average scale scores are both above 11, indicating a *High emphasis* on academic success overall.

In England, headteachers of 84 per cent of pupils reported that their schools placed a *High* (57 per cent) or *Very high* (27 per cent) emphasis on academic success. Teacher reports mirrored headteacher reports almost exactly, with teachers of 83 per cent of pupils reporting a *High* or *Very high* emphasis on academic success.

Among comparator countries, headteachers in Northern Ireland reported the highest percentage of pupils (33 per cent) in schools that placed a *Very high emphasis* on academic success, followed by the Republic of Ireland (28 per cent). The Russian

Federation, Hong Kong, Singapore and Sweden were among the comparator countries where over a quarter of pupils were in schools whose headteachers and/or teachers reported a *Medium emphasis* on academic success, the lowest category.

In general, headteachers reported a slightly greater emphasis on academic success than teachers. The greatest discrepancy between the views of teachers and headteachers was in Chinese Taipei where teachers reported *Medium emphasis* on this aspect in schools attended by 26 per cent of pupils, whereas headteachers reported this emphasis in schools attended by only 12 per cent of pupils.

Internationally, within countries, pupil attainment tended to be higher where teachers and headteachers reported a higher emphasis on academic success. However, having a high emphasis on academic success did not relate directly to the overall performance in reading across countries. Pupil attainment in England reflected the international pattern of higher attainment, on average, in schools where academic success was more highly emphasised although the difference between the achievement in schools where academic success has a *Very high* emphasis and those where it has a *High* emphasis is unlikely to be significant.

Table 7.4 School emphasis on academic success (comparator countries)

Reported by headteachers and teachers

Pupils were scored according to their headteachers' responses characterising five aspects on the *School emphasis on academic success* scale. Pupils in schools where their headteachers reported a **Very high emphasis** on academic success had a score on the scale of at least 13.0, which corresponds to their headteachers / teachers characterising three of the five aspects as "very high" and the other two as "high," on average. Pupils in schools with a **Medium emphasis** on academic success had a score no higher than 8.8 (headteachers) / 8.7 (teachers) and, which corresponds to their headteachers characterising three of the five aspects as "medium" and the other two as "high," on average. All other pupils attended schools with a **High emphasis** on academic success.

Country		Very high emphasis		High emphasis		Medium emphasis		Average scale score
		Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Northern Ireland	Headteachers	33 (4.2)	570 (4.9)	60 (4.3)	556 (2.9)	7 (2.5)	529 (9.8)	11.9 (0.19)
	Teachers	28 (4.2)	572 (3.9)	65 (4.4)	557 (3.7)	7 (2.2)	533 (8.5)	11.7 (0.19)
Ireland, Rep. of	Headteachers	28 (3.7)	563 (3.6)	67 (3.8)	549 (3.3)	5 (1.8)	526 (7.4)	11.8 (0.16)
	Teachers	22 (3.1)	566 (3.5)	69 (3.0)	552 (2.9)	9 (1.9)	519 (6.8)	11.4 (0.15)
England	Headteachers	27 (4.3)	562 (5.9)	57 (4.6)	552 (4.4)	16 (2.8)	528 (5.8)	11.3 (0.20)
	Teachers	25 (4.2)	566 (7.3)	58 (4.8)	552 (3.4)	17 (3.1)	523 (5.9)	11.1 (0.16)
New Zealand	Headteachers	25 (3.4)	555 (4.6)	63 (4.2)	531 (3.7)	12 (2.2)	508 (9.3)	11.2 (0.14)
	Teachers	18 (2.0)	567 (4.9)	65 (2.8)	529 (3.3)	17 (2.3)	511 (4.7)	11.1 (0.11)
United States	Headteachers	24 (2.1)	578 (3.8)	59 (2.6)	555 (2.4)	17 (2.2)	538 (4.8)	11.2 (0.12)
	Teachers	16 (1.7)	575 (4.9)	63 (2.4)	558 (2.1)	21 (2.0)	538 (4.5)	10.8 (0.10)
Chinese Taipei	Headteachers	17 (3.0)	555 (4.5)	71 (3.7)	554 (2.4)	12 (2.5)	544 (4.8)	11.2 (0.15)
	Teachers	7 (1.9)	557 (6.9)	67 (3.8)	554 (2.3)	26 (3.6)	548 (3.9)	10.0 (0.16)
Australia	Headteachers	16 (3.0)	554 (6.6)	64 (3.8)	531 (3.1)	21 (3.0)	498 (5.3)	10.8 (0.14)
	Teachers	17 (3.0)	554 (8.8)	63 (4.4)	533 (3.6)	20 (3.1)	507 (4.3)	10.7 (0.16)
Canada	Headteachers	12 (1.7)	570 (3.8)	67 (2.5)	549 (2.4)	21 (2.0)	535 (2.8)	10.5 (0.09)
	Teachers	10 (1.2)	570 (4.3)	68 (2.5)	549 (2.2)	22 (2.4)	536 (3.4)	10.4 (0.11)
Sweden	Headteachers	9 (2.7)	553 (6.8)	59 (4.8)	543 (3.0)	32 (5.0)	535 (3.8)	10.2 (0.17)
	Teachers	7 (1.7)	549 (6.8)	65 (4.2)	547 (2.6)	29 (4.1)	530 (4.0)	10.0 (0.14)
Singapore	Headteachers	8 (0.0)	594 (10.9)	62 (0.0)	573 (4.4)	31 (0.0)	549 (6.4)	10.1 (0.00)
	Teachers	3 (1.0)	600 (16.5)	61 (2.4)	576 (4.5)	36 (2.3)	548 (5.2)	9.6 (0.10)
Finland	Headteachers	6 (1.9)	576 (5.7)	71 (4.2)	571 (2.1)	24 (4.2)	559 (3.8)	10.2 (0.16)
	Teachers	4 (1.6)	572 (7.3)	62 (3.2)	571 (1.9)	34 (3.4)	561 (3.4)	9.8 (0.12)
Russian Federation	Headteachers	2 (0.9)	~ ~	50 (4.4)	576 (3.8)	48 (4.3)	562 (3.5)	9.1 (0.11)
	Teachers	1 (0.0)	~ ~	52 (3.9)	574 (3.5)	47 (4.0)	563 (3.7)	9.2 (0.12)
Hong Kong SAR	Headteachers	1 (0.9)	~ ~	60 (4.5)	570 (2.7)	39 (4.6)	570 (4.7)	9.6 (0.15)
	Teachers	7 (2.0)	583 (6.4)	58 (4.1)	572 (3.1)	36 (4.2)	565 (4.6)	9.6 (0.16)
International Avg.	Headteachers	9 (0.3)	527 (1.9)	59 (0.6)	517 (0.6)	32 (0.5)	497 (0.8)	
	Teachers	9 (0.3)	529 (1.8)	60 (0.6)	517 (0.6)	31 (0.5)	497 (0.8)	

Centre point of scale set at 10.

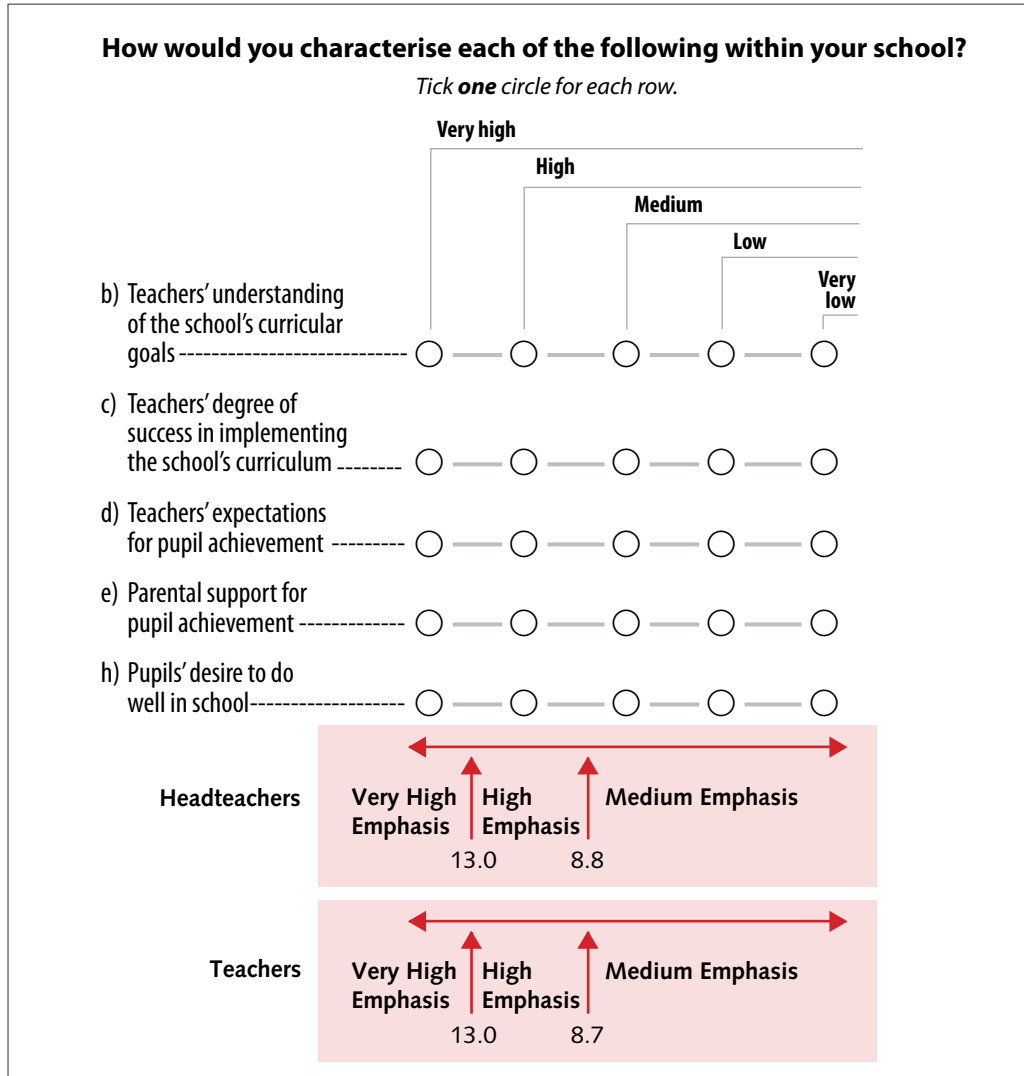
() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibits 6.1 and 6.2 in the 2011 international PIRLS report

The index was constructed according to headteachers' and teachers' responses to the following questions.



Three of the components of this scale were also completed by headteachers in PIRLS 2006 and a summary of headteacher responses for the 2006 and 2011 surveys is shown below.

Table 7.5 Schools' emphasis on academic success – trends in headteacher views¹

		Percentage of pupils				
		Very high	High	Medium	Low	Very low
How would you characterise teachers' expectations for pupil achievement within your school?	2006	29	56	15	0	0
	2011	38	53	9	0	0
How would you characterise parental support for pupil achievement within your school?	2006	15	36	36	13	1
	2011	20	28	36	14	2
How would you characterise pupils' desire to do well in school within your school?	2006	22	59	18	0	0
	2011	39	41	20	0	0

¹ Data from weighted almanacs; standard errors not available.

Looking across all three items, the data contained in Table 7.5 suggests that headteachers perceived a slightly greater emphasis on factors related to academic success in the most recent survey. However, this trend has not been tested for statistical significance.

7.5 Teachers' ratings of the extent to which their schools are 'safe and orderly'

Teachers were asked about their perceptions of safety and the behaviour of pupils in their school. The questions and details of the scoring are shown in Table 7.6. Based on teachers' responses, pupils were categorised as attending schools which were *Safe and orderly*, *Somewhat safe and orderly* and *Not safe and orderly*. The average scale score for England of 10.9 is well within the *Safe and orderly* school category.

The vast majority of pupils in England (72 per cent) had teachers who reported that their schools were *Safe and orderly*. Pupils in schools that teachers reported as *Safe and orderly* scored, on average, higher than those in schools that teachers reported were *Somewhat safe and orderly*. This suggests there may be an association between safety and orderliness, and attainment – but no significance tests have been carried out and the direction of causality cannot be inferred from this data.

Compared to England, only three comparator countries (Northern Ireland, the Republic of Ireland and Australia) had a greater proportion of pupils whose teachers considered their schools to be *Safe and orderly*. Lowest ratings for safety and orderliness in their schools were given by teachers from Chinese Taipei and Finland.

Internationally, within countries, pupil attainment tended to be higher where teachers reported that their schools were safe and orderly. Between countries, however, there is no clear pattern, with teachers in some high achieving countries, such as Northern Ireland, giving responses that placed a high proportion of pupils in schools that were judged by teachers to be safe and orderly, along with some lower achieving countries, such as Indonesia and Azerbaijan. In contrast, responses from teachers in Finland led to over half of pupils (59 per cent) being placed in the middle category: attending *Somewhat safe and orderly* schools.

Table 7.6 Safe and orderly schools — teacher reports

Reported by teachers

Pupils were scored according to their teachers' degree of agreement with five statements on the *Safe and Orderly School* scale. Pupils in **Safe and orderly** schools had a score on the scale of at least 10.1, which corresponds to their teachers "agreeing a lot" with three of the five qualities of a safe and orderly school and "agreeing a little" with the other two, on average. Pupils in **Not safe and orderly** schools had a score no higher than 6.2, which corresponds to their teachers "disagreeing a little" with three of the five qualities and "agreeing a little" with the other two, on average. All other pupils attended **Somewhat safe and orderly** schools.

Country	Safe and orderly		Somewhat safe and orderly		Not safe and orderly		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Northern Ireland	84 (2.9)	564 (3.1)	16 (2.8)	538 (7.9)	0 (0.4)	~ ~	11.4 (0.14)
Ireland, Rep. of	77 (3.4)	560 (2.4)	21 (3.3)	527 (5.2)	2 (1.0)	~ ~	11.2 (0.15)
Australia	76 (3.2)	540 (3.1)	21 (3.1)	509 (6.9)	4 (1.4)	489 (15.1)	11.0 (0.16)
England	72 (3.7)	561 (3.0)	27 (3.7)	524 (5.2)	0 (0.3)	~ ~	10.9 (0.14)
New Zealand	72 (2.5)	545 (2.4)	25 (2.3)	504 (4.6)	4 (1.2)	490 (16.0)	10.8 (0.12)
Singapore	64 (2.2)	576 (4.1)	34 (2.2)	551 (5.2)	2 (0.6)	~ ~	10.3 (0.09)
United States	64 (2.1)	567 (2.0)	30 (2.1)	542 (2.9)	6 (1.1)	521 (7.2)	10.3 (0.09)
Canada	62 (2.8)	555 (2.2)	34 (2.6)	540 (2.6)	4 (0.9)	521 (4.5)	10.3 (0.13)
Hong Kong SAR	52 (4.5)	574 (2.8)	46 (4.3)	566 (3.5)	3 (1.5)	572 (30.3)	9.9 (0.17)
Russian Federation	49 (4.0)	569 (5.4)	49 (3.8)	569 (3.7)	2 (1.3)	~ ~	9.7 (0.17)
Sweden	40 (4.7)	551 (2.9)	55 (4.8)	540 (3.0)	5 (1.4)	498 (10.1)	9.4 (0.15)
Finland	35 (3.5)	573 (2.6)	59 (3.8)	566 (2.3)	6 (1.7)	554 (4.7)	9.2 (0.12)
Chinese Taipei	31 (3.8)	552 (2.9)	62 (3.7)	556 (2.5)	7 (2.0)	532 (5.8)	8.9 (0.15)
International Avg.	55 (0.5)	518 (0.6)	41 (0.5)	505 (0.8)	4 (0.2)	486 (3.6)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibits 6.5 in the 2011 international PIRLS report

The index was constructed according to teachers' responses to the following questions.

Thinking about your current school, indicate the extent to which you agree or disagree with each of the following statements.

Tick **one** circle for each row.

Agree a lot **Agree a little** **Disagree a little** **Disagree a lot**

a) This school is located in a safe area ----- ○ ——— ○ ——— ○ ——— ○

b) I feel safe at this school ----- ○ ——— ○ ——— ○ ——— ○

c) This school's security policies and practices are sufficient ----- ○ ——— ○ ——— ○ ——— ○

d) The pupils behave in an orderly manner ----- ○ ——— ○ ——— ○ ——— ○

e) The pupils are respectful of the teachers ----- ○ ——— ○ ——— ○ ——— ○

←-----→

Safe and Orderly **Somewhat Safe and Orderly** **Not Safe and Orderly**

10.1 6.2

7.6 Headteachers' views of school discipline and safety

Headteachers were asked about the degree to which a number of potential safety and discipline issues were a problem in their school. The questions and details of the scoring are shown in Table 7.7. Based on headteacher responses, pupils were categorised as attending schools with *Hardly any problems*, *Minor problems* and *Moderate problems*. The average scale score for England of 10.8 is securely in the category of *Hardly any problems*.

The vast majority of pupils in England (75 per cent) attend schools whose headteachers reported *Hardly any* discipline or safety problems in their schools. A further 24 per cent of pupils attend schools where headteachers reported *Minor problems*. A very few pupils in England attend schools where headteachers reported *Moderate problems* of discipline and safety, compared with an international average of 11 per cent.

Pupils in schools perceived by headteachers in England to have *Hardly any problems* scored, on average, higher in their reading assessment than those in schools perceived by headteachers to have *Minor problems*. This suggests an association between discipline and safety and attainment – but it is not possible to conclude whether discipline and safety problems are the cause of lower average attainment.

Among comparator countries, only pupils in Hong Kong, Northern Ireland, the Republic of Ireland and Chinese Taipei were more likely to attend schools where headteachers perceived fewer discipline and safety problems than in England. Headteachers in all comparator countries reported a low percentage of pupils in schools with *Moderate* discipline and safety problems.

Internationally, within countries, pupil attainment tended to be higher where headteachers reported fewer problems in terms of school discipline and safety. However, the full table shows that having a low rating for discipline and safety problems does not necessarily relate directly to the overall performance in reading across countries.

Whilst the scale has been constructed differently compared to that used in 2006, a number of the individual items are unchanged. In both surveys, there were very few pupils whose headteachers reported any *Moderate* problems. Of all items related to school discipline and safety, pupil absenteeism was the one most likely to be seen as a moderate problem in both 2006 and 2011.

Table 7.7 School discipline and safety — headteacher reports

Reported by headteachers

Pupils were scored according to their headteachers' responses concerning ten potential school problems on the *School discipline and safety scale*. Pupils in schools with **Hardly any problems** had a score on the scale of at least 9.9, which corresponds to their headteachers reporting "not a problem" for five of the ten discipline and safety issues and "minor problem" for the other five, on average. Pupils in schools with **Moderate problems** had a score no higher than 7.7, which corresponds to their headteachers reporting "moderate problem" for five of the ten issues and "minor problem" for the other five, on average. All other pupils attended schools with **Minor problems**.

Country	Hardly any problems		Minor problems		Moderate problems		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Hong Kong SAR	87 (2.9)	570 (2.5)	12 (2.8)	566 (10.1)	1 (0.0)	~ ~	11.4 (0.12)
Northern Ireland	85 (3.7)	561 (2.9)	15 (3.7)	546 (7.1)	0 (0.0)	~ ~	11.1 (0.13)
Ireland, Rep. of	83 (3.5)	556 (2.5)	16 (3.3)	531 (9.0)	1 (1.0)	~ ~	11.2 (0.12)
Chinese Taipei	77 (3.3)	552 (2.1)	23 (3.3)	555 (4.5)	0 (0.0)	~ ~	11.4 (0.13)
England	75 (4.4)	557 (3.3)	24 (4.3)	532 (5.8)	1 (1.0)	~ ~	10.8 (0.15)
New Zealand	68 (3.3)	544 (2.9)	32 (3.3)	514 (5.7)	0 (0.4)	~ ~	10.6 (0.11)
Singapore	67 (0.0)	568 (4.0)	33 (0.0)	565 (5.8)	0 (0.0)	~ ~	10.8 (0.00)
Russian Federation	65 (3.9)	571 (3.5)	35 (3.8)	564 (4.3)	0 (0.5)	~ ~	10.3 (0.09)
Australia	64 (3.9)	534 (3.5)	34 (3.8)	521 (4.5)	2 (1.0)	~ ~	10.5 (0.12)
Finland	64 (4.5)	571 (2.3)	34 (4.4)	564 (3.2)	2 (1.2)	~ ~	10.3 (0.12)
United States	63 (2.7)	564 (2.0)	35 (2.8)	548 (2.7)	2 (0.8)	~ ~	10.3 (0.09)
Canada	60 (2.4)	554 (2.0)	37 (2.4)	539 (2.4)	3 (0.7)	531 (4.5)	10.3 (0.07)
Sweden	49 (4.7)	551 (2.7)	45 (4.7)	534 (4.0)	6 (1.2)	523 (7.6)	9.8 (0.13)
International Avg.	58 (0.5)	519 (0.7)	31 (0.5)	504 (1.0)	11 (0.3)	476 (2.0)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

Source Exhibit 6.6 in the 2011 international PIRLS report

The index was constructed according to headteachers' responses to the following questions.

To what degree is each of the following a problem among Year 5 pupils in your school?

Tick **one** circle for each row.

Not a problem Minor problem Moderate problem Serious problem

a) Arriving late at school — — —

b) Absenteeism (i.e., unjustified absences) — — —

c) Classroom disturbance — — —

d) Cheating — — —

e) Swearing — — —

f) Vandalism — — —

g) Theft — — —

h) Intimidation or verbal abuse among pupils (including texting, emailing, etc.) — — —

i) Physical conflicts among pupils — — —

j) Intimidation or verbal abuse of teachers or staff (including texting, emailing, etc.) — — —

←—————→

Hardly Any Problems Minor Problems Moderate Problems

9.9 7.7

7.7 Teachers' reports of the extent to which their teaching is limited by disruptive or uninterested pupils

Teachers were asked to indicate the extent to which they felt their teaching was limited by disruptive or uninterested pupils (*Not at all, Some or A lot*).

The data in Table 7.8 shows that the vast majority of pupils in England were in classes whose teachers felt that their teaching was rarely limited by *Disruptive or Uninterested pupils*. At the other end of the scale, nine per cent of pupils in England were in classes whose teachers reported that their teaching was limited *A lot* by disruptive pupils. This compared with the international average of 12 per cent.

Only three per cent of pupils were in classes whose teachers reported that their lessons were limited *A lot* by pupils who were uninterested. This compares with an international average of ten per cent.

Among the comparator countries, the highest percentage of pupils in classes whose teachers reported lessons limited *A lot* by disruptive pupils were in Canada (18 per cent) and the United States (16 per cent). Teachers from Northern Ireland and Chinese Taipei reported the lowest percentages of pupils in classes where teaching was limited by disruptive pupils (5 per cent and 3 per cent respectively).

In terms of lessons limited *A lot* by uninterested pupils, among the comparator countries, only pupils in the United States were in classes where teachers reported a greater percentage of pupils than the international average. Teachers in Sweden, England, Finland and Northern Ireland reported a very low percentage of pupils whose lessons were limited by uninterested pupils.

Internationally, within countries, pupil attainment tended to be lower where teachers reported high levels of limitation caused by disruptive or uninterested pupils. However, no significance tests have been carried out and the data do not show whether lower attainment is a direct result of teaching being limited by disruptive or uninterested pupils.

These questions were not asked in PIRLS 2006.

Table 7.8 Teaching limited by disruptive or disinterested pupils (comparator countries)

Reported by teachers

Country	Pupils in classrooms where teachers report instruction is limited by disruptive pupils				Pupils in classrooms where teachers report instruction is limited by uninterested pupils			
	Some or not at all		A lot		Some or not at all		A lot	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
Australia	r 86 (2.7)	535 (3.2)	14 (2.7)	509 (5.2)	r 95 (1.7)	533 (2.9)	5 (1.7)	503 (11.0)
Canada	82 (1.9)	551 (1.9)	18 (1.9)	538 (3.2)	94 (0.9)	550 (1.8)	6 (0.9)	528 (4.0)
Chinese Taipei	97 (1.6)	554 (1.9)	3 (1.6)	526 (15.3)	91 (2.3)	554 (1.9)	9 (2.3)	541 (8.1)
England	91 (1.8)	553 (2.9)	9 (1.8)	525 (9.3)	97 (1.5)	551 (2.9)	3 (1.5)	539 (9.6)
Finland	89 (2.3)	569 (1.9)	11 (2.3)	559 (3.4)	97 (0.8)	568 (1.8)	3 (0.8)	564 (12.1)
Hong Kong SAR	94 (2.0)	572 (2.2)	6 (2.0)	543 (14.3)	92 (2.5)	573 (2.2)	8 (2.5)	547 (10.1)
Ireland, Rep. of	90 (2.4)	553 (2.2)	10 (2.4)	547 (8.2)	96 (1.5)	552 (2.2)	4 (1.5)	544 (11.5)
New Zealand	90 (1.4)	536 (2.7)	10 (1.4)	507 (6.8)	96 (1.0)	534 (2.4)	4 (1.0)	512 (13.7)
Northern Ireland	r 95 (2.1)	560 (2.9)	5 (2.1)	554 (10.5)	r 97 (1.6)	561 (2.7)	3 (1.6)	535 (8.3)
Russian Federation	94 (1.8)	569 (3.0)	6 (1.8)	556 (8.3)	95 (1.8)	570 (2.7)	5 (1.8)	547 (10.7)
Singapore	89 (1.9)	571 (3.5)	11 (1.9)	541 (11.0)	91 (1.8)	570 (3.4)	9 (1.8)	538 (12.2)
Sweden	r 94 (1.7)	544 (2.4)	6 (1.7)	518 (7.4)	r 98 (1.0)	542 (2.3)	2 (1.0)	~ ~
United States	84 (1.6)	560 (1.9)	16 (1.6)	535 (3.6)	r 89 (1.5)	558 (1.8)	11 (1.5)	539 (6.7)
International Avg.	88 (0.3)	514 (0.4)	12 (0.3)	501 (1.4)	90 (0.3)	515 (0.4)	10 (0.3)	494 (1.6)

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 8.11 in the 2011 international PIRLS report

7.8 Pupil reports of bullying in school

Pupils were asked about the extent to which they had experienced a range of behaviours which were considered to demonstrate bullying at school. The questions and details of the scoring are shown in Table 7.9. Based on their responses, pupils were categorised as being in one of three bands which described the frequency with which they had experienced the six bullying behaviours in their school during the last year: *Almost never*, *About monthly* and *About weekly*. England's average scale score was 9.9, very close to the *Almost never* category.

Reports from pupils in England of frequency of bullying corresponded very closely with international averages. Although forty-five per cent of pupils reported that they were *Almost never* bullied, 20 per cent were categorised as experiencing bullying behaviours *About weekly*. The responses of the remaining 35 per cent led to them being categorised as experiencing bullying behaviours *About monthly*.

Among the comparator countries, pupils in Sweden, the Republic of Ireland and Finland reported experiencing the lowest levels of bullying behaviour, while the highest levels were reported in New Zealand and Australia.

Internationally, within countries, pupil attainment tended to be higher where bullying was reported to occur less frequently. This general pattern was also true in England, however it is not possible to tell whether the two measures are directly related.

Although a similar question was asked in the PIRLS 2006 survey, the individual components of the scale were significantly changed for the 2011 survey therefore comparisons over time are not possible.

Table 7.9 Pupils bullied at school (comparator countries)

Reported by pupils

Pupils were scored according to their responses to how often they experienced six bullying behaviours on the *Pupils Bullied at School* scale. Pupils bullied **Almost never** had a score on the scale of at least 10.1, which corresponds to “never” experiencing three of the six bullying behaviours and each of the other three behaviours “a few times a year,” on average. Pupils bullied **About weekly** had a score no higher than 8.3, which corresponds to their experiencing each of three of the six behaviours “once or twice a month” and each of the other three “a few times a year,” on average. All other pupils were bullied **About monthly**.

Country	Almost never		About monthly		About weekly		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
Sweden	68 (1.0)	548 (2.4)	25 (1.0)	535 (3.0)	7 (0.5)	509 (4.7)	11.0 (0.04)
Ireland, Rep. of	64 (1.2)	563 (2.5)	25 (0.9)	545 (4.0)	12 (0.8)	510 (5.0)	10.7 (0.05)
Finland	61 (1.2)	573 (2.1)	30 (0.9)	566 (2.7)	9 (0.6)	543 (4.0)	10.6 (0.04)
Northern Ireland	57 (1.3)	567 (2.7)	29 (1.0)	557 (3.8)	14 (0.9)	527 (5.0)	10.4 (0.06)
Chinese Taipei	53 (1.3)	562 (2.1)	30 (0.8)	552 (2.6)	17 (0.8)	528 (3.2)	10.3 (0.06)
United States	52 (0.7)	568 (1.7)	30 (0.5)	557 (1.7)	18 (0.5)	531 (2.8)	10.2 (0.03)
Hong Kong SAR	51 (1.2)	577 (2.4)	33 (0.8)	571 (2.6)	17 (0.6)	553 (3.7)	10.1 (0.04)
Russian Federation	45 (1.4)	576 (2.9)	35 (1.0)	567 (3.1)	19 (1.0)	555 (3.9)	10.0 (0.06)
England	45 (1.5)	567 (3.2)	35 (1.0)	552 (3.0)	20 (1.1)	521 (4.8)	9.9 (0.06)
Canada	44 (0.7)	561 (2.0)	36 (0.6)	548 (2.0)	20 (0.6)	526 (2.5)	9.8 (0.03)
Singapore	39 (0.9)	581 (3.2)	38 (0.6)	569 (3.5)	23 (0.8)	543 (4.3)	9.7 (0.04)
Australia	37 (1.1)	539 (2.8)	38 (1.0)	529 (2.7)	25 (0.8)	509 (3.8)	9.6 (0.04)
New Zealand	33 (0.8)	554 (2.6)	37 (0.7)	537 (2.7)	30 (0.8)	504 (2.9)	9.3 (0.03)
Oman	31 (1.2)	407 (3.5)	37 (0.9)	392 (3.5)	31 (1.0)	377 (3.5)	9.3 (0.05)
Qatar	30 (1.1)	459 (4.9)	32 (1.0)	438 (5.1)	38 (1.0)	399 (3.7)	9.1 (0.05)
International Avg.	47 (0.2)	523 (0.5)	33 (0.1)	513 (0.5)	20 (0.1)	489 (0.7)	

SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2011

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

Source Exhibit 6.7 in the 2011 international PIRLS report

The index was constructed according to pupils' responses to the following questions.

During this year, how often have any of the following things happened to you at school?

Tick **one** box for each row.

	Never	A few times a year	Once or twice a month	At least once a week
a) I was made fun of or called names	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I was left out of games or activities by other children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Someone spread lies about me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) Something was stolen from me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I was hit or hurt by other children (e.g. shoving, hitting, kicking)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I was made to do things I didn't want to do by other children	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10.1 8.3

Chapter 8 School resources

Chapter outline

This chapter summarises teacher reports concerning the working conditions and resources available in their school for the teaching of reading.

Outcomes for England are compared with those of other countries.

Key findings

- Teachers in England were among those giving the highest overall ratings for their working conditions. On average they reported *Minor or Hardly any problems* relating to working conditions.
- Teachers in England reported making use of a wide range of different materials for teaching reading, but by far the most widely used resource was *A variety of children's books*. They also reported the lowest use of workbooks and worksheets among all participating countries.
- England's schools had the highest computer provision of all participating countries.
- Compared to the international average, schools in England were less likely to have school libraries of 5,000 books or more, but were more likely to have class libraries with more than 50 books.
- England was one of the countries where pupils were most likely to be given class time to use their class library at least once a week, and to borrow books from it.
- According to their headteachers, the vast majority of pupils in England were not greatly affected by reading resource shortages.

Interpreting the data: scaled data from teachers and headteachers

Much of the data in this chapter is reported by teachers and headteachers. Reported percentages refer to pupils and can usually (unless otherwise indicated) be interpreted as the percentage of pupils whose teacher or headteacher reported a particular practice or gave a particular response to a questionnaire item.

When interpreting the data from pupils, headteachers and teachers it is important to take account of the relative sample sizes. Participants are expected to sample a minimum of 150 schools and a minimum of 4,000 pupils (these figures represent the numbers *drawn* in the sample; the *achieved* sample numbers may be fewer). Numbers of schools participating internationally ranged from 96 to 1,111. This wide range reflected the fact that some countries had fewer than 150 schools available and some countries chose to over-sample schools. The majority of countries sampled between 150 and 200 schools.

For PIRLS 2011 in England, the number of participating schools was 129. The numbers of participants within these schools were:

- 3,927 pupils
- 123 headteachers completed the School Questionnaire
- 174 class teachers completed the Teacher Questionnaire.

See Appendix A for more information about numbers of participants and the sampling method.

8.1 Teacher working conditions

Teachers were asked to rate the working conditions in their current school in terms of potential problem areas such as accommodation, teaching space or teaching materials and supplies. The questions and details of the scoring are shown in Table 8.1.

Teachers in England, alongside those in the United States and Australia, gave among the highest overall ratings for their working conditions. In England and the United States, teachers of around 90 per cent of pupils reported that they had *Minor* or *Hardly any* problems. The average scale score of 11.0 is just below the threshold for the *Hardly any problems* category.

Among comparator countries, teachers in Sweden and Hong Kong reported the greatest degree of problems. Teachers of 39 per cent of pupils in Sweden and of 28 per cent in Hong Kong reported *Moderate problems*. On average internationally, 25 per cent of pupils were in schools where teachers reported a *Moderate* level of problems.

In terms of average attainment, the overall pattern internationally was for pupil scores to decrease as reported problems increased. However, differences between average scores in each category are not large and there is no clear association between the level of problems reported and pupil attainment within countries.

Table 8.1 Teacher working conditions (comparator countries)

Reported by teachers

Pupils were scored according to their teachers' responses concerning five potential problem areas on the *Teacher Working Conditions* scale. Pupils whose teachers had **Hardly any problems** with their working conditions had a score on the scale of at least 11.2, which corresponds to their teachers reporting "not a problem" for three of five areas and "minor problem" for the other two, on average. Pupils whose teachers had **Moderate problems** had a score no higher than 8.6, which corresponds to their teachers reporting "moderate problem" for three of five conditions and "minor problem" for the other two, on average. All other pupils had teachers that reported **Minor problems** with their working conditions.

Country	Hardly any problems		Minor problems		Moderate problems		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
United States	47 (2.3)	562 (2.3)	42 (2.4)	551 (2.9)	11 (1.4)	552 (5.8)	11.0 (0.09)
England	44 (4.3)	551 (4.8)	46 (4.7)	548 (4.6)	10 (2.9)	563 (10.7)	11.0 (0.15)
Australia	r 43 (4.5)	536 (4.8)	38 (4.4)	533 (5.4)	19 (2.7)	518 (6.1)	10.8 (0.20)
Canada	38 (2.2)	551 (2.4)	45 (2.8)	545 (2.2)	17 (2.4)	549 (7.0)	10.6 (0.09)
Ireland, Rep. of	37 (3.6)	561 (3.7)	47 (3.3)	545 (3.8)	16 (2.3)	551 (5.8)	10.7 (0.16)
Northern Ireland	r 35 (4.8)	564 (4.8)	49 (4.3)	560 (4.2)	16 (3.5)	550 (6.5)	10.6 (0.20)
New Zealand	33 (3.1)	541 (4.5)	50 (3.1)	530 (3.9)	17 (2.3)	524 (8.3)	10.4 (0.12)
Singapore	32 (2.7)	568 (6.2)	51 (2.9)	566 (4.8)	17 (1.9)	570 (6.9)	10.4 (0.11)
Russian Federation	24 (3.0)	571 (5.7)	54 (4.0)	570 (3.1)	22 (2.9)	562 (6.3)	9.9 (0.12)
Finland	20 (3.0)	564 (3.5)	62 (4.3)	568 (2.1)	18 (3.5)	573 (4.3)	10 (0.13)
Chinese Taipei	19 (3.1)	547 (3.6)	59 (4.1)	557 (2.5)	23 (3.4)	548 (4.7)	10 (0.15)
Hong Kong SAR	16 (3.5)	570 (7.0)	57 (4.9)	572 (2.8)	28 (4.0)	567 (5.1)	9.6 (0.14)
Sweden	r 12 (2.9)	541 (6.0)	49 (4.3)	546 (3.1)	39 (4.4)	537 (4.1)	9.2 (0.17)
International Avg.	27 (0.5)	518 (0.9)	48 (0.6)	514 (0.7)	25 (0.5)	509 (0.9)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 5.6 in the 2011 international PIRLS report

The index was constructed according to teachers' responses to the following question.

In your current school, how severe is each problem?

Tick **one** circle for each row.

Not a problem Minor problem Moderate problem Serious problem

a) The school building needs significant repair ○ — ○ — ○ — ○

b) Classrooms are overcrowded ○ — ○ — ○ — ○

c) Teachers have too many teaching hours ○ — ○ — ○ — ○

d) Teachers do not have adequate workspace (e.g. for preparation, collaboration, or meeting with pupils) ○ — ○ — ○ — ○

e) Teachers do not have adequate teaching materials and supplies ○ — ○ — ○ — ○

←—————→

Hardly Any Problems Minor Problems Moderate Problems

11.2 8.6

8.2 Resources used in the teaching of reading

There are a range of methods for teaching reading, which can be supported through the use of different teaching materials, such as textbooks, reading schemes and workbooks or computer software.

Teachers were asked to indicate whether they used each one, either as a basis for teaching reading or as a supplement to their teaching. Responses to this question are shown in Table 8.2.

Results indicate that teachers in England made use of a wide range of different materials, but by far the most widely used resource was a variety of children's books¹. Teachers of 83 per cent of pupils in England reported using a variety of children's books as a basis for teaching — this is higher than any other participating country. Only nine per cent of pupils in England had teachers who used workbooks or worksheets as a basis for teaching reading — this was lower than any other participating country.

While children's books were the main resource used as a basis for teaching reading, all of the other resources were used, to some extent, as supplements. Workbooks were used as a supplementary resource by teachers of 77 per cent of pupils, as were textbooks² (62 per cent), computer software (54 per cent) and reading schemes (45 per cent).

Seventeen per cent of pupils in England had teachers who reported that they used computer software as a basis for teaching reading, compared to the international average of eight per cent. The proportion of pupils in England whose teachers used it as a supplementary resource, at 54 per cent, was closer to the international figure (48 per cent).

Pupils in other countries were more likely to receive their main teaching through the use of textbooks (international average 72 per cent) and workbooks or worksheets (40 per cent) than pupils in England (20 per cent and 9 per cent respectively).

Textbooks were the primary resource used by teachers in Chinese Taipei, Finland, Hong Kong, the Republic of Ireland, the Russian Federation and Singapore, whereas pupils in Australia, Canada and Northern Ireland, as in England, were most likely to be taught using children's books as the main resource.

Computer software was used as a supplementary resource in the comparator countries for between half and three-quarters of pupils — all above the international average of 48 per cent.

¹ Children's books, both literary and information texts, not specifically written for teaching purposes.

² Books specifically written for teaching purposes.

Table 8.2 Resources teachers use for teaching reading (comparator countries)

Reported by teachers

Country	Per cent of pupils whose teachers use									
	A variety of children's books		Textbooks		Reading series		Workbooks or worksheets		Computer software for reading instruction	
	As basis for instruction	As a supplement	As basis for instruction	As a supplement	As basis for instruction	As a supplement	As basis for instruction	As a supplement	As basis for instruction	As a supplement
Australia	r 61 (4.0)	39 (4.1)	r 14 (2.7)	48 (3.6)	r 51 (4.2)	41 (4.2)	r 16 (2.6)	80 (3.1)	r 18 (3.2)	66 (4.2)
Canada	61 (2.3)	39 (2.4)	33 (2.3)	50 (3.0)	25 (2.5)	55 (2.7)	27 (2.3)	65 (2.3)	6 (1.0)	51 (2.3)
Chinese Taipei	33 (3.4)	64 (3.6)	76 (3.2)	19 (2.8)	8 (2.1)	51 (4.2)	40 (3.9)	55 (4.1)	8 (2.2)	72 (3.2)
England	83 (2.9)	17 (2.9)	20 (3.7)	62 (4.5)	29 (3.9)	45 (4.0)	9 (2.5)	77 (3.4)	17 (3.3)	54 (3.9)
Finland	22 (2.9)	77 (2.9)	86 (2.3)	12 (2.0)	8 (1.4)	73 (2.7)	53 (3.4)	44 (3.5)	2 (0.7)	60 (3.9)
Hong Kong SAR	10 (2.3)	83 (3.2)	96 (1.7)	4 (1.7)	13 (3.4)	69 (4.0)	63 (4.2)	36 (4.2)	22 (3.8)	67 (4.4)
Ireland, Rep. of	38 (3.4)	61 (3.4)	74 (3.2)	25 (3.2)	36 (3.4)	51 (3.6)	19 (2.8)	79 (2.9)	6 (1.6)	62 (3.3)
New Zealand	51 (3.4)	48 (3.4)	14 (2.3)	38 (2.8)	84 (2.7)	16 (2.7)	14 (2.3)	81 (2.5)	9 (1.6)	73 (2.7)
Northern Ireland	r 69 (4.6)	31 (4.6)	r 30 (3.9)	66 (4.2)	r 54 (4.2)	41 (4.2)	r 17 (3.2)	81 (3.3)	r 9 (2.2)	73 (4.1)
Russian Federation	7 (1.9)	93 (2.0)	95 (1.6)	5 (1.6)	2 (1.1)	90 (2.4)	22 (3.0)	65 (3.5)	2 (0.8)	47 (3.2)
Singapore	13 (1.8)	82 (2.0)	78 (2.4)	11 (1.9)	18 (2.3)	60 (2.7)	71 (2.4)	29 (2.4)	13 (1.4)	68 (2.5)
Sweden	r 53 (3.7)	46 (3.7)	r 45 (4.6)	50 (4.4)	r 37 (4.3)	50 (4.3)	r 30 (4.3)	66 (4.4)	r 6 (2.1)	58 (4.1)
United States	r 47 (2.5)	51 (2.5)	r 46 (2.8)	40 (2.5)	r 47 (2.9)	36 (2.2)	r 19 (2.1)	75 (2.2)	r 9 (1.5)	65 (2.7)
International Avg.	27 (0.4)	69 (0.5)	72 (0.4)	23 (0.4)	27 (0.4)	59 (0.5)	40 (0.5)	56 (0.5)	8 (0.3)	48 (0.5)

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Standard errors appear in parentheses. Because of rounding some results may appear inconsistent. An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 8.12 in the 2011 international PIRLS report

8.3 Availability of computers for lessons

Headteachers were asked to indicate the number of pupils in year 5 and the total number of computers available for teaching. The calculated ratios are shown in Table 8.3.

Among all participating countries, England has the highest level of reported computer provision, followed by Denmark and the Slovak Republic. Availability of computers, already widespread in England in 2006, has increased slightly. In 2011, 89 per cent of pupils were in schools where the headteachers reported a computer was available for every 1–2 pupils and a further 10 per cent had headteachers who reported computers were shared between three to five pupils. One computer for five or more pupils was reported by headteachers of only one per cent of pupils in 2011. In 2006, headteachers reported that 94 per cent of pupils had one computer between fewer than five pupils³.

Internationally, there was considerable variation from country to country. The majority of comparator countries reported computer provision above the international average. Those whose provision was below the international average were the Republic of Ireland, Sweden, the Russian Federation and Chinese Taipei.

Internationally, pupils with access to computers had higher average reading attainment than pupils with no access to computers. This was not the case in England. It is important to note that the relationship between computer availability and average reading attainment is complex. In some countries computer availability is highly interrelated with socio-economic levels, in others, computers are used widely for remedial teaching purposes. In addition, teaching practice and the quality of software programs varies greatly between and within countries.

³ The option categories were changed slightly between the two surveys.

Table 8.3 Availability of computers for teaching (comparator countries)

Reported by headteachers

Country	1 computer for 1–2 pupils		1 computer for 3–5 pupils		1 computer for 6 or more pupils		No computers available	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
Australia	65 (3.7)	528 (3.2)	26 (3.2)	526 (6.0)	9 (2.4)	533 (6.2)	0 (0.1)	~ ~
Canada	76 (2.0)	550 (2.2)	17 (1.9)	545 (3.4)	8 (1.6)	535 (3.8)	0 (0.0)	~ ~
Chinese Taipei	23 (2.7)	539 (3.9)	41 (3.7)	552 (3.6)	36 (3.6)	563 (2.7)	0 (0.0)	~ ~
England	89 (3.0)	552 (3.1)	10 (3.0)	555 (9.4)	1 (0.5)	~ ~	0 (0.0)	~ ~
Finland	55 (4.3)	567 (2.5)	29 (4.1)	569 (3.7)	15 (3.2)	570 (3.7)	2 (1.2)	~ ~
Hong Kong SAR	55 (4.4)	566 (4.1)	44 (4.4)	578 (3.3)	1 (0.8)	~ ~	0 (0.0)	~ ~
Ireland, Rep. of	35 (3.8)	545 (4.6)	27 (3.7)	556 (5.3)	38 (4.4)	555 (4.2)	0 (0.0)	~ ~
New Zealand	59 (3.8)	532 (4.0)	34 (3.8)	535 (4.7)	7 (1.9)	526 (14.8)	0 (0.0)	~ ~
Northern Ireland	r 77 (4.3)	557 (3.1)	17 (3.8)	562 (7.1)	5 (2.3)	564 (9.5)	0 (0.0)	~ ~
Russian Federation	28 (3.0)	566 (6.0)	33 (4.0)	569 (4.6)	34 (3.4)	567 (4.7)	6 (2.1)	580 (8.4)
Singapore	51 (0.0)	568 (4.7)	47 (0.0)	567 (5.1)	3 (0.0)	567 (34.2)	0 (0.0)	~ ~
Sweden	r 29 (3.6)	542 (5.3)	37 (4.6)	539 (4.3)	34 (4.4)	542 (3.7)	0 (0.0)	~ ~
United States	r 67 (2.9)	562 (2.0)	27 (2.6)	554 (3.1)	7 (1.5)	540 (8.2)	0 (0.0)	~ ~
International Avg.	41 (0.5)	513 (1.0)	29 (0.5)	517 (0.9)	23 (0.5)	517 (1.3)	7 (0.3)	488 (2.5)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 5.8 in the 2011 international PIRLS report

The index was constructed according to headteachers' responses to the following questions.

What is the total number of Year 5 pupils on roll in your school as of 1st May 2011?

_____ pupils
Write in a number.

What is the total number of computers in your school that can be used for educational purposes by Year 5 pupils?

_____ computers
Write in the number.

8.4 Availability of school and class libraries

Headteachers were asked to indicate the number of books with different titles available in their school libraries (Table 8.4) and teachers were asked to provide information about the availability of classroom libraries (Table 8.5).

8.4.1 School libraries

Most pupils in England (67 per cent) attend schools which, headteachers reported, had medium sized libraries (501 to 5,000 books). A further 11 per cent of pupils attended schools that were reported to have more than 5,000 book titles in their school libraries. This was lower than the international average of 28 per cent and slightly lower than the 15 per cent reported in 2006. However, only eight percent

of pupils attended schools without a school library. This was also lower than the international average of 14 per cent but an increase compared to the four per cent reported in 2006.

The international report points out that some countries have well-resourced classroom libraries rather than a larger central library, so the lack of a school library does not necessarily mean that children do not have access to a variety of books.

Internationally, pupils attending schools with well-resourced school libraries had higher attainment than those with few library books or no school library at all (525 compared to 500 and 498). The patterns of pupil performance in comparator countries generally follow this overall trend (Table 8.4).

The Pacific Rim countries of Chinese Taipei, Hong Kong and Singapore reported the highest proportions of pupils attending schools with very large school libraries (90, 82 and 77 per cent of pupils respectively). In contrast, Northern Ireland and Finland reported the lowest proportions of pupils attending schools with more than 5,000 books (3 per cent and 4 per cent respectively).

Among comparator countries, the Republic of Ireland reported the highest percentage of schools with no school libraries at all (49 per cent). Northern Ireland (31 per cent) and Finland (21 per cent) also had a high percentage of pupils in schools without school libraries.

Table 8.4 Size of school library (comparator countries)

Reported by headteachers

Table 8.5 provides information about classroom libraries

Country	More than 5,000 book titles		501–5,000 book titles		500 book titles or fewer		No school library	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
Australia	56 (3.6)	530 (3.5)	42 (3.7)	525 (5.1)	1 (0.5)	~ ~	1 (0.0)	~ ~
Canada	53 (2.7)	551 (2.0)	42 (2.8)	547 (3.2)	3 (0.7)	532 (8.1)	1 (0.4)	~ ~
Chinese Taipei	90 (2.8)	554 (2.0)	9 (2.7)	549 (6.2)	0 (0.0)	~ ~	1 (0.8)	~ ~
England	11 (2.9)	557 (12.0)	67 (4.8)	550 (4.1)	14 (3.4)	546 (8.4)	8 (2.8)	545 (9.9)
Finland	4 (1.7)	578 (10.1)	47 (4.3)	567 (2.7)	28 (3.8)	566 (4.4)	21 (3.4)	568 (4.2)
Hong Kong SAR	82 (3.3)	573 (2.7)	18 (3.3)	560 (5.6)	0 (0.0)	~ ~	0 (0.0)	~ ~
Ireland, Rep. of	7 (2.1)	532 (7.9)	30 (4.0)	553 (4.6)	14 (2.9)	552 (5.5)	49 (4.7)	554 (3.7)
New Zealand	47 (3.3)	541 (3.5)	52 (3.3)	526 (3.9)	1 (0.8)	~ ~	0 (0.0)	~ ~
Northern Ireland	3 (1.5)	549 (11.0)	51 (4.6)	556 (4.0)	15 (3.9)	549 (7.9)	31 (4.0)	569 (5.5)
Russian Federation	65 (3.4)	570 (3.2)	31 (3.4)	568 (4.6)	3 (1.8)	554 (17.5)	1 (0.0)	~ ~
Singapore	77 (0.0)	566 (3.8)	22 (0.0)	569 (6.5)	1 (0.0)	~ ~	0 (0.0)	~ ~
Sweden	18 (3.7)	544 (4.9)	52 (5.0)	544 (3.8)	12 (3.4)	544 (6.1)	18 (3.8)	533 (6.1)
United States	63 (2.6)	562 (2.2)	34 (2.8)	551 (3.8)	2 (0.8)	~ ~	1 (0.4)	~ ~
International Avg.	28 (0.4)	525 (1.4)	40 (0.6)	513 (1.1)	18 (0.4)	500 (1.3)	14 (0.4)	498 (1.8)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.


An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 5.7 in the 2011 international PIRLS report

The index was constructed according to headteachers' responses to the following questions.

Does your school have a school library?
Tick one circle only.

Yes---

No--- 

(If No, go to Q10)

If Yes,

A. Approximately how many books with different titles does your school library have (exclude magazines and periodicals)?

Tick one circle only.

250 or fewer---

251–500---

501–2,000---

2,001–5,000---

5,001–10,000---

More than 10,000---

8.4.2 Class libraries

As Table 8.5 shows, teachers of 87 per cent of pupils in England reported that they had a class library (2006: 84 per cent). According to their teachers, 70 per cent of pupils in England were in classes which had class libraries of more than 50 books, and 85 per cent had teachers who reported making time for pupils to use the classroom library at least once a week. These figures compare with international averages of 32 and 60 per cent respectively.

The percentage of pupils in England who, teachers reported, were able to borrow books from their class library, as opposed to using them in school for reference only, was also above the international average. In contrast, the percentage of pupils in classes reported as having three or more magazine titles in their class library was lower than the international average.

Internationally, 72 per cent of pupils were in classes whose teachers reported they had classroom libraries and the average reading achievement of those who did was slightly higher than their counterparts in classrooms without libraries (514 compared to 507 scale points). This was not the case in England; pupils with class libraries had an average score of 549, whereas those without class libraries had a mean score of 560. However, the proportion of pupils in England who had no class library was only 13 per cent, and the size of the standard error suggests that this difference is not statistically significant.

According to teacher reports, when compared with those in England, fewer pupils in the Russian Federation, Sweden and Finland had class libraries, and pupils in these countries were, on average, less likely to be given class time to use the class library, but this did not appear to be associated with pupil attainment. Class libraries in Finland, Sweden and New Zealand also tended to have fewer books than in England.

There was no clear association between the size of the class library and pupil achievement, in England or internationally.

Interpreting the data on school and class libraries is not straightforward. Factors such as the availability, location and size of libraries, the frequency of visits and the ways in which the libraries are used are all likely to interact and impact on attainment. Demographics within a country, particularly the range of rural and urban communities that schools serve, may have a bearing on library provision, for example, very large school libraries may be associated with school size. There may also be a preference within some countries to develop age-appropriate libraries within the classroom or teaching unit rather than housing all library books in a central location.

Further, more detailed analyses would be necessary before any conclusions could be drawn in relation to pupil attainment.

A survey by the National Literacy Trust in 2009 collected data about library use and attainment⁴. The survey covered a wider age range than PIRLS and participation was on a different basis (by invitation in a newsletter from the NLT) and so the data cannot be compared to that collected in PIRLS. Nevertheless, the survey found a very strong association between library use and reading achievement (the latter as reported by teachers).

Table 8.5 Classroom libraries (comparator countries)

Reported by teachers

For information about school libraries, see Table 8.4

Country	Have a classroom library			Per cent of pupils					
	Per cent of pupils		Average achievement	With more than 50 books in their classroom Library	With at least 3 magazine titles in their classroom Library	Given class time to use classroom library at least once a week	Who can borrow books from classroom library	Whose teachers take them to library other than the classroom library at least once a month	
	Yes	No	Yes						No
United States	r 99 (0.7)	557 (1.8)	~ ~	r 92 (1.3)	r 36 (2.5)	r 98 (0.8)	r (1.6)	r 95 (1.3)	
New Zealand	99 (0.5)	534 (2.2)	~ ~	29 (3.2)	37 (3.3)	99 (0.5)	(2.9)	94 (1.3)	
Ireland, Rep. of	98 (0.8)	552 (2.3)	~ ~	87 (2.6)	18 (2.6)	94 (1.5)	(2.4)	42 (3.9)	
Northern Ireland	r 97 (1.5)	561 (2.9)	532 (33.7)	r 89 (2.6)	r 35 (4.2)	r 91 (2.6)	r (3.2)	r 61 (4.5)	
Canada	95 (1.8)	547 (1.7)	566 (18.7)	80 (2.0)	48 (2.6)	94 (1.8)	(2.7)	93 (1.7)	
Hong Kong SAR	95 (2.5)	572 (2.6)	542 (8.0)	75 (4.3)	42 (4.5)	75 (4.0)	(4.5)	53 (4.4)	
Singapore	92 (1.2)	565 (3.5)	586 (12.1)	44 (2.8)	32 (2.5)	76 (2.1)	(2.2)	60 (2.3)	
Chinese Taipei	92 (2.4)	553 (2.1)	554 (4.7)	73 (3.8)	40 (4.2)	74 (3.6)	(3.2)	78 (2.7)	
Australia	r 91 (2.1)	533 (3.2)	521 (8.9)	r 48 (3.8)	r 35 (4.4)	r 89 (2.3)	r (3.6)	r 93 (2.2)	
England	87 (2.9)	549 (3.0)	560 (10.2)	70 (4.0)	22 (3.6)	85 (3.3)	(3.9)	62 (4.6)	
Russian Federation	77 (2.4)	571 (2.9)	558 (5.8)	36 (3.4)	50 (3.8)	41 (4.3)	(2.5)	85 (3.0)	
Sweden	r 52 (4.2)	540 (3.0)	546 (3.8)	r 28 (3.5)	r 10 (2.6)	r 50 (4.3)	r (4.2)	r 80 (3.3)	
Finland	51 (3.8)	566 (2.6)	570 (2.5)	22 (3.0)	13 (2.3)	42 (3.7)	(3.0)	70 (3.2)	
International Avg.	72 (0.5)	514 (0.6)	507 (1.3)	32 (0.4)	31 (0.5)	60 (0.5)	(0.5)	68 (0.5)	

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

Source Exhibit 8.13 in the 2011 international PIRLS report

⁴ Clarke, C. (2010). *Linking School Libraries and Literacy: Young people's reading habits and attitudes to their school library*. National Literacy Trust. Available: http://www.literacytrust.org.uk/assets/0000/5760/Linking_school_libraries_and_literacy_2010.pdf

8.5 Views about limitations on teaching caused by resourcing

Headteachers were asked to rate the extent to which their school's capacity to teach reading was limited by a shortage of resources. This included shortages of, or inadequacies in, accommodation, staff, equipment, as well as specific resources for teaching reading. The results, and an explanation of how the scale was calculated, are shown in Table 8.6. Three categories were created: *Not affected*, *Somewhat affected* and *Affected a lot*.

According to their headteachers, the vast majority of pupils in England were in schools which were not greatly affected by reading resource shortages. Only two per cent of pupils were in schools which headteachers reported were *Affected a lot* by resource shortages, and headteachers of 40 per cent of pupils reported that their schools were *Not affected*. In England, the headteachers of the majority of pupils (58 per cent) reported that their schools were *Somewhat affected* by resource shortages and England's average scale score of 10.9 was just within the *Somewhat affected* category.

The picture in England was more positive than on average internationally. Headteachers in some high performing countries, such as Chinese Taipei, Hong Kong and Singapore, reported higher proportions of pupils in schools which they felt were *Affected a lot* by shortages or inadequacies in general school resources and specific resources for teaching reading.

Whilst on average internationally, pupils in schools whose headteachers reported that shortages of reading resources limited teaching had lower achievement than pupils in schools whose headteachers did not report shortages, this was not evident in England or in a number of the comparator countries.

Table 8.6 Shortages of reading resources limiting teaching (comparator countries)*Reported by headteachers*

Pupils were scored according to their headteachers' responses concerning eleven school and classroom resources on the *Reading Resource Shortages* scale. Pupils in schools where instruction was **Not affected** by resource shortages had a score on the scale of at least 11.2, which corresponds to their headteachers' reporting that shortages affected instruction "not at all" for six of the eleven resources and "a little" for the other five, on average. Pupils in schools where instruction was **Affected a lot** had a score no higher than 6.7, which corresponds to their headteachers reporting that shortages affected instruction "a lot" for six of the eleven resources and "some" for the other five, on average. All other pupils attended schools where instruction was **Somewhat affected** by resource shortages.

Country	Not affected		Somewhat affected		Affected a lot		Average scale score
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	
United States	45 (3.0)	563 (3.1)	54 (3.0)	554 (2.7)	1 (0.4)	~ ~	11.1 (0.12)
New Zealand	43 (3.6)	540 (4.4)	57 (3.6)	528 (3.3)	0 (0.0)	~ ~	11.2 (0.14)
Australia	42 (3.5)	537 (4.9)	57 (3.5)	521 (3.5)	1 (0.6)	~ ~	11.2 (0.14)
England	40 (4.6)	552 (4.8)	58 (4.9)	550 (4.2)	2 (0.1)	~ ~	10.9 (0.18)
Singapore	37 (0.0)	564 (5.2)	56 (0.0)	569 (4.4)	7 (0.0)	563 (13.3)	10.5 (0.00)
Canada	36 (2.3)	548 (2.4)	64 (2.4)	549 (2.2)	1 (0.5)	~ ~	10.8 (0.09)
Sweden	33 (4.2)	547 (4.3)	67 (4.2)	539 (2.8)	0 (0.0)	~ ~	10.7 (0.15)
Northern Ireland	28 (4.4)	562 (5.6)	71 (4.5)	557 (3.0)	1 (1.0)	~ ~	10.5 (0.18)
Ireland, Rep. of	27 (3.7)	557 (6.0)	71 (3.8)	550 (2.7)	1 (1.0)	~ ~	10.5 (0.14)
Finland	27 (3.6)	571 (3.2)	70 (3.6)	568 (2.3)	3 (1.6)	559 (10.1)	10.3 (0.16)
Russian Federation	21 (3.0)	579 (5.4)	75 (3.2)	564 (3.3)	4 (1.5)	571 (9.2)	9.9 (0.16)
Chinese Taipei	7 (2.2)	556 (7.3)	77 (3.2)	551 (2.1)	15 (2.8)	560 (5.0)	8.5 (0.16)
Hong Kong SAR	0 (0.0)	~ ~	91 (2.3)	570 (2.5)	9 (2.3)	566 (10.8)	8.0 (0.08)
International Avg.	24 (0.5)	523 (1.1)	71 (0.5)	511 (0.5)	5 (0.2)	478 (3.0)	

Centre point of scale set at 10.

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

Source Exhibit 5.5 in the 2011 international PIRLS report

The index was constructed according to headteachers' responses to the following questions.

10 How much is your school's capacity to provide teaching affected by a shortage or inadequacy of the following?

Tick one circle for each row.

Not at all A little Some A lot

A. General School Resources

a) Teaching materials (e.g. textbooks) ----- ○ ----- ○ ----- ○ ----- ○

b) Supplies (e.g. paper, pencils) ----- ○ ----- ○ ----- ○ ----- ○

c) School buildings and grounds ----- ○ ----- ○ ----- ○ ----- ○

d) Heating/cooling and lighting systems ----- ○ ----- ○ ----- ○ ----- ○

e) Teaching space (e.g. classrooms) ----- ○ ----- ○ ----- ○ ----- ○

f) Technologically competent staff ----- ○ ----- ○ ----- ○ ----- ○

g) Computers for teaching ----- ○ ----- ○ ----- ○ ----- ○

B. Resources for Teaching Reading

a) Teachers with a specialisation in reading ----- ○ ----- ○ ----- ○ ----- ○

b) Computer software for teaching reading ----- ○ ----- ○ ----- ○ ----- ○

c) Library books ----- ○ ----- ○ ----- ○ ----- ○

d) Audio-visual resources for teaching reading ----- ○ ----- ○ ----- ○ ----- ○

Not Affected Somewhat Affected Affected A Lot

11.2 6.7

Some components of this scale were also completed by headteachers in PIRLS 2006 and a summary of headteacher responses for the 2006 and 2011 surveys is shown in Table 8.7 below.

Table 8.7 Trend in the extent to which teaching is limited by shortage or inadequacy of resources in England in PIRLS 2006 and 2011

Reported by teachers

How much is your school's capacity to provide teaching affected by a shortage or inadequacy of the following?		Per cent of pupils			
		Not at all	A little	Some	A lot
Teaching materials (eg textbooks)	2006	61	32	6	1
	2011	60	28	8	4
Supplies (eg papers, pencils)	2006	87	11	2	0
	2011	80	13	3	4
School buildings and grounds	2006	50	30	14	5
	2011	45	28	17	10
Heating/cooling and lighting systems	2006	63	23	12	2
	2011	56	26	16	2
Teaching space (eg classrooms)	2006	41	39	18	11
	2011	37	34	19	11
Computers for teaching	2006	61	28	9	2
	2011	57	29	4	6
Library books	2006	50	33	15	3
	2011	44	42	13	2
Teachers with a specialisation in reading	2006	54	40	6	1
	2011	44	41	13	2

Source: *School background Data Almanac: CG1-18 PIRLS 2006; SCQ-10, PIRLS 2011*⁵

Overall, the data in Table 8.7 suggests that in 2011, more pupils were in schools where headteachers perceived the shortage or inadequacy of resources to have an impact on teaching than was the case in 2006. For all the resources listed, in 2011, fewer pupils were in schools whose headteachers reported that teaching was *Not at all* affected by shortages than in 2006. The reported differences were most noticeable in terms of grounds and buildings, and specialist reading teachers, however no tests for statistical significance have been carried out.

⁵ Standard errors are not available for the data taken from the international almanacs.

Chapter 9 The home environment in PIRLS 2011

Chapter outline

This chapter considers the relationship between pupils' home circumstances in England and their performance on the PIRLS 2011 reading assessment. Pupils were asked whether or not they possessed certain items in their homes, and were asked to give other details about their lives which might affect achievement. Information was also gathered from teachers of pupils involved in PIRLS.

Key findings

- Pupils in England reported having among the most books at home of all participating countries. Pupils in England who reported a larger number of books at home had higher mean achievement scores than pupils who reported fewer books at home.
- The average achievement of pupils in England was higher for pupils who reported spending more time reading outside of school than those who spent less time reading outside of school. This pattern was not seen clearly in the international data.
- Compared to 2006, fewer pupils in 2011 reported *Never or almost never* reading for fun out of school. Over half of pupils in PIRLS 2011 reported reading for half an hour or more every day out of school.
- The average achievement for pupils in England who reported having their own television, mobile phone or DVD player was lower in each case than those who did not possess these items.
- Teachers were asked the extent to which they thought their teaching was limited by pupils' lack of prerequisite skills and knowledge, basic nutrition and sufficient sleep. Responses were in line with international averages in relation to prerequisite skills and knowledge, and basic nutrition. Teachers of a greater proportion of pupils in England reported their teaching was limited by pupils' lack of sleep compared to the international average.

9.1 Home resources for learning

PIRLS has consistently shown that access to reading material in the home is strongly related to higher achievement in reading. The 2011 PIRLS pupil questionnaire asked pupils to estimate the number of books in their homes (not counting magazines, newspapers, or school books) and the data for England and the comparator countries is shown in Table 9.1. Pupils in England reported having among the most books, with 36 per cent of pupils having more than 100 books at home. In just four comparator countries (Australia, Finland, New Zealand and Sweden) was the proportion slightly greater. Among pupils in England, there was a clear association between the number of books in the home and reading achievement.

Table 9.1 Number of books reported in homes and average achievement of pupils in England and internationally

	0–10		11–25		26–100		101–200		201+	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
England	9	486	19	525	36	556	21	577	15	584
International average	16	467	25	501	33	524	15	536	12	534

Source: Student background data almanac by reading achievement: SGQ-04, PIRLS 2011¹

Pupils were also asked whether they had certain resources in their home which could be seen as enhancing their opportunity to read outside of school (such as their own room, the availability of an internet connection and books of their own). In England, 76 per cent of pupils surveyed reported having a room of their own. The international average of pupils reporting having their own room was lower (67 per cent). Of the comparator countries, the lowest percentage of pupils having their own room was reported in Singapore (52 per cent), with Sweden reporting the highest percentage (87 per cent). In England, 94 per cent of pupils surveyed reported having an internet connection at home. The international average was lower at 77 per cent. Of the comparator countries, the lowest percentage of pupils reporting having an internet connection at home was in the Russian Federation (68 per cent), with the highest proportion in Sweden (96 per cent). In England, 96 per cent of pupils surveyed reported having books of their own at home (not counting school books). The equivalent figure in 2006 was 92 per cent. Of the items surveyed, possessing books of one's own presented the largest discrepancies in average achievement between those who did and did not have the item, for both pupils in England and pupils internationally. Just over three-quarters of pupils in England reported having their own desk or table for studying at home. This is unchanged since 2006.

9.2 Reading out of school

Pupils in England involved in PIRLS were asked to estimate how much time they spend reading outside of school on a normal school day. In England, 77 per cent of pupils reported that they read for up to an hour on a normal school day, and 23 per cent reported reading for one hour or more. As shown in Table 9.2 below, pupils in England who reported reading for a longer time outside of school had higher average achievement than their peers. Internationally, higher achievement was associated with more time spent reading, except for pupils who reported reading more than two hours whose average achievement was lower. The average achievement of pupils in England who read outside school for more than 30 minutes a day was above the High International Benchmark of 550.

¹ Standard errors are not available for the data taken from the international almanacs.

Table 9.2 Time spent reading outside of school and average achievement (for pupils in England and internationally)

	2 hours or more		1 hour up to 2 hours		30 min up to 1 hour		Less than 30 min	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
England	10	592	13	586	35	564	43	523
International average	11	523	13	529	35	524	40	496

Source: Student background data almanac by reading achievement: SQR-01, PIRLS 2011²

Pupils in England were also surveyed to find out how often they read for fun outside of school. This is assumed to be reading that pupils undertake voluntarily, that is, not for homework. Responses to this item are included in the *Pupils like reading* scale (chapter 4, section 1) but are reported separately in Table 9.3, as most of this reading will take place in the home. The percentage of pupils reading for fun *Every day or almost every day* in England in 2011, was four percentage points higher than in 2006, and *Once or twice a week* was ten percentage points higher than in 2006. The percentage of pupils reading *Never or almost never* decreased between 2006 and 2011 by 15 percentage points. In 2011, higher average achievement was associated with more frequent reading for fun.

In England and a number of comparator countries in 2011, there was a greater difference between the attainment of pupils who read daily and those who read once or twice a week, when compared with the difference between those who read once or twice a week and those who read once or twice a month. Significance tests have not been carried out on these differences.

Table 9.3 Frequency of reading for fun and average achievement (for pupils in England in 2011 and 2006)

	Every day / almost every day		Once or twice a week		Once or twice a month		Never or almost never	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
Pupils in England in 2011	37	573	35	552	15	541	13	506
Pupils in England in 2006	33	575	25	537	14	540	28	506

Source: Student background data almanac by reading achievement: SQR-02A, PIRLS 2011 and SG1-03E, PIRLS 2006³

9.3 Other out of school activities

Other possessions included in the survey in England were related to entertainment, rather than reading or studying. For example, the survey asked pupils to report whether or not they possessed a mobile phone, television, DVD player or a musical instrument of their own and this data is summarised in Table 9.4. For pupils in England, there was a negative association between achievement on the PIRLS tests and ownership of the following items:

² Standard errors are not available for the data taken from the international almanacs.

³ Standard errors are not available for the data taken from the international almanacs.

Your own mobile phone, Your own television and Your own DVD player. In each case, pupils who reported possessing the item obtained, on average, a lower mean score (by more than 20 scale points) than those who did not possess the item. Conversely, the 76 per cent of pupils who owned their own musical instrument scored an average of 31 scale points more than those who did not.

Table 9.4 Items in households of pupils in England and average achievement

	Your own musical instrument		Your own mobile phone		Your own television		Your own DVD player	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
Yes	76	559	68	544	67	540	65	542
No	24	528	32	568	33	576	36	569

Source: *Student background data almanac by reading achievement: SQG-05 (G, I, J, K), PIRLS 2011⁴*

Compared to equivalent questions in 2006, a slightly lower proportion of pupils in 2011 reported having their own television (67 per cent compared with 72 per cent in 2006). A slightly higher proportion of pupils in 2011 reported having their own mobile phone (68 per cent compared with 64 per cent in 2006). The difference in the proportion of pupils owning a musical instrument in 2011, compared to 2006, was more pronounced than other items (76 per cent in 2011 compared with 66 per cent in 2006). Significance tests have not been conducted on these differences. Individual participating countries selected the possessions to be included and therefore there is no comparable data.

Pupils were asked about how much time they spent on various activities out of school on a normal school day and responses are summarised in Table 9.5. National data only is available and data from PIRLS 2006 is not directly comparable due to differences in the categories. Nevertheless, there is clear evidence that smaller proportions of pupils reported spending three or more hours watching television and/or playing video or computer games, compared to data collected in 2006⁵.

Table 9.5 Time spent on out of school activities on a normal school day

	Less than 30 min	30 min up to 1 hour	From 1 to up to 2 hours	From 2 up to 3 hours	From 3 up to 5 hours	5 hours or more
	Per cent of pupils	Per cent of pupils	Per cent of pupils	Per cent of pupils	Per cent of pupils	Per cent of pupils
Reading	43	34	12	5	2	3
Watching TV and films (incl. videos and DVDs)	14	25	23	17	9	12
Playing video or computer games	34	26	15	10	6	9

⁴ Standard errors are not available for the data taken from the international almanacs.

⁵ Further information on the data from PIRLS 2006 is available in the national report: Twist, L., Schagen, I. and Hodgson, C. (2007). *Readers and Reading the National Report for England 2006*. Slough: NFER

9.4 Teaching limited by lack of prerequisite skills, sleep or nutrition

Teachers of pupils in England involved in PIRLS 2011 assessments were surveyed to acquire information about the extent to which they felt their teaching is limited by certain aspects in their pupils' lives, such as lack of prerequisite skills, sleep or nutrition. Lack of prerequisite skills and knowledge can hinder achievement because the ability to learn new skills is based on prior knowledge. In England, 63 per cent of pupils were in classes where teachers reported that there was *Some* limit to their teaching due to lack of pupils' prerequisite skills (Table 9.6). A smaller percentage of pupils (26 per cent) were in classes where teachers reported their teaching was *Not at all* limited by pupils lack of prerequisite skills. However, a small percentage of pupils (11 per cent) were in classes where teachers reported their teaching was limited *A lot*. These percentages were similar to the international averages. Pupils in England whose teachers reported their teaching was limited by lack of prerequisite skills achieved, on average, 32 scale points lower than those whose teachers reported their teaching was not limited by the lack of such skills. This pattern was also seen in the international data.

Table 9.6 Teaching limited by pupils lacking prerequisite knowledge or skills

Reported by teachers

Country	Pupils in classrooms where teachers report teaching is limited by pupils lacking prerequisite knowledge or skills					
	Not at all		Some		A lot	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
Russian Federation	44 (3.7)	575 (4.2)	44 (3.2)	566 (4.2)	12 (2.6)	550 (5.9)
Finland	41 (3.5)	576 (2.3)	57 (3.4)	563 (2.5)	2 (0.6)	~ ~
Ireland, Rep. of	37 (3.1)	567 (3.0)	56 (3.4)	549 (2.8)	8 (1.9)	502 (5.9)
Sweden	r 33 (4.2)	549 (3.4)	60 (4.4)	541 (3.0)	7 (1.6)	517 (8.0)
Australia	r 30 (3.2)	555 (4.6)	60 (4.0)	524 (3.9)	10 (2.4)	501 (7.1)
Singapore	26 (2.4)	600 (5.4)	61 (3.0)	567 (3.7)	13 (1.8)	504 (8.4)
New Zealand	26 (2.8)	552 (5.0)	64 (3.0)	533 (3.0)	10 (1.4)	492 (7.7)
England	26 (3.8)	564 (6.5)	63 (4.1)	548 (3.7)	11 (2.7)	532 (10.9)
Northern Ireland	r 26 (3.7)	573 (5.4)	68 (3.9)	557 (3.6)	6 (2.1)	541 (9.6)
Hong Kong SAR	22 (4.0)	577 (6.1)	68 (4.1)	573 (2.7)	10 (2.4)	541 (9.6)
Canada	21 (2.0)	562 (4.3)	65 (2.3)	547 (2.0)	14 (1.6)	529 (3.5)
Chinese Taipei	19 (3.1)	562 (4.4)	74 (3.5)	553 (2.1)	7 (2.1)	525 (9.2)
United States	r 14 (1.9)	579 (5.0)	66 (2.1)	558 (2.2)	20 (1.7)	532 (3.6)
International Avg.	28 (0.5)	526 (0.9)	61 (0.5)	512 (0.5)	11 (0.3)	485 (1.6)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

A tilde (~) indicates insufficient data to report achievement.

An "r" indicates data are available for at least 70% but less than 85% of the pupils.

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Source: Exhibit 8.9 in PIRLS 2011 report

Teachers of pupils in England involved in PIRLS were also asked to report the degree to which their teaching was limited by pupils' lack of sleep or nutrition (Table 9.7). In England, 77 per cent of pupils were in classes where teachers reported their teaching was *Not at all* limited by pupils' lack of basic nutrition. The average achievement of pupils in these classes in England was 557, 28 scale points higher than those who were in classes where teachers thought lack of nutrition limited their teaching to some degree. It is not possible to quantify either the extent of this limitation on teaching or the numbers of pupils teachers believe are affected.

Table 9.7 Teaching limited by pupils suffering from lack of nutrition or sleep

Reported by teachers

Country	Pupils in classrooms where teachers report teaching is limited by pupils suffering from lack of basic nutrition				Pupils in classrooms where teachers report teaching is limited by pupils suffering from not enough sleep			
	Not at all		Some or a lot		Not at all		Some or a lot	
	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement	Per cent of pupils	Average achievement
Australia	r 73 (3.0)	544 (2.7)	27 (3.0)	497 (5.6)	r 33 (3.5)	546 (4.5)	67 (3.5)	524 (4.1)
Canada	67 (2.2)	554 (2.0)	33 (2.2)	537 (2.7)	33 (2.6)	554 (3.4)	67 (2.6)	545 (2.0)
Chinese Taipei	71 (3.7)	555 (2.3)	29 (3.7)	547 (4.3)	40 (4.0)	548 (3.0)	60 (4.0)	556 (2.6)
England	77 (2.9)	557 (3.2)	23 (2.9)	529 (5.1)	37 (4.1)	564 (5.1)	63 (4.1)	542 (3.6)
Finland	91 (2.2)	570 (1.8)	9 (2.2)	553 (5.1)	41 (3.9)	573 (2.5)	59 (3.9)	565 (2.5)
Hong Kong SAR	89 (2.5)	572 (2.3)	11 (2.5)	558 (8.9)	52 (4.7)	577 (2.7)	48 (4.7)	563 (4.3)
Ireland, Rep. of	78 (2.9)	558 (2.5)	22 (2.9)	532 (5.0)	38 (3.8)	566 (3.2)	62 (3.8)	544 (2.8)
New Zealand	63 (2.6)	546 (2.8)	37 (2.6)	511 (3.8)	31 (2.7)	552 (4.1)	69 (2.7)	525 (3.1)
Northern Ireland	r 80 (3.1)	567 (3.0)	20 (3.1)	535 (7.3)	r 40 (4.7)	573 (3.6)	60 (4.7)	552 (3.8)
Russian Federation	83 (2.6)	574 (3.1)	17 (2.6)	544 (5.3)	73 (2.7)	571 (3.3)	27 (2.7)	561 (4.2)
Singapore	86 (1.8)	573 (3.4)	14 (1.8)	532 (9.8)	60 (2.8)	578 (3.8)	40 (2.8)	551 (6.2)
Sweden	r 96 (1.5)	542 (2.5)	4 (1.5)	548 (11.6)	r 60 (3.7)	548 (2.6)	40 (3.7)	534 (3.6)
United States	r 60 (2.6)	563 (2.2)	40 (2.6)	544 (3.2)	r 24 (2.2)	566 (3.5)	76 (2.2)	553 (2.1)
International Avg.	73 (0.4)	519 (0.6)	27 (0.4)	495 (1.0)	51 (0.5)	518 (0.6)	49 (0.5)	507 (0.7)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent. An "r" indicates data are available for at least 70% but less than 85% of the pupils.

SOURCE: Adapted from IEA's Progress in International Reading Literacy Study – PIRLS 2011

Source: Exhibit 8.10 in PIRLS 2011 report

Internationally, average attainment was also notably higher for pupils in classes where teachers said their teaching was not limited by pupils' lack of nutrition, compared to pupils in classes where teachers said their teaching was limited by this factor.

Teachers of pupils in England were more likely to report pupils' lack of sleep as limiting their classroom teaching than pupils' lack of nutrition. In England, 63 per cent of pupils were in classes where teachers reported their teaching was limited *Some or a lot* by pupils suffering from lack of sleep, but the extent of the limitation and the number of pupils cannot be quantified. The average reading achievement of pupils in these classes in England was 542. In England, 37 per cent of pupils were in classes where teachers reported their teaching was *Not at all* limited by pupils suffering from lack of sleep. The average reading achievement of pupils in these classes was 564 scale points. Internationally, around half of pupils were in classes where teachers reported their teaching was limited by pupils suffering from lack of sleep.

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Appendix A Progress in International Reading Literacy Study (PIRLS) 2011: Overview

A.1 PIRLS 2011: Introduction

The PIRLS 2011 survey is the third in the IEA's¹ series of comparative international surveys of reading achievement. PIRLS is administered on a five-yearly cycle, so the 2011 survey updates the picture of performance from 2006. PIRLS was first run in 2001 and the next survey is planned for 2016.

A.2 PIRLS 2011 participants

PIRLS 2011 involved 57 participants: 45 countries testing at 'fourth grade'; 3 countries tested at 'sixth grade'²; one country tested at fourth and sixth grade, and there were 9 benchmarking participants, one of which tested at fifth grade³. Fourth grade is ages 9–10 and so Year 5 in England.

Table A.1 below gives the list of participants, and Exhibit A.1 in the international report indicates the previous cycles in which each participant was involved.

The PIRLS 2011 participants are varied, ranging from highly developed countries or regions through to developing ones. Their education systems also vary, differing for example in the age at which children start school⁴. More information about the educational system in each participating country and region can be found in the PIRLS encyclopaedia.⁵

¹ International Association for the Evaluation of Educational Achievement (IEA): <http://www.iea.nl>

² Honduras, Kuwait and Botswana tested at sixth grade only. Morocco tested at fourth and sixth grade.

³ Countries participating in PIRLS follow guidelines and strict sampling targets to provide samples that are nationally representative. 'Benchmarking participants' are regional entities which follow the same guidelines and targets to provide samples that are representative at regional level. One participant (Malta) entered the main survey as a country testing in English, and as a benchmarking participant testing in Maltese. The Republic of South Africa entered as a benchmarking participant, testing grade 5 pupils in English or Afrikaans only.

⁴ See Appendix C.1 in the international report for a summary of school starting ages in the participating countries/regions. Mullis, I.V.S., Martin, M.O., Foy, P., and Drucker, K.T. (2012). *PIRLS 2011 international results in reading*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College. Available: <http://timssandpirls.bc.edu/pirls2011/reports/international-results-pirls.html>

⁵ Mullis, I.V.S., Martin, M.O. and Minnich, C. (2012). *PIRLS 2011 Encyclopaedia: Education Policy and Curriculum in Reading (Volumes 1 and 2)*. Boston: TIMSS and PIRLS International Study Center, Lynch School of Education, Boston College. Available: <http://timssandpirls.bc.edu/pirls2011/encyclopedia-pirls.html>

Table A.1 PIRLS 2011 participants**Participants at 4th grade**

Australia	Lithuania
Austria	Malta
Azerbaijan	Morocco
Belgium (French)	Netherlands
Bulgaria	New Zealand
Canada	Northern Ireland
Chinese Taipei	Norway
Colombia	Oman
Croatia	Poland
Czech Republic	Portugal
Denmark	Qatar
England	Romania
Finland	Russian Federation
France	Saudi Arabia
Georgia	Singapore
Germany	Slovak Republic
Hong Kong SAR	Slovenia
Hungary	Spain
Indonesia	Sweden
Iran, Islamic Rep. of	Trinidad and Tobago
Ireland, Rep. of	United Arab Emirates
Israel	United States
Italy	

Participants at 6th grade

Botswana	Kuwait
Honduras	Morocco

Benchmarking participants

Abu Dhabi, UAE	Malta (Maltese)
Alberta, Canada	Ontario, Canada
Andalusia, Spain	Quebec, Canada
Dubai, UAE	South Africa (Eng/Afr)
Florida, US	

A.3 PIRLS 2011 in the UK

The countries which comprise the United Kingdom are regarded separately by the IEA, and, of the four, England and Northern Ireland chose to participate in the 2011 survey. England has participated in all PIRLS cycles, so comparisons can be made with all earlier cycles where appropriate. The 2011 cycle represented Northern Ireland's first PIRLS participation. Scotland has also participated in previous cycles.

In all three participating UK nations, the PIRLS surveys were administered by NFER. Outcomes from previous cycles of PIRLS internationally and in the UK are available through the NFER website: www.nfer.ac.uk/pirls

A.4 PIRLS 2011 sampling strategy

PIRLS samples are drawn based on internationally specified criteria, and are designed to be representative of the national population of pupils in the target age group (or regional population, for benchmarking participants). Each participant is therefore expected to provide a sampling pool that covers all or almost all of the target national population. Where exclusions are considered necessary, these must be within set limits. Exclusions may be for a variety of reasons, including:

- geographical (e.g. remote and/or very small schools may be excluded at sampling stage);
- linguistic (e.g. participants may exclude some language groups at sampling stage, if they opt to translate the assessment into majority languages only, not all languages spoken within the country/region); or
- special educational needs (e.g. special schools teaching pupils who cannot access the assessment may be excluded at sampling stage, or individual pupils who cannot access the assessment may be excluded at the administration stage).

PIRLS guidance stipulates that no more than five per cent of the population in total should be excluded across all stages of the survey. See the technical report and Appendix C of the international report for more information.⁶

In PIRLS, each participating country has a 'main sample' and two matched 'replacement samples' which are used if the main sample schools decline to participate. The main sample is designed to be nationally representative of pupils in the target age group and so the sampling criteria for each country are designed to address key characteristics of the nation's school system. Schools are sampled using systematic, random sampling with probability proportional to their measures of size. Each main sample school is then assigned a 'first replacement' school and a 'second replacement' school, both of which share the same key sampling characteristics as the main sample school. This ensures that, if the main sample school declines to participate, its first replacement school can be used instead and the sample will still be nationally representative. If the first replacement school also declines to participate, the second replacement school will be invited to participate and, again, the sample will remain nationally representative. If the second replacement school declines to participate, then the country cannot include any other school, to avoid skewing the sample.

Classes of pupils of the target age are then randomly sampled within the participating schools and 95 per cent of these classes are expected to take part. Within each sampled class, at least 85 per cent of pupils are expected to take part. Samples are inspected and, if they meet the sampling criteria, accepted by the IEA's sampling referee.

In order to meet the stringent PIRLS participation targets, countries are expected to achieve participation of:

- at least 85 per cent of their main sample schools; OR
- at least 85 per cent of sampled schools of which at least 50 per cent must be from the main sample and the remainder matched replacement schools; OR
- a combined pupil/school rate of at least 75 per cent.

⁶ Mullis, I.V.S., Martin, M.O., Foy, P., and Drucker, K.T. (2012). *PIRLS 2011 international results in reading*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College. Available: <http://timssandpirls.bc.edu/pirls2011/reports/international-results-pirls.html>

Participants achieving at least 85 per cent of the main sample schools or a combined pupil/school figure of at least 75 per cent are deemed to have met the sampling requirements fully. Those achieving at least 85 per cent with the use of replacement schools are deemed to have achieved a sample that is suitably representative at national level, but are 'annotated' in the report, to indicate that replacement schools were used.

A.5 England's PIRLS 2011 samples

England's sampling strategy

Samples for England were drawn by Statistics Canada, assisted by the NFER Research and Statistics teams. The sample was stratified by attainment band and school type. Schools were recruited by the NFER Research Operations team. Once a school had agreed to participate, one or more classes from the target year group were randomly sampled, using the IEA's within-school sampling software. This selected classes with equal probability.

England's sample

The PIRLS sample in England met the sampling standards described above with the inclusion of replacement schools. Out of 150 schools in the original sample, a total of 129 primary schools took part (109 main sample schools and 20 replacement schools). Class participation was 100 per cent and pupil participation 94 per cent (see Table A.2). England's sample was annotated in the report to indicate that, with the inclusion of replacement schools, over 85% of sampled schools participated, and that over 50% of these were from the main sample. Total exclusions for England were just 2.4 per cent.

Internationally, participation rates (weighted, after replacement) ranged from 71 per cent in Norway to 100 per cent in Azerbaijan. The highest exclusion rate was 24.6% in Israel (this included 18.5% at school level), followed by Hong Kong (11.8%) and Canada (9.9%). The lowest exclusion rate was in Trinidad and Tobago (0.9%).

The average age of participating pupils in England was 10.3. The range internationally for those in the target grade was from 9.7 (in Italy and Norway) to 10.9 (in Denmark and Romania).

Table A.2 Sample information for England

The information in this table is taken from the international report⁷. The source of each element within the reports is indicated.

Country	Number of schools in original sample	Number of eligible schools in original sample	Number of schools in original sample that participated	Number of replacement schools that participated	Total number of schools that participated
England	150	148	109	20	129

Source: Exhibit C.3, international report

Country	Within-school pupil participation (weighted percentage)	Number of sampled pupils in participating schools	Number of pupils withdrawn from class/school	Number of pupils excluded	Number of eligible pupils	Number of pupils absent	Number of pupils assessed
England	94%	4,243	52	27	4,164	237	3,927

Source: Exhibit C.4, international report

Country	School participation		Class participation	Pupil participation	Overall participation	
	Before replacement	After replacement			Before replacement	After replacement
† England	73%	87%	100%	94%	69%	82%

PIRLS guidelines for sampling participation: The minimum acceptable participation rates were 85 per cent of both schools and pupils, or a combined rate (the product of school and pupil participation) of 75 per cent. Participants not meeting these guidelines were annotated as follows:

† Met guidelines for sample participation rates only after replacement schools were included.

For further information, see Appendix C.5 in the international report.

Source: Exhibit C.5, international report

Country	International target population		Exclusions from national target population		
	Coverage	Notes on coverage	School-level exclusions	Within-sample exclusions	Overall exclusions
England	100%		1.7%	0.8%	2.4%

Source: Exhibit C.2, international report

⁷ Mullis, I.V.S., Martin, M.O., Foy, P., and Drucker, K.T. (2012). *PIRLS 2011 international results in reading*. Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College. Available: <http://timssandpirls.bc.edu/pirls2011/reports/international-results-pirls.html>

Appendix B Trend performance of England and selected countries

The table below shows the trends in performance over the course of the three PIRLS surveys for countries which have performed higher than or not significantly different from England in any of the surveys. Countries are ordered according to performance in 2011.⁸

Country	PIRLS 2001		PIRLS 2006		PIRLS 2011		Change 2001–2006		Change 2006–2011	
	Average achievement	Rank ⁹	Average achievement	Rank	Average achievement	Rank	Average achievement	Rank	Average achievement	Rank
Hong Kong, SAR	528	13	564	2	571	1	+36	+11	+7	+1
Russian Fed.	528	13	565	1	568	2	+37	+12	+4	-1
Singapore	528	13	558	3	567	4	+30	+10	+9	-1
United States	542	9	540	14	556	6	-2	-5	+16	+8
Denmark	–	–	546	12	554	7	n/a	n/a	+8	+5
Chinese Taipei	–	–	535	18	553	9	n/a	n/a	+18	+9
England	553	3	539	15	552	10	-13	-12	+12	+5
Netherlands	554	2	547	9	546	13	-7	-7	-1	-4
Czech Republic	537	11	–	–	545	14	n/a	n/a	n/a	n/a
Sweden	561	1	549	7	542	15	-12	-6	-8	-8
Italy	541	9	551	5	541	16	+11	+4	-10	-11
Germany	539	10	548	8	541	16	+9	+2	-7	-8
Hungary	543	6	551	5	539	20	+8	+1	-12	-15
Bulgaria	550	4	547	9	532	22	-3	-5	-15	-13
Austria	–	–	538	16	529	25	n/a	n/a	-9	-9
Lithuania	543	6	537	17	528	26	-6	-11	-9	-9

– indicates country did not participate

⁸ Canada was only included in 2011 as a participating country; prior to that population coverage was incomplete. Rankings in 2001 and 2006 have therefore excluded Canada and/or participating Canadian provinces.

⁹ Rank is affected by the number and combination of countries participating: in PIRLS 2001, 34 countries participated; in 2006, 40 countries; in 2011, 45 countries.

Appendix C PIRLS and the National Curriculum

Pupils participating in PIRLS 2011 in England will have been taught reading literacy in accordance with the programmes of study of the National Curriculum. It can also be expected that, at least in the early stages of learning to read, they have experienced teaching in line with the framework for teaching of the Primary National Strategy. For a detailed comparison of the PIRLS reading framework and the National Curriculum, see the national report for England for PIRLS 2001¹⁰. In this, it was concluded that the range of texts in the PIRLS assessments was narrower than that outlined in the National Curriculum: primarily due to the requirements of translation, PIRLS does not include poetry and none of the three PIRLS assessments have included a playscript for example.

The PIRLS reading processes have been described in chapter 5. Table C.1 shows the PIRLS reading processes mapped against the assessment focuses for reading, the means of describing the reading skills being assessed in specific questions in National Curriculum tests in England.

Table C.1 PIRLS processes and National Curriculum assessment focuses

PIRLS processes of comprehension	National Curriculum assessment focuses
Focus on and retrieve explicitly stated information and ideas	Assessment focus 2: understand, describe, select or retrieve information, events or ideas from texts and use quotation and reference to text
Make straightforward inferences	Assessment focus 3: deduce, infer or interpret information, events or ideas from texts
Interpret and integrate ideas and information	Assessment focus 3: deduce, infer or interpret information, events or ideas from texts
Examine and evaluate content, language	Assessment focus 4: identify and comment on the textual elements structure and organisation of texts, including grammatical and presentational features at text level Assessment focus 5: explain and comment on writers' use of language, including grammatical and literary features at word and sentence level Assessment focus 6: identify and comment on writers' purposes and viewpoints and the effect of the text on the reader Assessment focus 7: relate texts to their social, cultural and historical contexts and literary traditions

¹⁰ Twist, L., Sainsbury, M., Woodthorpe, A. and Whetton, C. (2003). *Reading All Over the World: Progress in International Reading Literacy Study (PIRLS). National Report for England*. Slough: NFER.

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