

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.