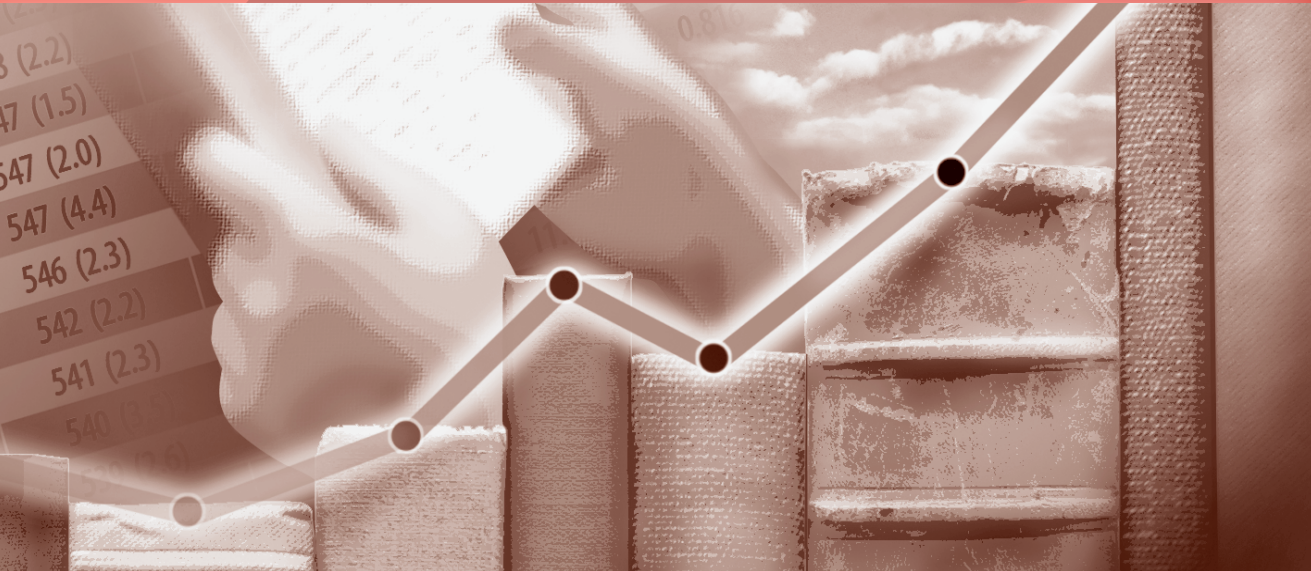


Chapter 5



School Resources for Teaching Reading

The most successful schools tend to have students that are relatively economically affluent, speak the language of instruction, and begin school with early literacy skills. Successful schools also are likely to have better working conditions and facilities as well as more instructional materials, such as books, computers, technological support, and supplies.

The learning environment of the school can be a positive influence, encouraging a positive attitude toward academic excellence and facilitating classroom instruction. Considerable research has shown that higher levels of school resources are associated with higher achievement. However, the relationship between resources and achievement is complicated. First, a school can have a more socioeconomically advantaged student population, for example, because of its location or because it competes for students. Second, the school system can invest more money into schools for such things as facilities, teachers' salaries, equipment, and materials. It follows that the most successful schools are likely to have more socioeconomically advantaged students and better resources.

Schools with Students from Advantaged Home Backgrounds

The home backgrounds of students attending a school can be closely related to the learning environment, with the two reinforcing each other and being strongly linked to academic achievement. Students from home backgrounds supportive of learning are likely to have more positive attitudes toward learning and, perhaps, even better discipline. Beyond that, parents that have high educational expectations for their children are more likely to take an active interest in the quality of teachers and school facilities.

School Location

Depending on each country's characteristics, a school's location can have a substantial impact on whether the students attending that school typically are from economically and educationally advantaged home backgrounds. Also, depending on the country, the location of the school can provide access to important additional resources (e.g., libraries, media centers, or museums) or mean that the school is relatively isolated.

To provide some information about the urbanicity of each school's location, PIRLS 2011 asked principals to describe the population size of the city, town, or area in which their schools were located. Exhibit 5.1 shows the percentages of students together with their average achievement in PIRLS 2011 for schools located in cities, towns, or areas of three different population sizes: cities of more than 100,000; cities or towns of 15,001 to 100,000; and small towns, villages, or rural areas of 15,000 or fewer people. Countries are presented in alphabetical order with the fourth grade on the first page of the exhibit, followed by the sixth grade, the benchmarking participants, and the prePIRLS participants on the second page.

On average, across the fourth grade countries, 31 percent of the students attended schools in cities of more than 100,000, 27 percent attended schools in cities or towns of 15,001 to 100,000, and 43 percent in small towns or rural areas of 15,000 or fewer people. In general, the fourth grade students attending schools in cities of more than 100,000 people had the highest average reading achievement, followed by students in medium sized cities of 15,001 to 100,000, and then in small towns or rural areas. While nearly half of the fourth grade countries had this pattern, there were also countries where students attending schools in medium sized cities had higher average achievement than students in schools in cities larger than 100,000, or there was not much difference in average achievement between the two. There were also a number of countries where average reading achievement was highest among students attending schools in small towns or rural areas. The countries that assessed PIRLS 2011 at the sixth grade or participated in prePIRLS had relatively large percentages of students (43–82%) attending schools in small towns and rural areas, and these students had lower average reading achievement than students attending schools in cities larger than 100,000 people.

School Composition by Student Background

Ever since the Coleman report (Coleman et al., 1966), researchers have recognized that the compositional characteristics of a school's student body can affect student achievement. Essentially, students from disadvantaged backgrounds typically have higher achievement if they attend schools where the majority of students are from advantaged backgrounds. To provide information on this topic, PIRLS routinely asks school principals to report on two demographic characteristics of their schools:

- ◆ Economic home background; and
- ◆ Language home background.

Previous assessments have found both to be strongly related to average reading achievement. For example, in PIRLS 2006 the reading achievement of students attending schools with a higher proportion of economically advantaged students was higher than for those attending schools with large proportions of disadvantaged students. Also, reading achievement was highest for students in schools where most students spoke the language of the PIRLS assessment as their first language, and was progressively lower as percentages of students not having the PIRLS language as their first language increased.

Reported by Principals

Country	Population Size of City, Town, or Area Where School Is Located					
	More than 100,000		15,001 to 100,000		15,000 or Fewer	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	42 (3.3)	542 (3.7)	30 (3.9)	517 (5.4)	28 (4.1)	519 (5.0)
Austria	24 (1.5)	523 (4.7)	9 (1.9)	526 (6.0)	66 (2.3)	531 (2.0)
Azerbaijan	16 (2.9)	477 (5.5)	21 (2.9)	472 (5.9)	63 (3.5)	455 (4.8)
Belgium (French)	16 (3.3)	507 (7.2)	39 (4.4)	500 (5.8)	45 (4.4)	514 (4.1)
Bulgaria	27 (2.6)	551 (6.6)	31 (3.6)	539 (7.3)	42 (3.0)	514 (7.3)
Canada	48 (2.5)	552 (2.6)	28 (2.2)	548 (3.2)	23 (1.9)	542 (2.2)
Chinese Taipei	56 (3.5)	563 (2.4)	39 (3.3)	542 (2.9)	6 (2.0)	523 (11.1)
Colombia	41 (3.6)	478 (6.8)	16 (3.2)	452 (6.9)	43 (4.0)	417 (5.7)
Croatia	16 (2.2)	574 (5.1)	23 (3.3)	555 (2.8)	61 (3.7)	547 (2.3)
Czech Republic	15 (2.5)	551 (7.1)	33 (3.1)	548 (3.5)	52 (3.2)	542 (2.9)
Denmark	13 (2.2)	554 (5.3)	33 (3.1)	560 (3.2)	54 (3.0)	551 (2.2)
England	39 (4.8)	547 (6.1)	35 (5.5)	551 (5.0)	26 (4.3)	561 (6.2)
Finland	31 (3.9)	569 (3.5)	39 (4.2)	570 (2.7)	30 (3.2)	564 (3.7)
France	11 (2.8)	538 (7.9)	28 (3.9)	508 (6.6)	62 (4.3)	522 (2.8)
Georgia	37 (2.9)	508 (4.9)	17 (2.3)	491 (5.8)	46 (2.4)	470 (4.4)
Germany	25 (3.2)	531 (4.9)	33 (3.7)	541 (4.1)	42 (3.5)	549 (2.5)
Hong Kong SAR	r 85 (3.4)	571 (3.2)	15 (3.4)	574 (6.1)	0 (0.0)	~ ~
Hungary	25 (2.6)	565 (5.9)	29 (3.2)	554 (4.8)	46 (2.2)	517 (5.1)
Indonesia	72 (4.1)	435 (5.2)	12 (2.8)	423 (12.5)	16 (3.6)	409 (10.7)
Iran, Islamic Rep. of	45 (3.5)	483 (4.5)	18 (2.9)	460 (7.0)	36 (3.4)	425 (4.8)
Ireland	17 (2.8)	535 (7.7)	27 (3.1)	550 (4.7)	57 (3.0)	557 (2.9)
Israel	22 (2.8)	561 (4.7)	44 (3.7)	543 (5.7)	34 (3.6)	526 (8.0)
Italy	16 (2.3)	545 (5.7)	34 (3.2)	538 (3.7)	50 (3.3)	542 (3.3)
Lithuania	35 (1.7)	549 (2.8)	19 (2.8)	530 (3.3)	46 (2.9)	512 (3.6)
Malta	0 (0.0)	~ ~	13 (0.1)	452 (4.7)	87 (0.1)	481 (1.5)
Morocco	r 30 (3.1)	353 (7.6)	27 (3.4)	304 (6.1)	43 (3.8)	288 (6.0)
Netherlands	r 17 (4.2)	539 (9.0)	48 (5.2)	550 (2.6)	35 (4.2)	546 (2.7)
New Zealand	44 (3.4)	535 (4.5)	24 (2.6)	539 (4.3)	32 (2.9)	526 (4.5)
Northern Ireland	r 23 (3.6)	562 (6.8)	29 (4.9)	554 (7.3)	48 (4.4)	564 (3.7)
Norway	20 (2.9)	512 (6.5)	45 (3.8)	510 (2.4)	34 (3.6)	500 (3.3)
Oman	r 4 (1.4)	386 (9.2)	17 (2.5)	402 (6.5)	79 (2.5)	381 (3.7)
Poland	24 (0.9)	543 (4.7)	24 (2.1)	528 (3.5)	52 (2.3)	518 (3.1)
Portugal	14 (2.5)	561 (6.4)	28 (4.3)	536 (4.9)	58 (4.5)	538 (4.0)
Qatar	34 (3.0)	461 (7.8)	24 (2.7)	411 (11.1)	42 (3.1)	402 (5.9)
Romania	21 (2.7)	556 (6.1)	15 (2.4)	534 (6.9)	65 (2.5)	477 (5.6)
Russian Federation	48 (1.6)	581 (3.7)	22 (2.3)	570 (4.8)	30 (2.0)	547 (4.4)
Saudi Arabia	57 (3.7)	431 (7.2)	15 (2.9)	431 (10.3)	28 (3.9)	430 (7.9)
Singapore	100 (0.0)	567 (3.3)	0 (0.0)	~ ~	0 (0.0)	~ ~
Slovak Republic	11 (2.1)	570 (4.7)	35 (3.3)	545 (3.1)	54 (2.9)	521 (3.8)
Slovenia	14 (2.8)	544 (7.3)	21 (3.4)	531 (3.4)	65 (3.6)	527 (2.2)
Spain	37 (3.3)	519 (4.9)	33 (3.6)	517 (3.8)	30 (3.3)	503 (4.0)
Sweden	16 (3.5)	549 (6.4)	38 (4.5)	541 (3.7)	46 (5.0)	539 (3.2)
Trinidad and Tobago	4 (1.7)	502 (25.3)	35 (3.9)	492 (7.7)	61 (4.0)	458 (5.0)
United Arab Emirates	50 (1.8)	455 (3.7)	22 (1.7)	427 (5.4)	28 (1.8)	408 (5.0)
United States	33 (2.2)	552 (3.5)	36 (2.4)	563 (2.3)	31 (2.3)	558 (3.9)
International Avg.	31 (0.4)	525 (1.0)	27 (0.5)	512 (0.9)	43 (0.5)	500 (0.7)

() 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 students.

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

Exhibit 5.1: School Location (Continued)

Country	Population Size of City, Town, or Area Where School Is Located					
	More than 100,000		15,001 to 100,000		15,000 or Fewer	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Sixth Grade Participants						
Botswana	3 (1.6)	490 (34.3)	20 (3.2)	460 (13.5)	77 (3.3)	404 (3.7)
Honduras	21 (4.0)	488 (11.9)	15 (2.6)	478 (6.6)	64 (3.8)	430 (5.9)
Kuwait	r 8 (2.2)	436 (20.7)	42 (4.6)	409 (10.4)	50 (4.7)	420 (9.8)
Morocco	r 28 (3.2)	464 (5.1)	25 (3.6)	434 (5.7)	48 (3.6)	402 (8.2)
Benchmarking Participants[◇]						
Alberta, Canada	45 (4.1)	553 (4.6)	25 (3.7)	552 (5.0)	30 (3.4)	541 (4.1)
Ontario, Canada	60 (4.2)	551 (3.5)	23 (3.1)	548 (6.2)	17 (3.7)	555 (6.4)
Quebec, Canada	37 (4.0)	538 (3.5)	35 (4.4)	542 (3.7)	28 (4.5)	530 (3.6)
Maltese – Malta	0 (0.0)	~ ~	13 (0.1)	448 (4.8)	87 (0.1)	458 (1.6)
Eng/Afr (5) – RSA	r 27 (4.8)	479 (15.3)	30 (3.7)	439 (12.5)	44 (5.6)	364 (14.6)
Andalusia, Spain	32 (3.9)	519 (5.1)	33 (4.1)	522 (4.6)	35 (4.0)	502 (3.4)
Abu Dhabi, UAE	46 (3.9)	441 (8.1)	21 (3.5)	400 (12.2)	33 (3.6)	402 (6.3)
Dubai, UAE	65 (0.3)	483 (2.5)	19 (0.2)	483 (5.5)	16 (0.2)	440 (4.3)
Florida, US	r 52 (6.5)	566 (4.9)	35 (5.8)	573 (5.1)	13 (4.2)	572 (17.1)

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

[◇] Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

Country	Population Size of City, Town, or Area Where School Is Located					
	More than 100,000		15,001 to 100,000		15,000 or Fewer	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Botswana	1 (1.0)	~ ~	17 (3.0)	493 (15.5)	82 (3.0)	456 (3.0)
Colombia	41 (3.6)	602 (5.2)	16 (3.2)	581 (6.4)	43 (4.0)	550 (4.8)
South Africa	20 (3.0)	493 (11.9)	29 (3.2)	458 (10.3)	51 (4.1)	438 (5.9)

Exhibit 5.2 presents principals' economic categorizations of their schools according to three categories that are fully described on the second page of the exhibit. To summarize, the **More Affluent** schools had more than one-fourth of their students from affluent home backgrounds and not more than one-fourth from disadvantaged home backgrounds, and the **More Disadvantaged** schools had the reverse situation. The other schools were "in between." Internationally, the students were distributed relatively equally across the three types of schools. On average, across countries at the fourth grade, 35 percent of the students attended schools with relatively more affluent students than disadvantaged students, and students in these schools had the highest average achievement (530). At the other end of the range, 30 percent of the students attended schools with relatively more disadvantaged students than affluent students, and students in these schools had the lowest average achievement (490). This pattern of achievement difference held across the sixth grade, benchmarking, and prePIRLS participants.

Exhibit 5.3 presents principals' categorizations of their schools according to the percentage of students who did not speak of the language of the PIRLS 2011 assessment as their first language. Two-thirds of the students were in schools where most students (more than 90%) spoke the language of the PIRLS assessment as their first language, and another 17 percent were in schools where the majority of students (51–90%) spoke the language of the assessment as their first language. Both groups of students had higher average reading achievement than the 14 percent of students attending schools where only half of the students (or less) spoke the language of the assessment as their first language (515 and 511 vs. 490, respectively). Among countries participating at the sixth grade and in prePIRLS, Botswana was notable for having almost all students (89–92%) in schools with half or fewer native speakers.

Schools Where Students Are Ready to Learn

An important element of school readiness is having students with the prerequisite skills for the curriculum for their grade—that is, students academically ready to learn. Furthermore, students who begin school with higher reading achievement tend to maintain that advantage. For example, the Early Childhood Longitudinal Study conducted in the United States found that the majority of students in the highest one-third in reading achievement in kindergarten also were in highest one-third in fifth grade, and that the majority of students in the lowest one-third as kindergartners also were in the lowest

one-third in fifth grade (Princiotta, Flanagan, & Hausken, 2006). Also, as would be anticipated, PIRLS consistently finds a strong positive relationship between attending a school where most students entered school with the prerequisite skills for learning to read and reading achievement at the fourth grade.

PIRLS collects information about this important issue by asking school principals to estimate the percentages of students entering their schools able to perform each of five early literacy skills: recognize most of the letters of the alphabet, read some words, read sentences, write letters of the alphabet, and write some words. Of course, in countries where students start school at a young age (e.g., age 4 or 5 in England, Ireland, the Netherlands, New Zealand, and Northern Ireland), students have had fewer years to develop literacy skills prior to starting school.

Exhibit 5.4 presents the PIRLS results for the percentages of students entering school with early literacy skills and their average reading achievement. The first page of the exhibit shows that only 20 percent of the fourth grade students, on average, were in schools where most children entered school with early literacy skills, although these students had the highest average achievement on PIRLS 2011. There was variation across countries, but in general, the lower the percentage of students entering school with literacy skills, the lower the average achievement on PIRLS 2011; the 40 percent in schools where few students began school with literacy skills had the lowest average reading achievement. Again, this pattern also was evident across the sixth grade, the benchmarking participants, and prePIRLS.

Exhibit 5.2: School Composition by Student Economic Background
Reported by Principals

Country	More Affluent – Schools Where More than 25% of Students Come from Economically Affluent Homes and Not More than 25% from Economically Disadvantaged Homes		Neither More Affluent nor More Disadvantaged		More Disadvantaged – Schools Where More than 25% of Students Come from Economically Disadvantaged Homes and Not More than 25% from Economically Affluent Homes	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	32 (3.9)	556 (3.9)	41 (4.0)	526 (3.6)	27 (3.4)	500 (5.7)
Austria	31 (4.0)	539 (2.9)	48 (3.8)	532 (2.4)	21 (3.9)	505 (4.4)
Azerbaijan	r 11 (2.5)	464 (10.5)	32 (4.7)	470 (8.1)	57 (4.9)	462 (6.1)
Belgium (French)	r 49 (5.5)	522 (3.1)	27 (4.5)	501 (6.4)	25 (4.5)	483 (4.6)
Bulgaria	15 (3.3)	561 (6.2)	43 (4.3)	549 (4.5)	42 (4.4)	506 (7.8)
Canada	39 (2.4)	557 (3.0)	34 (2.9)	549 (2.7)	28 (2.6)	533 (2.6)
Chinese Taipei	22 (3.3)	563 (4.5)	67 (3.5)	554 (2.4)	11 (2.0)	525 (6.8)
Colombia	r 7 (2.0)	521 (17.1)	15 (3.4)	471 (11.7)	78 (3.9)	432 (4.7)
Croatia	38 (4.0)	560 (3.1)	38 (4.2)	550 (2.3)	24 (3.2)	551 (4.9)
Czech Republic	37 (3.7)	551 (3.2)	46 (4.4)	548 (2.2)	17 (3.1)	524 (6.7)
Denmark	60 (3.6)	561 (2.1)	33 (3.3)	546 (3.0)	7 (1.8)	524 (7.7)
England	r 32 (4.8)	568 (4.9)	33 (4.9)	554 (4.0)	35 (4.0)	527 (4.7)
Finland	43 (4.2)	576 (2.4)	47 (4.3)	567 (2.7)	10 (2.6)	541 (4.0)
France	37 (4.3)	539 (3.5)	35 (3.9)	522 (4.6)	28 (3.7)	493 (4.7)
Georgia	16 (3.0)	496 (8.8)	41 (4.3)	494 (5.9)	43 (4.0)	480 (4.5)
Germany	21 (2.8)	555 (3.3)	53 (3.7)	549 (3.0)	26 (3.3)	512 (5.5)
Hong Kong SAR	20 (3.3)	580 (3.9)	30 (4.7)	569 (5.3)	50 (4.7)	568 (4.4)
Hungary	21 (3.6)	573 (6.3)	31 (4.3)	557 (4.2)	48 (4.0)	516 (5.2)
Indonesia	r 20 (4.1)	475 (5.6)	21 (3.9)	431 (7.7)	59 (4.6)	421 (6.0)
Iran, Islamic Rep. of	27 (3.6)	488 (7.6)	27 (4.1)	460 (6.7)	46 (4.2)	438 (4.8)
Ireland	r 39 (4.7)	568 (3.3)	30 (4.2)	554 (4.7)	31 (3.4)	523 (4.0)
Israel	r 35 (3.6)	566 (6.1)	28 (3.4)	559 (4.9)	37 (3.4)	500 (6.5)
Italy	37 (3.8)	541 (4.5)	43 (3.7)	545 (3.6)	20 (2.9)	531 (5.0)
Lithuania	19 (3.3)	552 (5.8)	43 (4.6)	529 (3.3)	38 (3.5)	518 (3.1)
Malta	47 (0.1)	482 (2.2)	43 (0.1)	478 (2.4)	10 (0.1)	421 (5.3)
Morocco	s 12 (2.1)	372 (16.7)	13 (2.8)	317 (11.6)	75 (3.3)	304 (6.1)
Netherlands	r 63 (4.9)	553 (2.3)	23 (3.9)	544 (2.6)	15 (3.8)	522 (8.2)
New Zealand	39 (3.4)	560 (3.2)	34 (3.6)	533 (3.7)	27 (2.5)	489 (4.2)
Northern Ireland	r 36 (4.7)	578 (4.9)	38 (4.3)	555 (3.3)	26 (3.8)	534 (5.8)
Norway	53 (5.3)	511 (3.3)	44 (5.3)	505 (2.9)	3 (1.2)	488 (16.9)
Oman	r 44 (3.4)	396 (4.3)	25 (2.9)	378 (6.7)	31 (2.9)	370 (5.1)
Poland	8 (2.1)	536 (10.2)	61 (3.8)	532 (2.9)	31 (3.7)	512 (3.5)
Portugal	30 (4.5)	552 (4.0)	39 (4.9)	547 (4.1)	31 (4.8)	522 (4.6)
Qatar	r 68 (3.0)	423 (5.0)	21 (2.3)	441 (10.6)	11 (1.9)	378 (7.5)
Romania	19 (3.1)	538 (9.2)	24 (4.0)	507 (8.8)	57 (4.8)	491 (6.5)
Russian Federation	58 (3.2)	576 (4.0)	29 (3.3)	562 (4.8)	13 (2.1)	549 (8.5)
Saudi Arabia	r 42 (4.7)	445 (8.5)	30 (4.3)	439 (6.0)	29 (4.0)	408 (10.0)
Singapore	40 (0.0)	590 (5.2)	50 (0.0)	556 (4.5)	10 (0.0)	541 (14.3)
Slovak Republic	24 (3.3)	551 (3.9)	56 (3.4)	542 (2.5)	20 (3.2)	499 (8.0)
Slovenia	42 (4.0)	533 (3.7)	40 (4.0)	531 (2.7)	18 (3.0)	521 (6.7)
Spain	51 (3.7)	527 (4.0)	31 (3.3)	511 (4.7)	18 (3.1)	482 (5.1)
Sweden	r 76 (4.2)	547 (2.8)	17 (4.1)	532 (7.2)	7 (1.5)	509 (8.5)
Trinidad and Tobago	20 (3.2)	508 (7.5)	26 (4.0)	464 (9.2)	54 (4.2)	460 (5.7)
United Arab Emirates	r 68 (2.2)	440 (3.6)	20 (1.6)	444 (6.2)	12 (1.7)	412 (5.5)
United States	r 18 (2.2)	591 (2.9)	31 (2.6)	570 (3.5)	51 (2.3)	537 (2.4)
International Avg.	35 (0.5)	530 (0.9)	35 (0.6)	515 (0.8)	30 (0.5)	490 (1.0)

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

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

Country	More Affluent – Schools Where More than 25% of Students Come from Economically Affluent Homes and Not More than 25% from Economically Disadvantaged Homes		Neither More Affluent nor More Disadvantaged		More Disadvantaged – Schools Where More than 25% of Students Come from Economically Disadvantaged Homes and Not More than 25% from Economically Affluent Homes	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Sixth Grade Participants						
Botswana	32 (3.6)	454 (7.9)	25 (4.0)	403 (8.3)	43 (4.3)	390 (4.3)
Honduras	r 16 (4.0)	518 (14.5)	13 (3.8)	440 (14.3)	71 (4.9)	444 (5.7)
Kuwait	r 30 (4.5)	429 (13.9)	35 (4.9)	431 (14.1)	35 (5.3)	402 (11.2)
Morocco	s 12 (2.3)	465 (16.5)	12 (2.6)	456 (11.1)	76 (3.1)	415 (5.8)
Benchmarking Participants^o						
Alberta, Canada	35 (3.7)	564 (4.8)	40 (4.3)	550 (4.3)	25 (3.8)	527 (5.5)
Ontario, Canada	r 32 (4.7)	557 (5.4)	34 (5.3)	555 (4.3)	34 (5.4)	537 (4.4)
Quebec, Canada	60 (4.1)	544 (2.6)	25 (4.0)	526 (5.2)	15 (2.7)	528 (4.9)
Maltese – Malta	47 (0.1)	459 (2.1)	43 (0.2)	467 (2.6)	10 (0.1)	419 (4.5)
Eng/Afr (5) – RSA	r 22 (4.1)	507 (15.1)	23 (6.1)	419 (20.4)	55 (6.7)	382 (13.5)
Andalusia, Spain	47 (4.3)	525 (3.9)	34 (3.5)	519 (3.2)	19 (3.7)	490 (5.9)
Abu Dhabi, UAE	s 75 (4.5)	423 (7.4)	12 (3.2)	422 (18.7)	13 (3.5)	402 (10.7)
Dubai, UAE	r 67 (0.4)	473 (2.8)	22 (0.3)	498 (4.3)	11 (0.2)	416 (5.0)
Florida, US	r 11 (4.6)	598 (5.1)	20 (4.7)	590 (9.1)	68 (4.7)	559 (4.5)

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

^o Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

Country	More Affluent – Schools Where More than 25% of Students Come from Economically Affluent Homes and Not More than 25% from Economically Disadvantaged Homes		Neither More Affluent nor More Disadvantaged		More Disadvantaged – Schools Where More than 25% of Students Come from Economically Disadvantaged Homes and Not More than 25% from Economically Affluent Homes	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Botswana	32 (4.2)	500 (9.0)	23 (3.8)	462 (7.0)	46 (4.5)	440 (4.0)
Colombia	r 7 (2.0)	631 (12.5)	15 (3.4)	598 (8.4)	78 (3.9)	564 (4.3)
South Africa	r 7 (1.8)	575 (18.6)	15 (2.8)	456 (17.1)	78 (3.2)	445 (4.8)

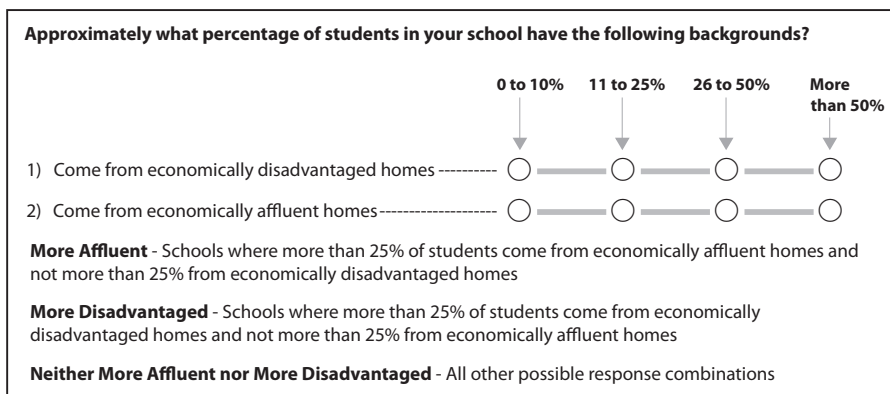


Exhibit 5.3: Schools with Students Having the Language of the Test as Their Native Language

Reported by Principals

Country	More than 90% of Students		51–90% of Students		50% of Students or Less	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	63 (3.8)	533 (2.9)	21 (2.8)	521 (5.7)	16 (3.1)	516 (9.0)
Austria	33 (4.1)	539 (2.6)	52 (4.7)	530 (2.6)	16 (1.9)	503 (5.6)
Azerbaijan	90 (2.6)	464 (2.9)	5 (1.9)	446 (8.8)	4 (1.8)	454 (41.9)
Belgium (French)	60 (3.8)	512 (3.3)	27 (4.4)	510 (4.7)	13 (3.2)	477 (8.8)
Bulgaria	51 (4.1)	558 (3.6)	23 (3.6)	520 (4.7)	26 (3.4)	492 (11.3)
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)
Colombia	98 (1.3)	449 (4.3)	2 (1.0)	~ ~	1 (0.8)	~ ~
Croatia	95 (1.7)	555 (1.8)	3 (1.2)	527 (4.4)	1 (1.1)	~ ~
Czech Republic	96 (1.5)	547 (2.0)	2 (1.1)	~ ~	1 (1.0)	~ ~
Denmark	66 (3.3)	558 (2.1)	29 (3.1)	551 (2.6)	5 (1.6)	523 (10.6)
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)	~ ~
France	77 (4.0)	524 (2.8)	19 (3.8)	509 (6.1)	5 (1.8)	489 (17.5)
Georgia	92 (2.3)	488 (2.9)	7 (2.0)	496 (9.2)	1 (1.1)	~ ~
Germany	49 (2.9)	550 (2.5)	37 (2.8)	540 (3.6)	13 (2.4)	516 (6.5)
Hong Kong SAR	98 (1.2)	570 (2.4)	2 (1.2)	~ ~	0 (0.0)	~ ~
Hungary	96 (1.5)	541 (3.1)	3 (1.4)	535 (37.8)	1 (0.0)	~ ~
Indonesia	19 (3.1)	432 (9.8)	29 (4.7)	447 (7.1)	52 (4.4)	418 (5.1)
Iran, Islamic Rep. of	48 (3.4)	486 (4.0)	15 (3.5)	458 (6.9)	37 (2.9)	421 (5.2)
Ireland	64 (3.8)	560 (2.9)	33 (3.8)	539 (4.4)	3 (1.7)	510 (19.7)
Israel	75 (3.1)	536 (4.1)	20 (2.9)	560 (6.1)	5 (1.7)	549 (7.5)
Italy	64 (3.7)	541 (2.8)	30 (3.3)	542 (3.9)	6 (1.9)	535 (9.5)
Lithuania	88 (2.5)	529 (2.3)	8 (1.5)	535 (5.1)	4 (2.0)	505 (20.2)
Malta	6 (0.1)	524 (5.2)	12 (0.1)	521 (4.1)	82 (0.1)	470 (1.7)
Morocco	60 (4.0)	319 (6.0)	13 (2.2)	323 (8.4)	27 (4.1)	291 (6.7)
Netherlands	80 (3.4)	550 (2.1)	14 (2.8)	540 (4.2)	6 (2.4)	512 (9.6)
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)
Norway	64 (4.6)	507 (2.2)	29 (4.6)	507 (4.5)	8 (2.9)	504 (10.5)
Oman	85 (1.9)	386 (3.3)	10 (1.8)	381 (11.1)	5 (1.2)	354 (12.1)
Poland	100 (0.0)	526 (2.1)	0 (0.0)	~ ~	0 (0.0)	~ ~
Portugal	92 (1.9)	543 (2.9)	6 (1.6)	515 (7.4)	2 (1.0)	~ ~
Qatar	40 (3.2)	395 (6.8)	9 (2.6)	460 (27.2)	51 (3.2)	455 (5.6)
Romania	88 (2.5)	502 (4.6)	8 (2.3)	495 (15.4)	4 (1.7)	504 (21.4)
Russian Federation	73 (3.7)	570 (3.2)	17 (2.8)	565 (4.5)	9 (2.3)	562 (11.7)
Saudi Arabia	88 (2.3)	433 (4.9)	8 (2.2)	409 (21.2)	5 (1.4)	416 (13.4)
Singapore	2 (0.0)	~ ~	32 (0.0)	582 (5.3)	65 (0.0)	558 (4.3)
Slovak Republic	89 (2.4)	539 (2.8)	7 (2.2)	517 (12.9)	4 (1.3)	484 (12.1)
Slovenia	70 (2.8)	532 (2.2)	28 (2.9)	528 (4.1)	2 (0.9)	~ ~
Spain	60 (2.4)	523 (2.9)	24 (2.5)	510 (4.0)	16 (2.1)	486 (6.1)
Sweden	57 (3.6)	549 (3.3)	28 (3.1)	545 (4.1)	15 (2.9)	507 (8.1)
Trinidad and Tobago	97 (1.8)	472 (4.1)	1 (0.0)	~ ~	2 (1.3)	~ ~
United Arab Emirates	47 (1.4)	407 (3.3)	8 (0.8)	455 (9.6)	45 (1.4)	462 (3.2)
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.
 An "r" indicates data are available for at least 70% but less than 85% of the students.

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

Exhibit 5.3: Schools with Students Having the Language of the Test as Their Native Language (Continued)

Country	More than 90% of Students		51–90% of Students		50% of Students or Less	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Sixth Grade Participants						
Botswana	5 (1.9)	391 (11.3)	4 (1.7)	467 (40.5)	92 (2.5)	418 (4.4)
Honduras	95 (2.2)	453 (4.9)	3 (1.3)	412 (10.9)	2 (1.7)	~ ~
Kuwait	89 (2.9)	420 (6.5)	5 (2.0)	393 (22.5)	6 (2.1)	401 (22.8)
Morocco	59 (4.3)	432 (6.3)	13 (2.7)	426 (7.7)	28 (4.3)	412 (9.4)
Benchmarking Participants[◇]						
Alberta, Canada	56 (4.2)	554 (3.0)	34 (4.3)	544 (5.4)	11 (2.3)	540 (10.7)
Ontario, Canada	44 (4.5)	558 (4.3)	29 (4.5)	547 (5.1)	27 (4.2)	545 (5.3)
Quebec, Canada	69 (3.8)	536 (2.4)	20 (3.2)	546 (5.1)	11 (2.4)	529 (4.3)
Maltese – Malta	75 (0.1)	461 (1.8)	16 (0.1)	448 (4.9)	9 (0.1)	438 (4.0)
Eng/Afr (5) – RSA	18 (2.4)	456 (13.7)	18 (3.9)	494 (18.6)	64 (4.1)	391 (12.5)
Andalusia, Spain	91 (2.1)	516 (2.5)	8 (1.9)	507 (9.3)	1 (0.7)	~ ~
Abu Dhabi, UAE	59 (2.5)	400 (5.6)	3 (1.5)	461 (50.2)	38 (2.6)	447 (6.9)
Dubai, UAE	15 (0.2)	431 (4.6)	15 (0.4)	485 (3.8)	70 (0.4)	483 (2.7)
Florida, US	43 (6.3)	577 (5.8)	33 (6.1)	563 (6.3)	24 (5.6)	564 (5.6)

[◇] Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

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

Country	More than 90% of Students		51–90% of Students		50% of Students or Less	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Botswana	6 (2.1)	473 (9.4)	5 (1.9)	462 (20.6)	89 (2.6)	465 (4.2)
Colombia	98 (1.3)	577 (3.5)	2 (1.0)	~ ~	1 (0.8)	~ ~
South Africa	63 (2.6)	444 (5.7)	17 (2.7)	451 (13.7)	20 (2.5)	493 (9.7)

Reported by Principals

Country	Schools Where More than 75% Enter with Skills		Schools Where 51–75% Enter with Skills		Schools Where 25–50% Enter with Skills		Schools Where Less than 25% Enter with Skills	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Singapore	80 (0.0)	574 (3.8)	14 (0.0)	541 (11.4)	5 (0.0)	536 (15.4)	1 (0.0)	~ ~
Spain	73 (3.0)	522 (2.6)	14 (2.5)	493 (5.9)	11 (2.3)	487 (7.8)	3 (0.9)	500 (11.0)
England	r 60 (5.0)	562 (4.1)	26 (4.6)	533 (7.4)	12 (3.1)	540 (7.8)	2 (1.6)	~ ~
Hong Kong SAR	51 (4.5)	575 (3.8)	24 (3.6)	568 (4.5)	23 (3.9)	560 (6.8)	3 (1.5)	576 (8.7)
Denmark	46 (3.4)	560 (2.5)	32 (3.4)	552 (3.1)	17 (2.5)	544 (4.6)	5 (1.3)	542 (5.2)
Qatar	46 (3.0)	446 (5.7)	21 (3.2)	411 (9.9)	15 (2.8)	417 (17.9)	18 (2.6)	392 (8.1)
Chinese Taipei	46 (4.5)	552 (3.3)	31 (3.9)	554 (2.9)	15 (3.2)	566 (4.9)	8 (2.1)	532 (7.9)
United Arab Emirates	43 (2.1)	462 (3.4)	15 (1.5)	430 (7.5)	18 (2.0)	409 (5.9)	25 (1.9)	412 (5.4)
Sweden	r 38 (5.0)	547 (4.0)	30 (4.0)	550 (3.9)	24 (4.2)	535 (5.0)	8 (2.1)	512 (7.0)
Colombia	25 (3.3)	474 (8.5)	28 (4.3)	437 (7.4)	14 (3.3)	449 (9.9)	33 (4.5)	435 (7.2)
Morocco	24 (2.8)	342 (9.1)	20 (3.2)	311 (8.9)	14 (2.5)	309 (8.2)	43 (3.3)	302 (7.7)
Finland	23 (3.9)	571 (4.3)	48 (4.1)	572 (2.6)	22 (3.4)	562 (3.5)	7 (3.1)	555 (5.7)
Israel	22 (3.3)	515 (9.0)	19 (3.2)	563 (8.1)	27 (4.0)	551 (7.9)	32 (3.7)	537 (8.1)
France	22 (3.6)	525 (5.7)	39 (4.7)	525 (4.5)	32 (4.4)	514 (4.5)	8 (2.5)	504 (7.6)
Malta	21 (0.1)	501 (2.8)	13 (0.1)	517 (3.9)	22 (0.1)	490 (3.4)	44 (0.1)	455 (2.3)
Indonesia	20 (3.5)	444 (9.8)	17 (4.2)	434 (13.9)	25 (3.9)	439 (6.7)	38 (4.9)	411 (5.4)
Trinidad and Tobago	20 (3.3)	494 (11.2)	24 (3.9)	476 (7.8)	30 (3.9)	468 (8.9)	26 (3.8)	456 (7.1)
Poland	19 (3.2)	528 (5.3)	25 (3.2)	529 (5.0)	31 (3.8)	527 (3.8)	26 (3.7)	521 (4.6)
Russian Federation	18 (2.5)	594 (6.0)	22 (3.0)	569 (5.8)	33 (2.6)	565 (4.4)	27 (3.0)	556 (4.0)
Romania	17 (3.3)	511 (10.1)	19 (3.5)	517 (11.9)	24 (4.3)	490 (9.3)	40 (4.5)	498 (7.0)
Georgia	16 (2.9)	491 (8.6)	5 (1.9)	475 (13.2)	19 (3.3)	480 (6.5)	60 (4.1)	490 (4.1)
Oman	16 (2.6)	389 (6.3)	12 (1.8)	389 (5.5)	22 (2.9)	387 (5.6)	51 (3.3)	381 (4.5)
Croatia	16 (2.8)	563 (5.4)	27 (3.2)	557 (3.4)	32 (3.9)	549 (3.8)	25 (3.4)	548 (2.8)
Lithuania	12 (2.3)	536 (5.7)	23 (3.7)	529 (4.7)	29 (3.8)	537 (4.8)	36 (3.6)	522 (3.8)
United States	r 11 (1.9)	573 (7.0)	15 (2.2)	578 (4.8)	28 (2.8)	563 (4.0)	46 (2.7)	545 (2.7)
Australia	11 (2.2)	539 (6.6)	14 (2.8)	537 (6.8)	21 (3.2)	545 (4.4)	54 (3.9)	518 (4.0)
Saudi Arabia	10 (2.5)	417 (11.5)	18 (3.5)	424 (13.3)	20 (3.5)	459 (7.9)	51 (4.4)	424 (7.0)
Bulgaria	10 (2.9)	559 (7.8)	20 (3.4)	564 (4.7)	25 (3.6)	548 (5.5)	44 (3.7)	500 (7.3)
Canada	10 (1.6)	556 (3.8)	13 (1.7)	558 (4.5)	22 (2.6)	554 (4.7)	55 (3.0)	542 (2.1)
New Zealand	10 (2.4)	563 (6.5)	10 (2.4)	563 (4.8)	19 (3.4)	549 (6.9)	62 (4.1)	519 (3.6)
Italy	7 (1.5)	543 (5.6)	21 (3.2)	534 (6.8)	31 (3.7)	542 (3.9)	41 (3.9)	545 (3.1)
Iran, Islamic Rep. of	7 (1.7)	465 (11.4)	7 (1.7)	477 (13.7)	16 (2.6)	461 (7.5)	70 (3.4)	454 (3.6)
Belgium (French)	6 (2.5)	512 (13.1)	24 (4.4)	508 (5.6)	37 (4.6)	512 (4.5)	32 (4.5)	497 (6.1)
Netherlands	r 4 (2.0)	542 (7.4)	20 (4.0)	547 (5.3)	38 (5.0)	546 (4.4)	38 (5.1)	547 (2.9)
Portugal	4 (1.7)	564 (17.4)	12 (2.6)	540 (6.5)	14 (3.0)	546 (6.8)	70 (3.7)	539 (3.2)
Azerbaijan	3 (1.4)	452 (7.9)	6 (1.3)	426 (13.5)	26 (3.5)	462 (7.2)	65 (3.6)	467 (4.1)
Slovenia	3 (1.2)	538 (14.3)	11 (2.5)	531 (4.9)	30 (3.4)	533 (3.1)	57 (3.8)	528 (2.9)
Germany	2 (1.0)	~ ~	4 (1.4)	538 (8.1)	22 (3.2)	544 (4.2)	72 (3.4)	541 (2.7)
Norway	1 (1.0)	~ ~	22 (4.1)	511 (4.7)	39 (4.7)	503 (3.4)	37 (4.8)	506 (3.7)
Northern Ireland	r 1 (0.9)	~ ~	2 (1.4)	~ ~	15 (3.5)	558 (9.7)	81 (3.4)	558 (2.9)
Slovak Republic	1 (0.7)	~ ~	5 (1.9)	556 (13.1)	13 (2.6)	540 (5.8)	81 (3.1)	533 (3.1)
Czech Republic	1 (0.7)	~ ~	2 (1.2)	~ ~	21 (3.4)	547 (3.8)	76 (3.7)	543 (2.5)
Hungary	0 (0.0)	~ ~	0 (0.0)	~ ~	9 (2.7)	561 (10.3)	91 (2.7)	538 (3.3)
Austria	0 (0.0)	~ ~	2 (1.2)	~ ~	15 (3.2)	525 (4.1)	82 (3.3)	529 (2.3)
Ireland	--	--	--	--	--	--	--	--
International Avg.	20 (0.4)	516 (1.3)	18 (0.5)	511 (1.2)	22 (0.5)	512 (1.1)	40 (0.5)	500 (0.8)

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

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
 A dash (-) indicates comparable data not available. A tilde (~) indicates insufficient data to report achievement.
 An "r" indicates data are available for at least 70% but less than 85% of the students. An "s" indicates data are available for at least 50% but less than 70% of the students.

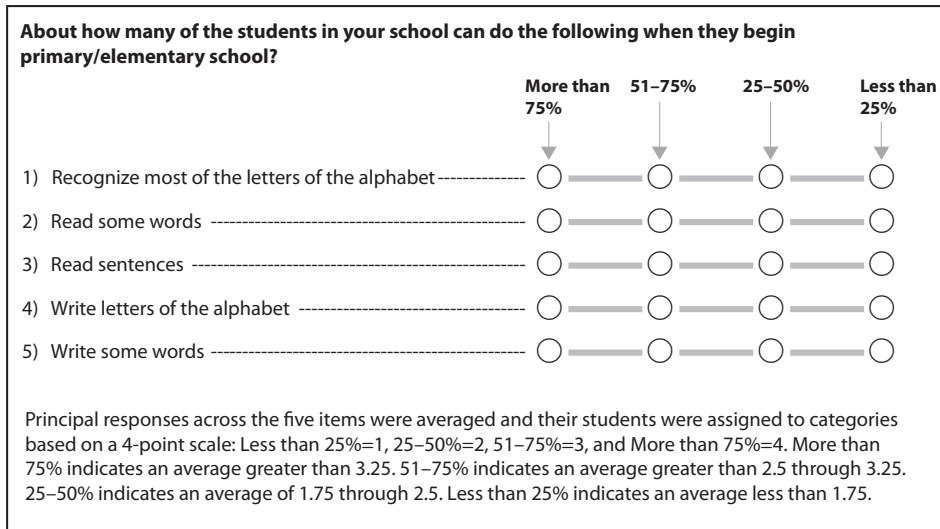
Exhibit 5.4: Schools Where Students Enter the Primary Grades with Early Literacy Skills (Continued)

Country	Schools Where More than 75% Enter with Skills		Schools Where 51–75% Enter with Skills		Schools Where 25–50% Enter with Skills		Schools Where Less than 25% Enter with Skills		
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Sixth Grade Participants									
Kuwait	43 (4.5)	427 (11.6)	27 (4.0)	399 (12.7)	13 (3.6)	411 (28.1)	17 (3.8)	427 (13.2)	
Honduras	39 (4.6)	460 (9.3)	11 (2.8)	433 (17.9)	16 (3.6)	456 (7.9)	35 (4.5)	439 (7.9)	
Morocco	23 (2.7)	462 (6.7)	19 (2.9)	429 (8.0)	15 (2.7)	418 (13.9)	44 (3.8)	409 (7.3)	
Botswana	6 (1.7)	523 (26.8)	7 (2.0)	427 (14.3)	15 (3.2)	448 (7.9)	72 (3.8)	402 (4.3)	
Benchmarking Participants[◇]									
Andalusia, Spain	62 (4.4)	521 (3.2)	22 (3.9)	506 (5.9)	8 (2.3)	509 (10.1)	8 (2.1)	491 (10.1)	
Dubai, UAE	60 (0.5)	484 (2.6)	13 (0.2)	469 (4.9)	7 (0.2)	454 (7.5)	20 (0.4)	454 (5.3)	
Abu Dhabi, UAE	35 (4.0)	453 (7.4)	17 (3.4)	407 (12.9)	21 (3.1)	403 (9.8)	26 (3.1)	395 (9.3)	
Eng/Afr (5) - RSA	18 (5.7)	456 (25.5)	15 (4.6)	490 (17.1)	32 (6.0)	415 (20.2)	35 (6.6)	419 (17.5)	
Alberta, Canada	17 (3.4)	557 (6.2)	17 (3.7)	568 (6.6)	20 (3.6)	550 (6.4)	45 (4.6)	541 (4.4)	
Florida, US	17 (5.4)	585 (11.7)	16 (5.3)	596 (9.9)	19 (5.4)	581 (7.7)	48 (5.1)	551 (4.9)	
Maltese - Malta	13 (0.1)	461 (3.7)	7 (0.1)	482 (6.0)	28 (0.1)	451 (2.9)	52 (0.1)	457 (1.9)	
Quebec, Canada	11 (2.5)	544 (8.1)	20 (3.9)	539 (3.5)	28 (4.0)	538 (3.8)	41 (4.7)	533 (3.6)	
Ontario, Canada	9 (2.9)	566 (6.4)	11 (3.1)	570 (12.3)	16 (3.4)	553 (7.9)	65 (4.6)	546 (3.2)	

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

[◇] Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

Country	Schools Where More than 75% Enter with Skills		Schools Where 51–75% Enter with Skills		Schools Where 25–50% Enter with Skills		Schools Where Less than 25% Enter with Skills	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Colombia	25 (3.3)	596 (6.7)	28 (4.3)	567 (6.6)	14 (3.3)	582 (8.0)	33 (4.5)	566 (5.8)
South Africa	9 (2.1)	519 (23.0)	20 (3.5)	459 (10.4)	29 (3.7)	449 (8.1)	42 (3.2)	444 (6.6)
Botswana	5 (1.7)	576 (17.2)	4 (1.7)	519 (36.0)	12 (2.9)	485 (13.1)	78 (3.6)	449 (2.7)



Schools with Sufficient Facilities, Books, and Technology

Studies have shown that resources are crucial for improving schooling, perhaps even more so in developing countries than in economically developed countries, where adequate school structures and material resources can be taken for granted (Lee & Zuze, 2011). The extent and quality of school resources can have an important impact on the quality of classroom instruction. For example, the presence of a library or multimedia center may be particularly relevant for developing reading literacy.

School Resources

To provide information on the extent to which school resources are available to support reading instruction, PIRLS routinely asks school principals about the degree of shortages or inadequacies in general school resources (materials, supplies, heating/cooling/lighting, buildings, space, staff, and computers) as well as about resources specifically targeted to support reading instruction (specialized teachers, computer software, library books, and audio-visual resources). Although “adequacy” can be relative, in each PIRLS assessment there has been a strong positive relationship between principals’ perceptions of the absence of school resource shortages and higher average reading achievement.

Exhibit 5.5 presents the PIRLS 2011 results for the Reading Resource Shortages scale. Students were scored according to their principals’ responses concerning eleven school and classroom resources (see the second page of the exhibit for details). Countries are ordered according to the percentage of students (from most to least) in schools **Not Affected** by resource shortages. Schools in this category had principals who reported that shortages affected instruction “not at all” for six of the eleven resources and only “a little” for the other five, on average. There was substantial variation across the fourth grade countries—from 0 to 56 percent, with an average of 24 percent of students attending well-resourced schools.

Schools where instruction was **Affected A Lot** had principals who reported that shortages affected instruction “a lot” for six of the eleven resources and “some” for the other five, on average. Many countries were fortunate to have very few, if any, students in such poorly resourced schools. However, this was a crucial problem in some countries. At 478 points, on average, reading achievement for students in schools **Affected A Lot** by resource shortages was substantially lower (45 points) than for students in schools **Not Affected** by resources shortages. For students at the sixth grade and in prePIRLS, there was

more impact from lack of resources with greater percentages of students in schools **Affected A Lot** by resource shortages.

Teacher Working Conditions

There is evidence that, in some countries, teacher shortages may exist partly as a result of poor working conditions. For example, a review of research from the United States suggests that teachers who leave the profession after just a few years are more likely to leave because of poor working conditions than because of low pay (Johnson, 2006). Although teachers' reports across countries are related to their expectations and need to be considered in the context of variations in economic situations, PIRLS 2011 asked students' reading teachers to provide their views on the adequacy of their working conditions. More specifically, teachers were asked about five potential problem areas:

- ◆ The school building needing significant repair;
- ◆ Classrooms being overcrowded;
- ◆ Teachers having too many teaching hours;
- ◆ Teachers not having adequate workspace; and
- ◆ Teachers not having adequate instructional materials and supplies.

Exhibit 5.6 presents the results for the Teacher Working Conditions scale newly developed for PIRLS 2011. Countries are ordered by the percentage of students whose teachers reported few problems with their working conditions. Teachers with **Hardly Any Problems** with their working conditions reported “not a problem” for three of the five areas and only “minor problem” for the other two, on average. Similar to the findings based on principals' reports, there was a range of results across the fourth grade countries—from 5 to 49 percent, with an average of 27 percent of students in schools where teachers had **Hardly Any Problems**.

For this scale, the remaining two categories were **Minor Problems** and **Moderate Problems**. Teachers with **Moderate Problems** reported “moderate problem” for three of five conditions and “minor problem” for the other two, on average. About half of the students, on average, across the fourth grade countries were in schools where teachers had **Minor Problems** and about one-fourth were in schools with **Moderate Problems**. Students whose reading teachers reported **Moderate Problems** had lower reading achievement, on average, than those whose teachers reported **Hardly Any Problems**. The results for the sixth grade, benchmarking, and prePIRLS participants followed the same pattern,

Exhibit 5.5: Instruction Affected by Reading Resource Shortages

Reported by Principals

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

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

Country	Not Affected		Somewhat Affected		Affected A Lot		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Slovenia	56 (4.0)	531 (2.3)	44 (4.0)	529 (3.3)	0 (0.0)	~ ~	11.6 (0.12)
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)
Denmark	39 (3.5)	553 (3.3)	61 (3.5)	554 (2.0)	0 (0.0)	~ ~	10.9 (0.12)
Netherlands	38 (5.1)	550 (4.0)	62 (5.1)	545 (2.7)	0 (0.0)	~ ~	10.9 (0.11)
Spain	37 (3.5)	518 (4.1)	62 (3.3)	512 (2.8)	1 (0.9)	~ ~	10.7 (0.14)
Singapore	37 (0.0)	564 (5.2)	56 (0.0)	569 (4.4)	7 (0.0)	563 (13.3)	10.5 (0.00)
Austria	36 (4.3)	528 (3.6)	64 (4.3)	530 (2.6)	0 (0.0)	~ ~	10.7 (0.13)
Canada	36 (2.3)	548 (2.4)	64 (2.4)	549 (2.2)	1 (0.5)	~ ~	10.8 (0.09)
Poland	35 (3.7)	532 (4.1)	65 (3.7)	523 (2.7)	0 (0.0)	~ ~	10.9 (0.14)
Norway	34 (4.8)	504 (3.6)	66 (4.8)	509 (2.5)	0 (0.0)	~ ~	10.7 (0.16)
Sweden	33 (4.2)	547 (4.3)	67 (4.2)	539 (2.8)	0 (0.0)	~ ~	10.7 (0.15)
Bulgaria	33 (4.4)	531 (9.1)	67 (4.4)	532 (4.4)	0 (0.0)	~ ~	10.9 (0.13)
Georgia	33 (4.5)	486 (5.2)	67 (4.7)	487 (4.2)	1 (0.0)	~ ~	10.6 (0.15)
Qatar	31 (3.0)	447 (8.4)	41 (3.4)	435 (6.6)	28 (3.1)	393 (6.9)	9.1 (0.26)
United Arab Emirates	30 (1.9)	463 (4.5)	56 (2.4)	427 (3.5)	14 (1.5)	423 (7.2)	9.5 (0.10)
Hungary	30 (3.5)	550 (5.0)	68 (3.7)	536 (4.1)	2 (1.2)	~ ~	10.5 (0.17)
Germany	29 (2.9)	553 (4.1)	71 (2.9)	537 (2.6)	0 (0.0)	~ ~	10.6 (0.10)
Northern Ireland	28 (4.4)	562 (5.6)	71 (4.5)	557 (3.0)	1 (1.0)	~ ~	10.5 (0.18)
Czech Republic	28 (3.6)	543 (5.0)	71 (3.7)	546 (2.6)	2 (1.0)	~ ~	10.6 (0.13)
Ireland	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)
Croatia	26 (4.1)	553 (4.0)	72 (4.1)	551 (2.3)	2 (1.2)	~ ~	10.3 (0.15)
Malta	26 (0.1)	485 (2.6)	70 (0.1)	474 (1.7)	5 (0.0)	484 (6.4)	10.3 (0.00)
Lithuania	22 (3.5)	536 (4.1)	78 (3.5)	527 (2.6)	0 (0.0)	~ ~	10.2 (0.11)
Russian Federation	21 (3.0)	579 (5.4)	75 (3.2)	564 (3.3)	4 (1.5)	571 (9.2)	9.9 (0.16)
Israel	20 (3.7)	575 (6.2)	65 (4.2)	541 (5.0)	14 (2.5)	493 (11.1)	9.5 (0.17)
France	17 (3.1)	524 (7.2)	81 (3.4)	519 (2.9)	2 (1.3)	~ ~	10.0 (0.12)
Portugal	15 (2.8)	544 (5.3)	84 (2.9)	540 (3.2)	1 (0.8)	~ ~	9.7 (0.15)
Italy	14 (2.5)	545 (5.1)	86 (2.6)	541 (2.4)	1 (0.8)	~ ~	9.7 (0.09)
Slovak Republic	13 (2.3)	543 (6.1)	87 (2.3)	534 (2.9)	0 (0.0)	~ ~	9.9 (0.09)
Romania	13 (2.9)	524 (12.7)	85 (3.1)	498 (4.8)	2 (1.3)	~ ~	9.6 (0.13)
Chinese Taipei	7 (2.2)	556 (7.3)	77 (3.2)	551 (2.1)	15 (2.8)	560 (5.0)	8.5 (0.16)
Belgium (French)	7 (2.7)	523 (8.3)	92 (2.8)	506 (3.2)	1 (0.0)	~ ~	9.8 (0.11)
Saudi Arabia	6 (2.3)	455 (9.2)	87 (2.5)	429 (5.1)	7 (2.1)	425 (20.6)	8.9 (0.18)
Oman	5 (1.1)	405 (10.5)	79 (2.5)	379 (3.6)	15 (2.3)	404 (5.4)	8.4 (0.09)
Morocco	5 (1.4)	360 (18.1)	90 (1.9)	307 (4.4)	5 (1.4)	368 (28.3)	9.6 (0.10)
Iran, Islamic Rep. of	5 (1.7)	477 (17.4)	79 (3.9)	457 (3.4)	16 (3.7)	452 (6.9)	8.4 (0.12)
Indonesia	4 (1.5)	417 (12.4)	95 (1.7)	428 (4.5)	1 (0.8)	~ ~	9.3 (0.08)
Azerbaijan	2 (1.1)	~ ~	87 (3.1)	459 (3.9)	11 (2.9)	489 (10.0)	8.3 (0.12)
Colombia	2 (1.1)	~ ~	67 (4.3)	447 (5.5)	32 (4.2)	448 (7.2)	7.4 (0.13)
Trinidad and Tobago	1 (0.0)	~ ~	92 (2.2)	471 (4.1)	7 (2.1)	448 (12.3)	8.5 (0.10)
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)	

Centerpoint 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 students.

Exhibit 5.5: Instruction Affected by Reading Resource Shortages (Continued)

Country	Not Affected		Somewhat Affected		Affected A Lot		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Sixth Grade Participants							
Honduras	19 (4.0)	469 (16.8)	71 (4.2)	450 (3.9)	10 (3.2)	404 (17.9)	9.1 (0.22)
Morocco	5 (1.5)	462 (16.2)	90 (1.8)	422 (4.5)	5 (1.2)	465 (25.0)	9.6 (0.09)
Botswana	3 (1.2)	524 (22.9)	88 (2.9)	411 (3.5)	10 (2.6)	464 (24.8)	8.6 (0.13)
Kuwait	1 (0.0)	~ ~	77 (3.7)	420 (6.6)	22 (3.5)	411 (19.3)	7.5 (0.12)
Benchmarking Participants[◇]							
Quebec, Canada	46 (4.8)	540 (2.7)	53 (4.8)	536 (3.0)	1 (0.7)	~ ~	11.0 (0.14)
Dubai, UAE	45 (0.5)	497 (3.0)	44 (0.5)	467 (3.1)	12 (0.2)	442 (7.8)	10.4 (0.02)
Alberta, Canada	43 (3.9)	549 (5.0)	57 (3.9)	549 (3.3)	0 (0.0)	~ ~	11.1 (0.14)
Florida, US	38 (6.0)	571 (7.3)	62 (6.0)	569 (3.9)	0 (0.0)	~ ~	11.2 (0.26)
Ontario, Canada	30 (4.3)	551 (4.4)	70 (4.3)	551 (3.3)	0 (0.0)	~ ~	10.7 (0.19)
Andalusia, Spain	28 (3.9)	520 (4.5)	72 (3.9)	513 (3.0)	1 (0.7)	~ ~	10.4 (0.13)
Abu Dhabi, UAE	27 (3.9)	443 (9.6)	55 (4.8)	410 (6.5)	18 (3.5)	417 (11.1)	9.1 (0.24)
Maltese – Malta	26 (0.1)	447 (3.0)	69 (0.1)	459 (1.7)	5 (0.0)	479 (6.1)	10.3 (0.00)
Eng/Afr (5) – RSA	10 (3.4)	492 (20.8)	84 (3.3)	408 (7.9)	6 (0.8)	401 (73.0)	9.2 (0.21)

[◇] Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

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

Country	Not Affected		Somewhat Affected		Affected A Lot		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
South Africa	3 (1.1)	547 (27.4)	92 (1.6)	454 (4.7)	4 (1.2)	414 (17.8)	9.0 (0.12)
Botswana	3 (1.3)	553 (41.1)	87 (2.7)	457 (3.2)	11 (2.8)	494 (23.4)	8.6 (0.12)
Colombia	2 (1.1)	~ ~	67 (4.3)	577 (4.6)	32 (4.3)	572 (5.9)	7.4 (0.13)

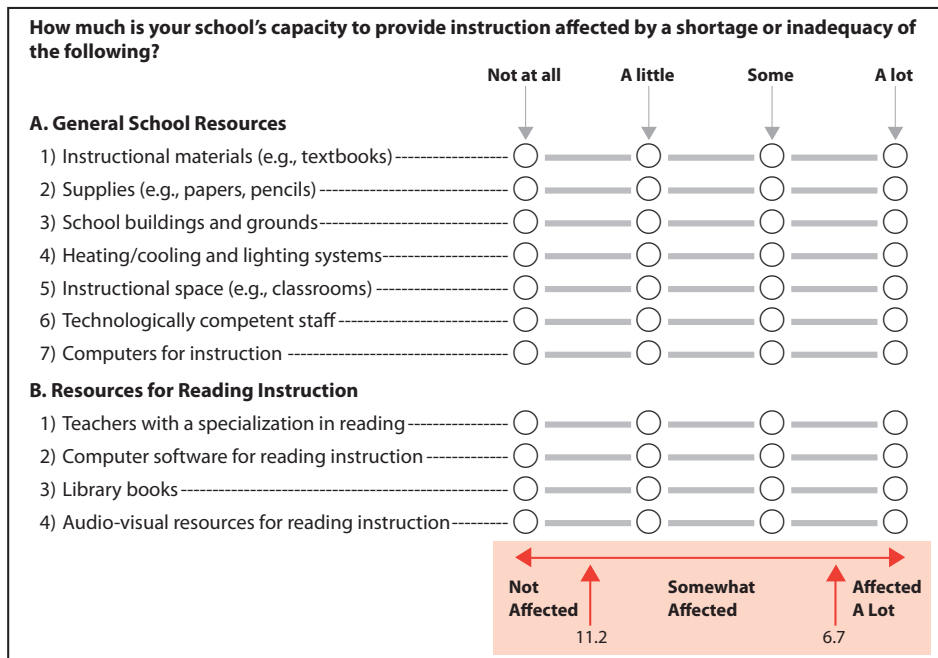


Exhibit 5.6: Teacher Working Conditions
Reported by Teachers

Students were scored according to their teachers' responses concerning five potential problem areas on the *Teacher Working Conditions* scale. Students 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. Students 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 students had teachers that reported **Minor Problems** with their working conditions.

Country	Hardly Any Problems		Minor Problems		Moderate Problems		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Poland	49 (3.6)	521 (2.8)	44 (3.5)	531 (3.3)	7 (1.5)	524 (7.4)	11.1 (0.13)
United States	47 (2.3)	562 (2.3)	42 (2.4)	551 (2.9)	11 (1.4)	552 (5.8)	11.0 (0.09)
Czech Republic	46 (4.1)	545 (3.4)	46 (4.1)	546 (3.2)	9 (2.2)	542 (5.2)	11.0 (0.15)
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)
Qatar	42 (3.1)	429 (6.9)	43 (3.7)	424 (5.8)	15 (2.8)	413 (14.7)	10.6 (0.19)
United Arab Emirates	39 (2.2)	454 (5.4)	44 (2.9)	435 (4.4)	17 (1.8)	413 (6.3)	10.6 (0.09)
Canada	38 (2.2)	551 (2.4)	45 (2.8)	545 (2.2)	17 (2.4)	549 (7.0)	10.6 (0.09)
Bulgaria	38 (3.7)	525 (6.9)	50 (3.8)	538 (5.3)	12 (2.3)	533 (9.3)	10.6 (0.14)
Slovak Republic	37 (3.3)	535 (4.1)	50 (3.4)	533 (4.3)	13 (2.4)	543 (7.1)	10.5 (0.12)
Ireland	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)
Hungary	32 (3.5)	526 (6.8)	50 (3.4)	545 (3.8)	18 (2.5)	544 (6.2)	10.3 (0.16)
Spain	32 (3.3)	515 (4.5)	47 (3.3)	513 (3.5)	21 (2.4)	511 (3.8)	10.2 (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)
Lithuania	30 (3.2)	522 (3.8)	59 (3.3)	531 (2.8)	11 (2.1)	528 (5.3)	10.4 (0.11)
Austria	29 (3.5)	529 (3.3)	47 (3.8)	532 (3.0)	25 (3.8)	523 (3.1)	10.1 (0.17)
Slovenia	28 (3.6)	530 (3.1)	45 (4.0)	532 (3.0)	27 (3.2)	527 (4.0)	9.9 (0.14)
Belgium (French)	28 (3.8)	509 (6.8)	54 (4.3)	509 (3.3)	18 (3.3)	501 (8.7)	10.3 (0.14)
Croatia	27 (3.0)	546 (3.7)	51 (3.5)	555 (2.5)	21 (3.0)	558 (4.1)	10.2 (0.14)
Saudi Arabia	26 (3.5)	438 (10.6)	40 (4.0)	428 (5.6)	34 (4.0)	428 (9.1)	9.6 (0.17)
Romania	26 (3.4)	506 (7.9)	44 (4.2)	499 (6.8)	30 (3.6)	498 (8.2)	9.9 (0.15)
France	25 (3.4)	521 (5.6)	49 (3.7)	518 (3.3)	26 (3.4)	523 (4.1)	9.9 (0.13)
Georgia	24 (3.3)	495 (5.8)	53 (3.9)	480 (4.0)	23 (2.8)	498 (5.9)	9.9 (0.13)
Russian Federation	24 (3.0)	571 (5.7)	54 (4.0)	570 (3.1)	22 (2.9)	562 (6.3)	9.9 (0.12)
Malta	22 (0.1)	485 (2.7)	51 (0.1)	479 (1.8)	26 (0.1)	468 (3.3)	9.8 (0.00)
Netherlands	22 (3.5)	547 (3.1)	45 (3.5)	549 (2.3)	33 (3.9)	542 (3.9)	9.7 (0.17)
Denmark	21 (3.2)	553 (4.4)	55 (4.0)	554 (2.6)	24 (2.6)	555 (2.9)	9.8 (0.12)
Indonesia	21 (3.6)	431 (7.4)	53 (4.6)	434 (6.3)	26 (3.7)	415 (7.0)	9.8 (0.15)
Finland	20 (3.0)	564 (3.5)	62 (4.3)	568 (2.1)	18 (3.5)	573 (4.3)	10.0 (0.13)
Israel	20 (3.7)	539 (8.4)	42 (4.3)	545 (6.0)	38 (4.5)	543 (7.1)	9.5 (0.18)
Colombia	20 (3.4)	486 (8.3)	42 (4.4)	443 (7.2)	38 (4.6)	433 (6.2)	9.5 (0.19)
Italy	19 (2.6)	546 (4.8)	51 (3.8)	544 (3.1)	30 (3.7)	535 (4.4)	9.7 (0.12)
Azerbaijan	19 (3.0)	470 (9.0)	52 (3.7)	460 (4.3)	29 (3.2)	462 (5.0)	9.7 (0.14)
Chinese Taipei	19 (3.1)	547 (3.6)	59 (4.1)	557 (2.5)	23 (3.4)	548 (4.7)	10.0 (0.15)
Iran, Islamic Rep. of	18 (2.4)	474 (8.2)	51 (4.2)	456 (4.8)	31 (4.3)	450 (6.6)	9.6 (0.15)
Germany	16 (2.6)	548 (5.5)	44 (3.4)	548 (2.9)	40 (3.2)	531 (3.8)	9.3 (0.13)
Portugal	16 (4.7)	537 (10.0)	46 (4.8)	543 (4.0)	39 (4.7)	540 (3.9)	9.2 (0.26)
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)
Norway	15 (3.4)	506 (6.3)	55 (4.3)	506 (2.6)	29 (4.6)	507 (4.2)	9.5 (0.19)
Trinidad and Tobago	14 (2.9)	477 (10.7)	38 (4.3)	472 (7.0)	47 (4.2)	469 (6.6)	8.9 (0.17)
Sweden	r 12 (2.9)	541 (6.0)	49 (4.3)	546 (3.1)	39 (4.4)	537 (4.1)	9.2 (0.17)
Oman	9 (1.6)	422 (7.3)	48 (2.9)	400 (4.1)	43 (3.1)	375 (3.9)	8.9 (0.10)
Morocco	5 (0.9)	413 (11.7)	20 (3.6)	335 (13.2)	76 (3.6)	298 (4.2)	7.8 (0.11)
International Avg.	27 (0.5)	518 (0.9)	48 (0.6)	514 (0.7)	25 (0.5)	509 (0.9)	

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

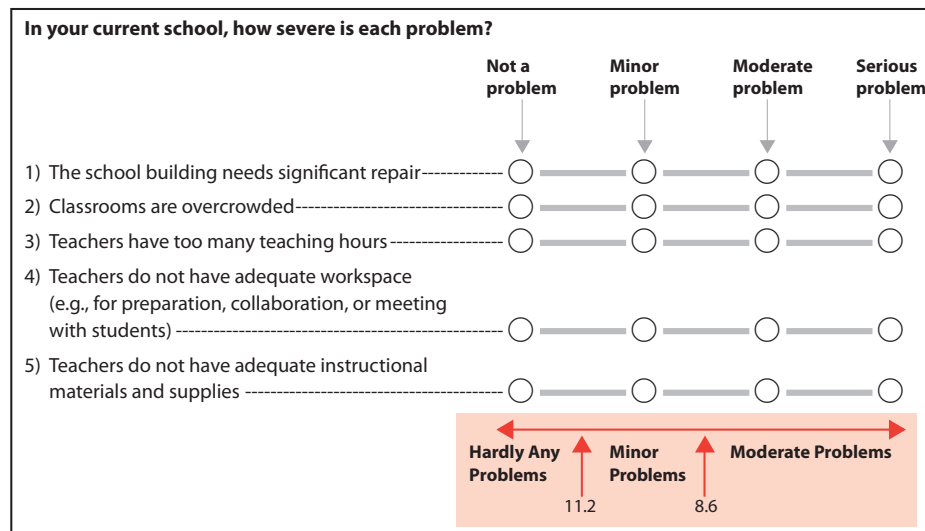
Exhibit 5.6: Teacher Working Conditions (Continued)

Country	Hardly Any Problems		Minor Problems		Moderate Problems		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Sixth Grade Participants							
Kuwait	34 (4.3)	416 (13.3)	42 (4.4)	422 (11.7)	24 (3.8)	415 (14.8)	10.1 (0.25)
Honduras	15 (3.1)	485 (15.3)	40 (4.5)	454 (6.0)	45 (4.4)	432 (7.4)	9.2 (0.17)
Botswana	6 (1.6)	483 (31.8)	42 (4.4)	420 (8.3)	52 (4.3)	412 (4.5)	8.5 (0.14)
Morocco	5 (1.3)	516 (14.2)	19 (4.7)	416 (20.0)	76 (4.7)	417 (4.3)	7.7 (0.16)
Benchmarking Participants^o							
Florida, US	67 (5.5)	572 (4.2)	30 (5.5)	569 (6.8)	3 (2.2)	545 (8.5)	11.9 (0.20)
Ontario, Canada	46 (3.6)	555 (4.0)	47 (3.8)	546 (3.8)	7 (2.3)	555 (12.2)	11.0 (0.12)
Dubai, UAE	43 (4.1)	501 (5.6)	43 (4.5)	465 (8.2)	13 (2.0)	442 (12.6)	10.8 (0.11)
Alberta, Canada	42 (3.7)	551 (4.0)	42 (3.5)	546 (4.5)	17 (2.9)	546 (6.5)	10.8 (0.16)
Abu Dhabi, UAE	41 (4.4)	436 (9.6)	43 (4.2)	419 (8.0)	16 (2.8)	414 (12.4)	10.7 (0.21)
Quebec, Canada	34 (4.5)	545 (4.1)	49 (4.7)	536 (2.5)	17 (3.8)	527 (5.1)	10.4 (0.16)
Maltese – Malta	27 (0.1)	458 (2.2)	52 (0.1)	458 (2.3)	21 (0.1)	461 (2.8)	10.1 (0.01)
Eng/Afr (5) – RSA	25 (4.1)	509 (15.4)	38 (4.3)	421 (10.5)	37 (4.5)	371 (14.0)	9.4 (0.20)
Andalusia, Spain	25 (3.5)	512 (5.1)	51 (4.2)	514 (3.7)	24 (3.6)	520 (5.1)	9.9 (0.14)

^o Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

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

Country	Hardly Any Problems		Minor Problems		Moderate Problems		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Colombia	20 (3.4)	608 (6.5)	42 (4.4)	573 (5.6)	38 (4.6)	563 (5.6)	9.5 (0.19)
South Africa	12 (2.4)	520 (17.8)	42 (4.3)	480 (6.7)	45 (3.9)	426 (5.2)	8.7 (0.13)
Botswana	7 (1.8)	522 (21.1)	44 (4.2)	463 (6.4)	49 (4.1)	454 (3.6)	8.8 (0.13)



with agreement between teacher and principal reports and higher achievement for students in better school conditions. However, substantial percentages of students (nearly half in some cases) in the sixth grade and in the prePIRLS countries had teachers reporting **Moderate Problems** with school conditions.

Size of School Library

Libraries, both within the school and in the local community, provide a range of reading materials and other resources from which teachers can draw to expand their instructional approaches, and from which students can choose books for their own learning and enjoyment. Also, with the growing use of technology, libraries increasingly are becoming media centers that offer a range of materials and Internet access. A recent online survey in England of 17,000 8- to 12-year-olds included questions about library use (Clark, 2010). The results indicated that library users were much more likely to read above their expected level, report enjoying reading, and have positive attitudes toward reading. It may seem obvious, but students cited the fact that they did or did not use the library because it did or did not have books that interested them. Perhaps if school libraries had books that interested students, more of these students would become readers, improve their reading skills, and find a new enjoyable pastime.

Exhibit 5.7 presents principals' reports about the existence and size of school libraries. Given the variation in policies across countries regarding school libraries and classroom libraries, in some cases the results in Exhibit 5.7 should be considered in light of the results about classroom libraries found in Exhibit 8.13. That is, 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. Also, primary schools tend to be smaller than middle and secondary schools, and may have small libraries as a result of their small enrollments.

On average, across the fourth grade countries, 28 percent of the students attended schools (for the most part primary schools) having well-resourced school libraries with more than 5,000 book titles. Another 40 percent of the students attended schools having libraries with between 501 and 5,000 book titles, and 18 percent attended schools having smaller library collections of 500 book titles or fewer. On average internationally, 14 percent of fourth grade students attended schools with no school library.

Internationally, fourth grade students attending schools with well-resourced school libraries had higher achievement than those with few library

books or no school library at all (525 vs. 500 and 498, respectively). For countries at the sixth grade and in prePIRLS, there were few students in schools with libraries of more than 5,000 books, and generally higher percentages of students with no school library.

Schools with Computers Available for Instruction

The use of electronic texts and other technologies is emerging as an important part of students' literacy learning (Kamil, Intrator, & Kim, 2000). In many countries, computers are widely available in schools and Internet access is steadily increasing. Given the increasingly widespread availability of literacy materials on the Internet, access to computers that may be used for instructional purposes can be a crucial school resource. Researchers in the United States conducted a meta-analysis of 85 studies of technology use related to reading instruction in Grades K–12, involving 60,000 students, and found a small positive effect of technology on reading achievement compared to traditional instruction, though there was variation across studies (Cheung & Slavin, 2011).

Exhibit 5.8 shows principals' reports about the availability of computers for reading instruction. Internationally, 41 percent of the fourth grade students, on average, were in schools that had 1 computer for every 1–2 fourth grade students, 29 percent were in schools with 1 computer for every 3–5 fourth grade students, and 23 percent were in schools with 1 computer for 6 or more students. There was considerable variation from country to country, but, on average, only 7 percent of the fourth grade students were in schools that did not have any computers available for instruction. The percentages of students in schools with no computers for instruction were higher for the sixth grade and prePIRLS participants with the exception of Kuwait.

The relationship between computer availability and average reading achievement is difficult to interpret because it is highly interrelated with socio-economic levels and reading instructional practices. In the primary grades, computer instruction can be used for remedial purposes as frequently (if not more frequently) as it can be used to provide an increased variety of reading materials and reading activities. However, the fourth grade students with access to computers for instruction had higher average reading achievement than those students with no access to computers for instruction.

Exhibit 5.7: Size of School Library

Reported by Principals (Does not include classroom libraries)
Exhibit 8.13 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	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	56 (3.6)	530 (3.5)	42 (3.7)	525 (5.1)	1 (0.5)	~ ~	1 (0.0)	~ ~
Austria	1 (0.1)	~ ~	45 (4.5)	530 (2.8)	27 (4.2)	520 (4.3)	27 (3.6)	534 (3.4)
Azerbaijan	29 (3.6)	472 (5.1)	44 (4.1)	457 (7.6)	28 (3.7)	460 (6.7)	0 (0.0)	~ ~
Belgium (French)	4 (1.5)	519 (7.0)	26 (3.8)	509 (5.8)	40 (4.5)	504 (5.3)	29 (4.8)	504 (5.6)
Bulgaria	25 (3.6)	554 (5.2)	44 (4.3)	532 (7.3)	14 (2.9)	519 (13.1)	18 (3.4)	510 (9.7)
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)	~ ~
Colombia	11 (2.4)	497 (10.9)	26 (4.0)	467 (10.3)	27 (3.8)	431 (6.0)	37 (4.1)	435 (6.4)
Croatia	39 (4.2)	554 (2.7)	53 (4.3)	554 (2.7)	8 (1.8)	534 (7.3)	0 (0.0)	~ ~
Czech Republic	6 (1.6)	543 (6.7)	55 (4.1)	547 (3.3)	23 (3.6)	545 (3.2)	17 (3.5)	542 (4.5)
Denmark	73 (2.8)	554 (1.9)	22 (2.9)	554 (3.4)	1 (0.6)	~ ~	5 (1.4)	545 (12.5)
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)
France	2 (1.2)	~ ~	43 (4.5)	519 (3.8)	28 (4.3)	519 (5.9)	27 (3.8)	520 (3.9)
Georgia	35 (3.2)	488 (4.5)	49 (3.6)	488 (5.9)	13 (2.4)	479 (6.8)	2 (1.3)	~ ~
Germany	2 (1.0)	~ ~	39 (3.4)	543 (3.6)	33 (3.6)	534 (4.4)	26 (3.3)	549 (4.4)
Hong Kong SAR	82 (3.3)	573 (2.7)	18 (3.3)	560 (5.6)	0 (0.0)	~ ~	0 (0.0)	~ ~
Hungary	52 (4.0)	548 (4.2)	41 (4.3)	533 (6.0)	3 (1.3)	524 (13.3)	4 (1.6)	530 (22.2)
Indonesia	6 (1.8)	442 (12.6)	39 (4.7)	436 (7.3)	33 (4.3)	436 (6.1)	22 (3.3)	409 (8.3)
Iran, Islamic Rep. of	3 (1.2)	516 (21.2)	40 (4.0)	481 (5.1)	37 (3.6)	451 (5.0)	20 (3.1)	423 (7.8)
Ireland	7 (2.1)	532 (7.9)	30 (4.0)	553 (4.6)	14 (2.9)	552 (5.5)	49 (4.7)	554 (3.7)
Israel	13 (2.9)	551 (12.5)	47 (4.6)	547 (4.9)	24 (4.0)	531 (9.4)	17 (3.2)	529 (12.6)
Italy	5 (1.4)	534 (10.4)	41 (3.9)	547 (3.4)	42 (3.8)	537 (3.5)	12 (2.6)	539 (4.5)
Lithuania	46 (3.9)	529 (3.2)	45 (4.0)	527 (3.7)	6 (1.7)	553 (10.9)	3 (0.8)	514 (6.3)
Malta	11 (0.1)	512 (4.2)	58 (0.1)	484 (2.0)	17 (0.1)	460 (3.2)	14 (0.1)	440 (4.6)
Morocco	0 (0.4)	~ ~	6 (2.1)	347 (31.0)	23 (2.9)	346 (10.1)	70 (3.3)	297 (4.5)
Netherlands	r 0 (0.0)	~ ~	37 (5.0)	551 (3.4)	46 (5.4)	541 (3.5)	17 (3.3)	551 (3.0)
New Zealand	47 (3.3)	541 (3.5)	52 (3.3)	526 (3.9)	1 (0.8)	~ ~	0 (0.0)	~ ~
Northern Ireland	r 3 (1.5)	549 (11.0)	51 (4.6)	556 (4.0)	15 (3.9)	549 (7.9)	31 (4.0)	569 (5.5)
Norway	18 (3.9)	513 (4.8)	73 (4.8)	505 (2.7)	4 (2.3)	515 (8.9)	5 (2.1)	501 (11.8)
Oman	r 11 (2.2)	382 (7.5)	58 (3.7)	386 (4.0)	10 (2.1)	400 (7.6)	21 (2.7)	371 (5.8)
Poland	65 (3.6)	528 (2.5)	32 (3.6)	519 (4.8)	2 (1.0)	~ ~	1 (0.9)	~ ~
Portugal	5 (2.2)	537 (14.9)	47 (5.6)	536 (4.0)	24 (4.2)	546 (7.1)	24 (4.0)	543 (5.1)
Qatar	52 (3.4)	443 (7.1)	34 (3.3)	398 (5.9)	13 (2.2)	411 (7.9)	1 (1.0)	~ ~
Romania	45 (3.9)	518 (6.3)	45 (4.2)	488 (7.0)	6 (1.7)	477 (15.9)	4 (1.7)	491 (22.8)
Russian Federation	65 (3.4)	570 (3.2)	31 (3.4)	568 (4.6)	3 (1.8)	554 (17.5)	1 (0.0)	~ ~
Saudi Arabia	3 (1.5)	473 (23.5)	17 (3.0)	419 (12.6)	55 (4.2)	431 (6.9)	25 (3.6)	435 (8.6)
Singapore	77 (0.0)	566 (3.8)	22 (0.0)	569 (6.5)	1 (0.0)	~ ~	0 (0.0)	~ ~
Slovak Republic	11 (2.0)	528 (6.7)	58 (3.9)	537 (3.8)	20 (3.2)	528 (5.8)	12 (2.6)	536 (5.6)
Slovenia	66 (2.9)	529 (2.0)	27 (3.6)	530 (4.3)	6 (2.7)	541 (7.0)	1 (0.6)	~ ~
Spain	21 (2.8)	522 (7.0)	65 (3.8)	513 (3.2)	10 (1.9)	515 (8.0)	5 (1.6)	510 (15.3)
Sweden	r 18 (3.7)	544 (4.9)	52 (5.0)	544 (3.8)	12 (3.4)	544 (6.1)	18 (3.8)	533 (6.1)
Trinidad and Tobago	2 (1.2)	~ ~	23 (3.6)	484 (10.7)	56 (4.4)	464 (5.5)	19 (3.4)	469 (9.8)
United Arab Emirates	r 27 (1.4)	479 (4.7)	47 (2.3)	429 (3.5)	23 (2.1)	404 (5.2)	3 (0.8)	450 (19.6)
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)

SOURCE: 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 students.

Exhibit 5.7: Size of School Library (Continued)

Country	More than 5,000 Book Titles		501–5,000 Book Titles		500 Book Titles or Fewer		No School Library	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Sixth Grade Participants								
Botswana	3 (1.2)	483 (42.9)	12 (2.7)	467 (22.8)	33 (4.1)	413 (7.3)	52 (4.5)	408 (5.0)
Honduras	0 (0.0)	~ ~	15 (3.5)	502 (12.5)	30 (4.2)	458 (8.5)	55 (4.2)	433 (6.0)
Kuwait	r 6 (2.0)	449 (29.1)	64 (4.5)	421 (9.1)	28 (4.3)	408 (11.8)	2 (1.1)	~ ~
Morocco	0 (0.3)	~ ~	7 (2.5)	431 (45.3)	24 (3.0)	444 (7.3)	68 (3.5)	416 (5.0)
Benchmarking Participants[◇]								
Alberta, Canada	72 (4.3)	550 (3.8)	28 (4.2)	553 (5.3)	1 (0.6)	~ ~	0 (0.0)	~ ~
Ontario, Canada	48 (4.9)	556 (3.6)	46 (5.2)	551 (4.0)	5 (1.4)	531 (16.7)	1 (0.8)	~ ~
Quebec, Canada	42 (4.2)	542 (3.7)	52 (4.0)	536 (2.9)	5 (1.9)	533 (6.4)	2 (1.1)	~ ~
Maltese – Malta	11 (0.1)	479 (3.8)	57 (0.1)	454 (2.1)	17 (0.1)	456 (3.8)	14 (0.1)	444 (3.5)
Eng/Afr (5) – RSA	r 22 (5.0)	516 (25.7)	32 (6.2)	433 (13.3)	16 (4.5)	364 (27.6)	31 (5.7)	355 (17.2)
Andalusia, Spain	11 (2.4)	520 (6.8)	70 (3.8)	513 (3.0)	9 (1.8)	533 (3.8)	10 (2.5)	506 (10.6)
Abu Dhabi, UAE	r 22 (3.6)	443 (11.8)	46 (4.8)	420 (7.5)	27 (3.8)	408 (7.7)	5 (1.7)	454 (22.4)
Dubai, UAE	r 51 (0.2)	509 (2.9)	39 (0.2)	456 (3.3)	10 (0.2)	408 (5.8)	0 (0.0)	~ ~
Florida, US	r 63 (6.9)	569 (4.0)	32 (6.2)	574 (8.2)	3 (2.5)	535 (44.9)	2 (0.1)	~ ~

[◇] Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

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

Country	More than 5,000 Book Titles		501–5,000 Book Titles		500 Book Titles or Fewer		No School Library	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Botswana	2 (1.0)	~ ~	9 (2.6)	503 (20.0)	37 (3.9)	464 (5.8)	51 (4.0)	449 (4.2)
Colombia	11 (2.4)	616 (8.1)	26 (4.0)	592 (8.5)	27 (3.8)	562 (4.9)	36 (4.1)	566 (5.4)
South Africa	6 (1.6)	585 (28.5)	15 (2.4)	514 (10.5)	20 (2.9)	445 (9.3)	59 (3.6)	430 (4.4)

Does your school have a school library?

1) Yes
2) No

If Yes,

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

1) 250 or fewer
2) 251–500
3) 501–2,000
4) 2,001–5,000
5) 5,001–10,000
6) More than 10,000

Exhibit 5.8: Schools with Computers Available for Instruction
Reported by Principals

Country	1 Computer for 1–2 Students		1 Computer for 3–5 Students		1 Computer for 6 or More Students		No Computers Available	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	65 (3.7)	528 (3.2)	26 (3.2)	526 (6.0)	9 (2.4)	533 (6.2)	0 (0.1)	~ ~
Austria	11 (2.4)	539 (5.7)	19 (2.7)	530 (4.7)	66 (3.7)	527 (2.3)	4 (3.0)	521 (21.8)
Azerbaijan	19 (3.2)	456 (12.1)	37 (4.1)	455 (5.4)	29 (3.7)	478 (5.2)	15 (3.2)	457 (8.7)
Belgium (French)	r 17 (3.7)	515 (6.6)	27 (5.0)	509 (6.3)	28 (5.1)	503 (6.8)	28 (4.6)	500 (5.1)
Bulgaria	40 (3.8)	522 (7.5)	32 (4.2)	543 (5.7)	27 (3.6)	534 (10.3)	1 (0.0)	~ ~
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)	~ ~
Colombia	31 (3.7)	444 (8.6)	31 (4.6)	456 (7.3)	26 (4.1)	438 (7.0)	12 (3.0)	447 (10.5)
Croatia	12 (2.4)	549 (4.0)	21 (3.3)	556 (3.9)	50 (4.3)	555 (3.0)	17 (3.1)	550 (4.4)
Czech Republic	66 (3.5)	542 (3.0)	26 (3.1)	552 (3.2)	5 (1.9)	551 (5.6)	3 (1.5)	562 (6.2)
Denmark	87 (2.2)	553 (1.9)	9 (1.9)	561 (5.6)	3 (1.4)	562 (6.9)	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)	~ ~
France	34 (4.2)	519 (4.9)	47 (4.4)	517 (4.1)	17 (3.1)	526 (6.4)	3 (1.5)	533 (4.4)
Georgia	64 (3.7)	478 (3.6)	25 (3.6)	496 (8.5)	9 (2.7)	521 (7.7)	2 (1.1)	~ ~
Germany	21 (2.5)	533 (6.4)	49 (3.6)	546 (3.2)	28 (3.4)	546 (3.8)	1 (0.9)	~ ~
Hong Kong SAR	55 (4.4)	566 (4.1)	44 (4.4)	578 (3.3)	1 (0.8)	~ ~	0 (0.0)	~ ~
Hungary	53 (3.9)	532 (4.2)	26 (3.4)	550 (7.3)	11 (2.8)	563 (8.8)	10 (2.7)	533 (12.6)
Indonesia	x x	x x	x x	x x	x x	x x	x x	x x
Iran, Islamic Rep. of	1 (0.5)	~ ~	2 (0.8)	~ ~	23 (3.3)	473 (6.0)	74 (3.4)	449 (3.9)
Ireland	35 (3.8)	545 (4.6)	27 (3.7)	556 (5.3)	38 (4.4)	555 (4.2)	0 (0.0)	~ ~
Israel	29 (4.0)	541 (9.0)	46 (4.3)	545 (5.5)	20 (3.6)	537 (9.8)	5 (1.7)	519 (24.3)
Italy	20 (3.0)	539 (5.0)	34 (3.4)	541 (3.7)	45 (3.6)	541 (3.9)	1 (0.0)	~ ~
Lithuania	29 (3.2)	516 (4.4)	24 (3.9)	528 (5.0)	42 (3.9)	538 (3.8)	5 (1.8)	520 (11.9)
Malta	15 (0.1)	501 (3.0)	67 (0.1)	469 (1.9)	18 (0.1)	480 (3.5)	0 (0.0)	~ ~
Morocco	11 (2.2)	317 (15.5)	10 (2.2)	335 (14.3)	49 (4.0)	315 (5.4)	31 (3.9)	297 (8.1)
Netherlands	r 41 (5.1)	544 (3.2)	27 (5.1)	548 (4.3)	32 (5.9)	549 (4.5)	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)	~ ~
Norway	58 (5.1)	507 (3.0)	26 (4.3)	504 (3.5)	16 (3.7)	511 (3.3)	1 (0.0)	~ ~
Oman	r 22 (2.3)	384 (5.6)	13 (1.9)	381 (9.6)	61 (2.8)	389 (4.1)	3 (0.8)	316 (14.1)
Poland	31 (3.0)	517 (4.4)	29 (3.7)	530 (3.3)	25 (3.4)	533 (4.4)	15 (2.6)	523 (6.6)
Portugal	15 (3.2)	551 (5.5)	20 (5.1)	533 (7.6)	58 (5.2)	543 (3.4)	7 (2.4)	535 (14.1)
Qatar	42 (3.5)	421 (6.7)	32 (3.7)	412 (8.5)	26 (1.3)	457 (8.3)	1 (0.6)	~ ~
Romania	42 (3.7)	488 (7.2)	34 (3.9)	510 (8.4)	19 (3.4)	517 (11.6)	5 (1.7)	508 (11.7)
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)
Saudi Arabia	16 (2.9)	423 (16.9)	20 (4.1)	432 (12.4)	28 (3.7)	429 (8.0)	36 (4.0)	434 (5.8)
Singapore	51 (0.0)	568 (4.7)	47 (0.0)	567 (5.1)	3 (0.0)	567 (34.2)	0 (0.0)	~ ~
Slovak Republic	81 (2.5)	534 (3.4)	14 (2.1)	535 (7.1)	4 (1.4)	534 (10.4)	0 (0.0)	~ ~
Slovenia	65 (3.3)	531 (2.4)	30 (3.7)	530 (3.9)	5 (1.6)	519 (9.0)	0 (0.0)	~ ~
Spain	50 (3.2)	505 (3.5)	33 (3.4)	520 (3.8)	13 (2.4)	532 (5.7)	4 (1.3)	515 (6.2)
Sweden	r 29 (3.6)	542 (5.3)	37 (4.6)	539 (4.3)	34 (4.4)	542 (3.7)	0 (0.0)	~ ~
Trinidad and Tobago	25 (3.4)	473 (9.9)	35 (3.9)	467 (6.9)	26 (3.2)	491 (8.0)	14 (2.7)	454 (10.8)
United Arab Emirates	r 32 (2.0)	426 (4.4)	40 (2.3)	419 (3.9)	27 (2.0)	461 (6.1)	1 (0.5)	~ ~
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)

SOURCE: 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 students.

An "x" indicates data are available for less than 50% of students.

Exhibit 5.8: Schools with Computers Available for Instruction (Continued)

Country	1 Computer for 1–2 Students		1 Computer for 3–5 Students		1 Computer for 6 or More Students		No Computers Available	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Sixth Grade Participants								
Botswana	13 (3.1)	429 (19.2)	15 (3.2)	467 (18.1)	41 (4.5)	412 (5.4)	31 (4.1)	404 (6.1)
Honduras	24 (3.9)	476 (12.0)	24 (4.0)	462 (5.9)	15 (2.7)	474 (7.6)	37 (4.0)	418 (9.0)
Kuwait	r 28 (3.6)	405 (14.2)	53 (4.5)	422 (6.8)	17 (4.0)	439 (26.3)	1 (0.9)	~ ~
Morocco	10 (2.2)	420 (13.9)	10 (2.1)	446 (10.1)	51 (3.6)	428 (7.7)	29 (3.4)	415 (5.2)
Benchmarking Participants[◊]								
Alberta, Canada	94 (2.4)	549 (3.1)	5 (2.2)	533 (10.4)	1 (0.0)	~ ~	0 (0.0)	~ ~
Ontario, Canada	r 70 (4.1)	553 (3.4)	18 (3.6)	547 (5.3)	13 (3.9)	531 (4.6)	0 (0.0)	~ ~
Quebec, Canada	64 (3.6)	541 (3.1)	29 (3.6)	535 (3.3)	7 (2.5)	537 (8.3)	0 (0.0)	~ ~
Maltese - Malta	15 (0.1)	463 (3.2)	67 (0.1)	458 (2.1)	18 (0.1)	447 (3.8)	0 (0.0)	~ ~
Eng/Afr (5) - RSA	r 19 (4.6)	464 (27.7)	29 (5.6)	443 (13.8)	22 (5.8)	422 (23.2)	31 (5.1)	356 (19.5)
Andalusia, Spain	45 (4.2)	513 (4.0)	25 (3.5)	510 (4.2)	16 (3.7)	522 (5.8)	13 (3.1)	518 (7.0)
Abu Dhabi, UAE	r 30 (3.7)	409 (9.4)	43 (3.9)	416 (7.5)	25 (3.9)	426 (11.9)	2 (1.2)	~ ~
Dubai, UAE	r 35 (0.4)	478 (2.5)	35 (0.5)	444 (4.6)	30 (0.3)	484 (4.4)	0 (0.0)	~ ~
Florida, US	r 56 (6.3)	570 (4.5)	35 (6.2)	575 (7.3)	9 (3.5)	542 (11.9)	0 (0.0)	~ ~

[◊] Republic of South Africa (RSA) tested 5th grade students receiving instruction in English (ENG) or Afrikaans (AFR).

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

Country	1 Computer for 1–2 Students		1 Computer for 3–5 Students		1 Computer for 6 or More Students		No Computers Available	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Botswana	r 8 (2.4)	463 (31.1)	14 (3.3)	518 (16.9)	39 (4.3)	462 (4.9)	39 (4.0)	449 (5.2)
Colombia	31 (3.7)	573 (7.1)	31 (4.6)	582 (6.2)	26 (4.1)	571 (5.7)	12 (3.0)	573 (10.9)
South Africa	r 15 (2.9)	479 (18.3)	20 (2.8)	494 (13.2)	17 (2.8)	472 (10.0)	48 (3.7)	434 (7.2)

The number of students per computer was calculated by dividing the number of students by the number of computers.

1) **What is the total enrollment of fourth grade students in your school as of the first day of the month PIRLS 2011 testing begins?**

2) **What is the total number of computers that can be used for instructional purposes by fourth grade students?**
