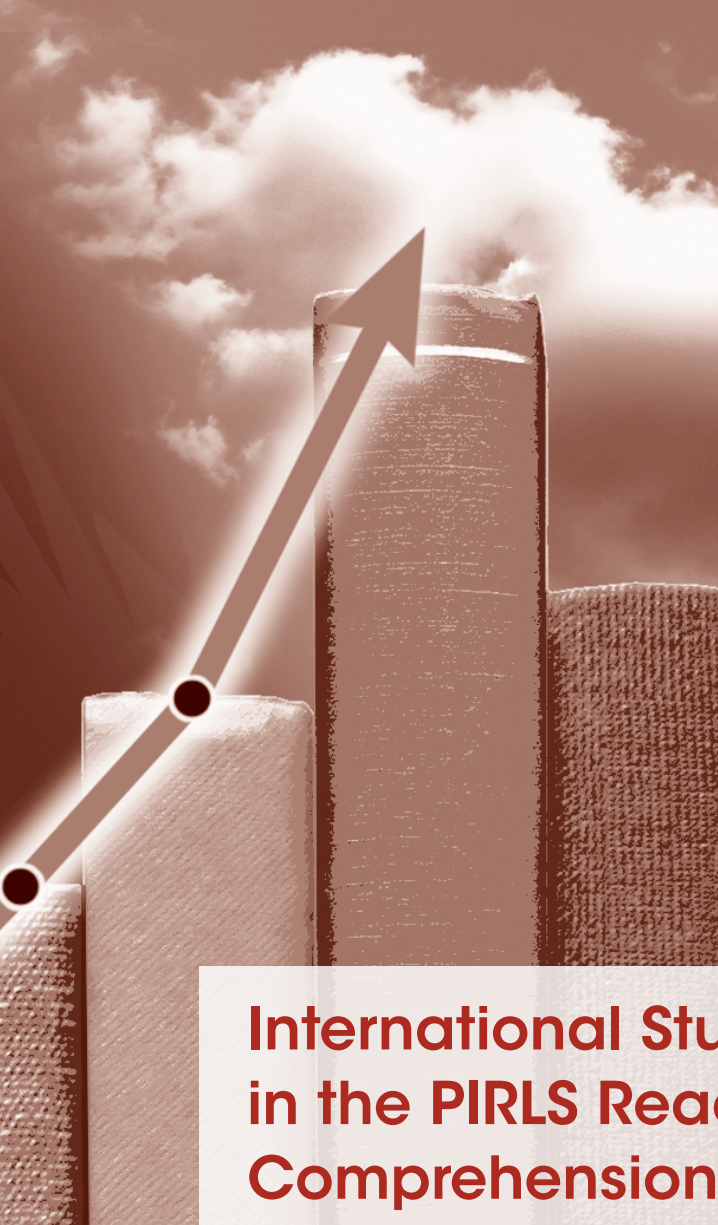


Chapter 3



International Student Achievement in the PIRLS Reading Purposes and Comprehension Processes

Generally, the PIRLS 2011 participants with the highest achievement overall also had the highest achievement across the reading purposes and processes. Many top-performing countries had a relative strength in the interpreting, integrating, and evaluating reading comprehension skills and strategies compared to their reading achievement overall—Hong Kong SAR, the Russian Federation, Singapore, Northern Ireland, and the US as well as the Canadian province of Ontario and the US state of Florida.

In literary reading, girls had higher achievement than boys in nearly every country. However, girls and boys had fewer achievement differences in informational reading across countries.

As explained the *PIRLS 2011 Assessment Framework*, PIRLS has assessed two overarching purposes for reading since its inception:

- ◆ Reading for literary experience; and
- ◆ Reading to acquire and use information.

These two purposes account for most reading done by young children in and out of school. Children often are exposed to stories from a young age, either orally or by being read to. As they grow older, they also encounter a wide variety of informational texts in the form of advertisements, games, and social media via the Internet and magazines, as well as directions and labels on everyday packages and items. In primary school, children's literary texts and readers typically contain a range of stories and narratives. More recently, there has been increased attention on informational reading in the early grades because children must learn to read a range of non-narrative text types in order to succeed in content area subjects as they progress through school. Also, understanding expository text often is key to success as adults, both in careers and daily life.

Within both reading purposes, each PIRLS assessment has been designed to measure four major processes of reading comprehension:

- ◆ Focusing on and retrieving explicitly stated information;
- ◆ Making straightforward inferences;
- ◆ Interpreting and integrating ideas and information; and
- ◆ Examining and evaluating content, language, and textual elements.

Previous PIRLS assessments have found that most countries performed relatively better in either literary or informational reading; and similarly, that most countries performed relatively better in either the retrieval-inferencing or the interpreting-integrating-evaluating comprehension processes. Chapter 3 presents the PIRLS 2011 results for the literary and informational reading purposes as well as for the comprehension processes, including trends in the reading purposes and processes compared to PIRLS 2001 and 2006. It should be noted that the PIRLS approach for estimating scale scores for the reading purposes and processes was strengthened for 2011.¹ As a result, the trends between 2001 and 2006 were re-estimated, and the updated trends are not directly comparable to the trends reported in PIRLS 2006. Finally, Chapter 3 also provides achievement differences by gender in the reading purposes and comprehension processes.

¹ Please see *Methods and Procedures in TIMSS and PIRLS 2011* on the TIMSS and PIRLS website for details (timssandpirls.bc.edu).

Relative Achievement by Literary and Informational Reading Purposes

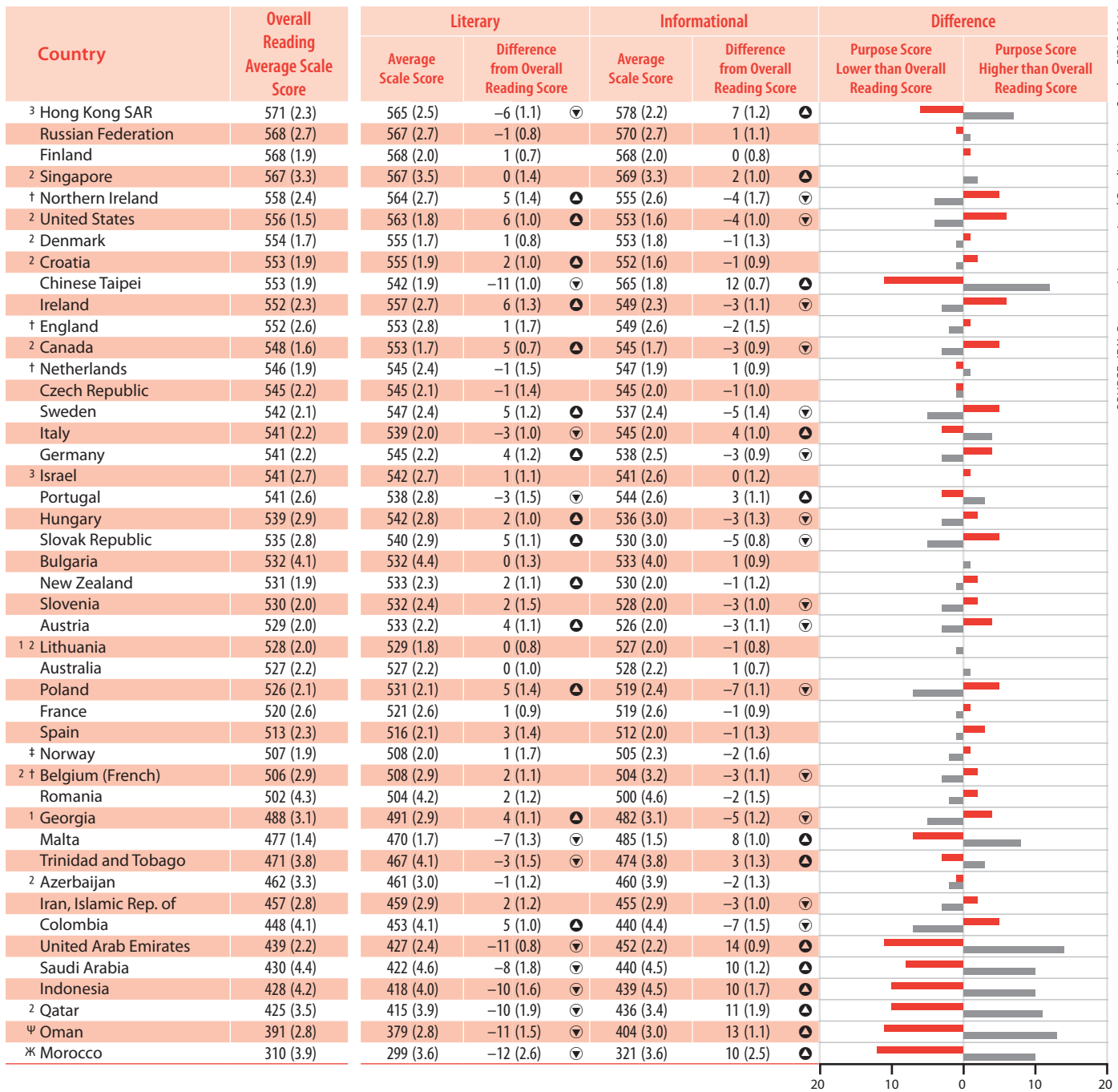
The PIRLS 2011 assessment included five literary passages and five informational passages, so that half of the assessment was devoted to each purpose. As described in Chapter 2, the literary texts were fictional stories where students could engage with the events, characters' actions and feelings, the setting, and ideas, as well as the language itself. The informational passages covered a variety of content and organizational structures. In addition to prose, each passage involved some variety in format and included features such as photographs, illustrations, text boxes, maps, and diagrams.

Exhibit 3.1 presents the average achievement for PIRLS 2011 participants in reading for literary purposes and in reading for informational purposes relative to overall reading achievement. It needs to be kept in mind that the literary and informational scale scores are not directly comparable, because they represent different constructs, and the items in each scale had somewhat different levels of difficulty. For example, as shown in Appendix E (which contains the average percent correct across the items on the PIRLS 2011 scales, on average internationally), the informational scale was more difficult for fourth grade students than the literary scale—50 percent correct on average compared to 59 percent correct, respectively. This pattern held for most but not all PIRLS 2011 participants.

To provide a way for PIRLS 2011 participants to examine relative performance in the two reading purposes, IRT scaling was used to place achievement in literary and informational reading on the PIRLS overall reading scale. The scaling process took the difficulty differences into account, so that average achievement for each of the two reading purposes can be compared relative to overall reading achievement.

In Exhibit 3.1, the first column presents overall average reading achievement followed by the results for the literary and informational reading purposes. PIRLS 2011 participants are presented in order by overall reading achievement, first for the fourth grade followed by the sixth grade, the benchmarking participants, and prePIRLS in Exhibit 3.2. The average scale score for each purpose is shown, together with the difference between achievement in overall reading and achievement in the reading purpose. Up and down arrows are used to indicate whether the literary average scale score or the informational average scale score is significantly higher or lower than the overall average reading score. In the bar graph, differences between literary and overall reading

Exhibit 3.1: Achievement in Reading Purposes



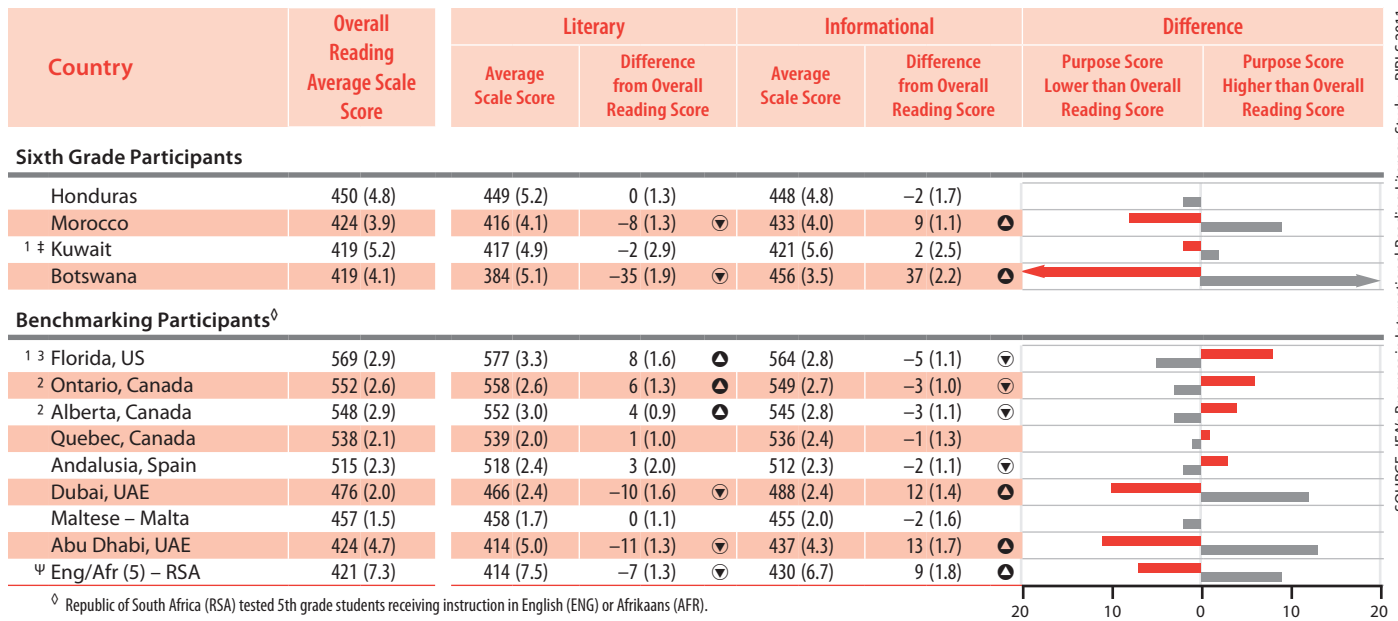
SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2011

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

- Literary Reading
- Informational Reading

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

Exhibit 3.1: Achievement in Reading Purposes (Continued)



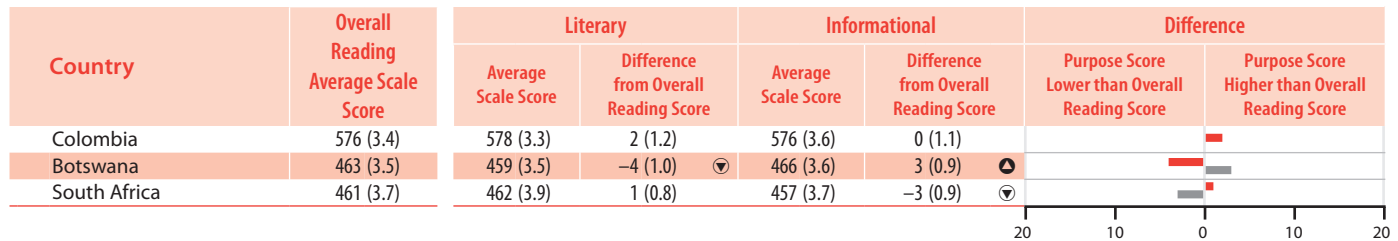
SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2011

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

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

- Literary Reading
- Informational Reading

Exhibit 3.2: Achievement in Reading Purposes



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

- Literary Reading
- Informational Reading

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

scale scores are shown in red and differences between informational and overall reading are shown in gray.

Generally, the PIRLS 2011 participants with the highest overall reading achievement also had the highest achievement in both literary and informational reading. Also, similar levels of achievement in both literary and informational reading may signal a well-balanced reading curriculum and instructional program. However, many countries performed relatively higher in one of the reading purposes compared to their overall performance; and, thus, usually relatively lower in the other. That is, students may have either a relative strength in one of the two reading purposes or a relative weakness in one, both a relative strength and a weakness, or neither. For example, among Hong Kong SAR, the Russian Federation, Finland, and Singapore (the four top-performing countries), Hong Kong performed relatively lower in literary reading and relatively higher in informational reading than it did overall. The Russian Federation and Finland showed no differences by reading purpose, and Singapore had no difference in literary reading compared to overall, but a relative strength in informational reading.

Of the next eight highest-performing countries, Northern Ireland and the United States performed significantly higher in literary reading and lower in informational reading; Denmark showed no differences; Croatia demonstrated a relative strength in literary reading; Chinese Taipei achieved relatively lower in literary reading and higher informational reading than overall; Ireland's pattern was the reverse—higher than overall in literary reading, but lower in informational reading; England had no differences; and Canada's results mirrored those in Ireland.

At the sixth grade, Honduras and Kuwait had no differences by reading purpose, but Morocco and, especially, Botswana had lower achievement in literary reading and higher achievement in informational reading than overall. In Botswana, this may reflect an emphasis on “class” reading of informational texts in the upper primary school curriculum, and that children have little access to libraries for wider reading opportunities.

Among the Benchmarking participants, the US state of Florida, and the Canadian provinces of Ontario and Alberta reflected the national results for the United States and Canada—relative strengths in literary reading accompanied by weaknesses in informational reading. However, French-speaking Québec had no differences. The Maltese students tested in English had relatively lower achievement in literary reading and higher achievement in informational

reading, although they showed no difference when assessed in Maltese. Whereas Spain had no achievement differences by reading purpose, its Andalusian region showed a relative strength in informational reading. The two Emirates, Dubai and Abu Dhabi, had the same pattern as the whole of the United Arab Emirates—relatively lower achievement than overall in literary reading and relatively higher achievement in informational reading. The South African students receiving instruction in English or Afrikaans also showed lower relative achievement in literary reading than they did overall, and higher relative achievement in informational reading.

Exhibit 3.2 contains the results by reading purposes for prePIRLS at the fourth grade. Colombia had no differences by reading purpose, but Botswana had relatively lower achievement in literary reading and higher achievement in informational reading than it did overall (as would be anticipated considering the large relative differences at sixth grade). South Africa had a relative weakness in informational reading.

Looking across the results in Exhibits 3.1 and 3.2, there is considerable diversity among countries with relative strengths and weaknesses in either literary or informational reading. However, it is interesting that the English-speaking countries, except England (paradoxically) and Australia, showed relative strengths in literary reading (and/or relative weaknesses in informational reading), whereas the East Asian countries demonstrated the opposite pattern—greater relative strengths in informational reading. The Arabic countries also showed relatively lower performance compared to their overall achievement in literary reading and relatively higher performance in informational reading.

Relative Achievement by Reading Comprehension Processes

PIRLS 2011 has two scales assessing comprehension processes. The retrieval-inferencing scale includes items assessing the retrieval process (20% of the assessment) and those assessing straightforward inferencing (30%), and is labeled Retrieving and Straightforward Inferencing in the report exhibits. The integrating scale combines the interpreting and integrating process items (30%) with the examining and evaluating process items (20%) and is labeled Interpreting, Integrating, and Evaluating in the exhibits. Thus, each of the two scales includes about half of the assessment items. For prePIRLS, there are also two comprehension process scales. However, one scale consists exclusively of retrieval items (50% of the assessment) and the other of straightforward

inferencing (25%) and interpreting-integrating-evaluating items (25%). In the prePIRLS exhibits, the first scale is labeled Retrieving and the second Inferencing and Integrating.

Exhibit 3.3 presents the average achievement for PIRLS 2011 participants in the retrieval-inferencing and interpreting-integrating-evaluating comprehension processes relative to overall reading achievement. Because these two scales represent quite different skills, it is expected that the assessment items would have different difficulty levels. The two average percent corrects shown in Appendix E were 64 percent for retrieval-inferencing and substantially lower—45 percent—for interpreting-integrating-evaluating. To allow each PIRLS 2011 participant to compare performance in the reading comprehension processes relative to overall reading achievement, IRT scaling was used to place achievement in the two categories of comprehension processes on the overall reading scale. Thus, average achievement for each of the two broad categories of reading processes, taking difficulty differences in account, can be compared relative to overall reading achievement.

The first three columns in Exhibit 3.3 present average achievement in overall reading followed by average achievement in the retrieval-inferencing and interpreting-integrating-evaluating reading processes. The PIRLS 2011 participants are presented in order by overall reading achievement, first for the fourth grade followed by the sixth grade, the benchmarking participants, and prePIRLS in Exhibit 3.4. Up and down arrows are used to indicate whether the retrieval-inferencing average scale score or the interpreting-integrating-evaluating average scale score is significantly different from the overall reading average score. Differences between retrieval-inferencing and overall reading scale scores are shown in red and differences between interpreting-integrating-evaluating and overall reading are shown in gray.

Generally, the PIRLS 2011 participants with the highest achievement overall also had the highest achievement on both comprehension process scales. It also is preferable for students to demonstrate high achievement in a range of reading comprehension skills and strategies. The results in Exhibit 3.3 reveal, however, that compared to their overall performance, many countries performed relatively higher in one comprehension process and relatively lower in the other. For example, there was a tendency for higher performing countries to perform relatively lower in the retrieval-inferencing processes and relatively higher in the interpreting-integrating-evaluating processes (after accounting for the difference in difficulty between the two). While Finland performed equally

well across both reading comprehension process scales, as did Croatia and Ireland, eight of the twelve highest-performing countries performed relatively higher in the interpreting-integrating-evaluating process than they did overall (Hong Kong SAR, the Russian Federation, Singapore, Northern Ireland, the United States, Chinese Taipei, England, and Canada).

Trends in Achievement in Reading Purposes and Comprehension Processes

Exhibit 3.5 shows trends in average achievement in reading for the literary and informational purposes for fourth-grade students. Countries are shown in alphabetical order, followed by the benchmarking participants. In general, overall increases or decreases in reading achievement since 2001 and 2006 were reflected in increases or decreases in both literary and informational purposes.

However, there were some notable differences. Literary reading achievement in France has remained relatively stable but achievement in informational reading has declined since 2001 (13 points). In Hungary, informational reading achievement has remained essentially the same over the decade but literary reading has declined (10 points). Norwegian fourth-grade students have remained at the same level over the decade in literary reading but improved substantially in informational reading (14 points).

Exhibit 3.6 shows trends between PIRLS 2001 and PIRLS 2011 in average achievement in reading for the retrieval-inferencing and interpreting-integrating-evaluating comprehension processes for fourth grade students. Countries are shown in alphabetical order, followed by the benchmarking participants. Similar to the trend results for the reading purposes, overall increases or decreases in reading achievement since 2001 and 2006 were reflected in increases or decreases in both comprehension process achievement scales.

Substantial improvement (12 points) in the interpreting-integrating-evaluating comprehension process was shown by both the Czech Republic (since 2001) and Denmark (since 2006), although neither showed an increase in the retrieval-inferencing process. Retrieval-inferencing achievement in France has remained relatively stable across the decade but achievement in the interpreting-integrating-evaluating processes has declined (11 points). In Norway, retrieval-inferencing achievement also has remained relatively stable across the decade but there were improvements (10 points) in the interpreting-integrating-evaluating processes.

Exhibit 3.3: Achievement in Comprehension Processes

Country	Overall Reading Average Scale Score	Retrieving and Straightforward Inferencing		Interpreting, Integrating, and Evaluating		Difference	
		Average Scale Score	Difference from Overall Reading Score	Average Scale Score	Difference from Overall Reading Score	Process Score Lower than Overall Reading Score	Process Score Higher than Overall Reading Score
³ Hong Kong SAR	571 (2.3)	562 (2.0)	-8 (1.0) ▼	578 (2.4)	7 (1.0) ▲		
Russian Federation	568 (2.7)	565 (2.7)	-3 (1.2) ▼	571 (2.6)	2 (0.9) ▲		
Finland	568 (1.9)	569 (2.0)	1 (0.9)	567 (1.8)	-1 (0.7)		
² Singapore	567 (3.3)	565 (3.4)	-2 (1.3)	570 (3.4)	3 (1.2) ▲		
[†] Northern Ireland	558 (2.4)	555 (2.5)	-3 (1.0) ▼	562 (2.5)	4 (1.0) ▲		
² United States	556 (1.5)	549 (1.5)	-7 (0.7) ▼	563 (1.6)	6 (0.6) ▲		
² Denmark	554 (1.7)	556 (1.9)	2 (1.1) ▲	553 (1.5)	-1 (0.8)		
² Croatia	553 (1.9)	554 (2.0)	1 (1.0)	552 (1.7)	-1 (1.1)		
Chinese Taipei	553 (1.9)	551 (1.8)	-1 (0.8)	555 (1.9)	2 (0.7) ▲		
Ireland	552 (2.3)	552 (2.8)	0 (1.8)	553 (2.2)	2 (0.9) ▲		
[†] England	552 (2.6)	546 (2.6)	-6 (1.3) ▼	555 (2.7)	4 (1.1) ▲		
² Canada	548 (1.6)	543 (1.5)	-5 (0.6) ▼	554 (1.5)	5 (0.4) ▲		
[†] Netherlands	546 (1.9)	549 (2.2)	3 (1.0) ▲	543 (2.0)	-3 (1.0) ▼		
Czech Republic	545 (2.2)	548 (2.4)	3 (0.9) ▲	544 (2.0)	-2 (0.9)		
Sweden	542 (2.1)	543 (2.1)	1 (1.0)	540 (2.1)	-1 (0.9)		
Italy	541 (2.2)	539 (1.9)	-2 (1.2)	544 (2.0)	3 (0.9) ▲		
Germany	541 (2.2)	548 (2.3)	7 (0.9) ▲	536 (2.2)	-5 (1.0) ▼		
³ Israel	541 (2.7)	538 (2.9)	-3 (1.4) ▼	543 (3.0)	2 (1.4)		
Portugal	541 (2.6)	539 (2.8)	-2 (1.6)	542 (2.6)	1 (1.0)		
Hungary	539 (2.9)	537 (2.8)	-2 (0.9) ▼	542 (2.7)	3 (1.2) ▲		
Slovak Republic	535 (2.8)	534 (2.9)	-1 (1.0)	536 (2.7)	1 (0.6)		
Bulgaria	532 (4.1)	532 (4.0)	0 (1.0)	532 (3.9)	0 (1.0)		
New Zealand	531 (1.9)	527 (2.0)	-4 (0.9) ▼	535 (1.9)	4 (1.4) ▲		
Slovenia	530 (2.0)	533 (1.9)	2 (1.4)	530 (2.2)	-1 (1.8)		
Austria	529 (2.0)	539 (2.3)	10 (1.4) ▲	521 (2.0)	-8 (0.8) ▼		
^{1 2} Lithuania	528 (2.0)	530 (1.9)	2 (1.1)	527 (2.0)	-1 (1.1)		
Australia	527 (2.2)	527 (2.6)	-1 (1.3)	529 (2.2)	2 (1.0)		
Poland	526 (2.1)	526 (2.1)	1 (1.1)	525 (2.1)	-1 (1.3)		
France	520 (2.6)	528 (2.4)	8 (1.0) ▲	512 (2.8)	-8 (1.5) ▼		
Spain	513 (2.3)	516 (2.1)	3 (1.0) ▲	510 (2.1)	-3 (1.0) ▼		
[‡] Norway	507 (1.9)	511 (1.8)	4 (0.9) ▲	502 (2.6)	-5 (1.7) ▼		
^{2 †} Belgium (French)	506 (2.9)	512 (2.9)	6 (0.7) ▲	499 (3.2)	-7 (1.4) ▼		
Romania	502 (4.3)	500 (4.2)	-2 (1.1) ▼	503 (4.5)	1 (1.3)		
¹ Georgia	488 (3.1)	484 (3.0)	-4 (1.2) ▼	491 (3.1)	3 (1.1) ▲		
Malta	477 (1.4)	479 (1.9)	2 (1.7)	475 (1.8)	-2 (1.2)		
Trinidad and Tobago	471 (3.8)	474 (3.8)	3 (0.9) ▲	464 (4.0)	-7 (1.1) ▼		
² Azerbaijan	462 (3.3)	469 (3.2)	6 (1.0) ▲	449 (3.7)	-13 (1.3) ▼		
Iran, Islamic Rep. of	457 (2.8)	458 (2.9)	0 (0.9)	456 (3.0)	-1 (1.5)		
Colombia	448 (4.1)	450 (4.1)	3 (1.2) ▲	442 (4.6)	-5 (1.7) ▼		
United Arab Emirates	439 (2.2)	439 (2.3)	0 (0.9)	438 (2.3)	-1 (0.7)		
Saudi Arabia	430 (4.4)	433 (4.6)	4 (1.3) ▲	424 (4.6)	-6 (1.5) ▼		
Indonesia	428 (4.2)	431 (4.3)	2 (1.6)	423 (4.7)	-6 (2.0) ▼		
² Qatar	425 (3.5)	424 (3.6)	-1 (1.2)	425 (3.8)	1 (1.0)		
^ψ Oman	391 (2.8)	395 (2.4)	4 (1.1) ▲	382 (3.0)	-9 (1.1) ▼		
[✳] Morocco	310 (3.9)	325 (3.2)	14 (2.3) ▲	288 (4.3)	-22 (3.0) ▼		

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

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

■ Retrieving and Straightforward Inferencing
 ■ Interpreting, Integrating, and Evaluating

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

Exhibit 3.3: Achievement in Comprehension Processes (Continued)

Country	Overall Reading Average Scale Score	Retrieving and Straightforward Inferencing		Interpreting, Integrating, and Evaluating		Difference	
		Average Scale Score	Difference from Overall Reading Score	Average Scale Score	Difference from Overall Reading Score	Process Score Lower than Overall Reading Score	Process Score Higher than Overall Reading Score
Sixth Grade Participants							
Honduras	450 (4.8)	452 (4.9)	3 (1.0) ▲	443 (5.0)	-7 (1.8) ▼		
Morocco	424 (3.9)	430 (3.8)	6 (1.0) ▲	412 (4.0)	-12 (1.7) ▼		
¹ † Kuwait	419 (5.2)	422 (4.4)	3 (1.5) ▲	414 (5.4)	-5 (2.4) ▼		
Botswana	419 (4.1)	417 (4.1)	-2 (1.2)	421 (3.9)	2 (0.9) ▲		
Benchmarking Participants[⊙]							
¹ ³ Florida, US	569 (2.9)	564 (2.9)	-5 (1.4) ▼	574 (2.8)	5 (1.0) ▲		
² Ontario, Canada	552 (2.6)	545 (2.5)	-7 (1.3) ▼	559 (2.6)	8 (0.9) ▲		
² Alberta, Canada	548 (2.9)	542 (2.9)	-6 (0.9) ▼	554 (3.2)	6 (1.8) ▲		
Quebec, Canada	538 (2.1)	538 (2.1)	0 (1.1)	538 (2.3)	0 (1.6)		
Andalusia, Spain	515 (2.3)	518 (2.3)	3 (1.2) ▲	510 (2.4)	-5 (0.9) ▼		
Dubai, UAE	476 (2.0)	478 (2.2)	1 (1.5)	474 (2.1)	-2 (1.4)		
Maltese – Malta	457 (1.5)	461 (2.4)	3 (1.9)	451 (1.6)	-6 (1.2) ▼		
Abu Dhabi, UAE	424 (4.7)	424 (4.5)	0 (1.2)	425 (4.6)	1 (1.6)		
⊙ Eng/Afr (5) – RSA	421 (7.3)	420 (7.3)	-1 (1.5)	422 (7.0)	1 (2.1)		

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

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

- Retrieving and Straightforward Inferencing
- Interpreting, Integrating, and Evaluating

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

Exhibit 3.4: Achievement in Comprehension Processes

Country	Overall Reading Average Scale Score	Retrieving		Inferencing and Integrating		Difference	
		Average Scale Score	Difference from Overall Reading Score	Average Scale Score	Difference from Overall Reading Score	Process Score Lower than Overall Reading Score	Process Score Higher than Overall Reading Score
Colombia	576 (3.4)	577 (3.8)	1 (1.9)	578 (3.4)	1 (1.2)		
Botswana	463 (3.5)	464 (3.5)	0 (0.7)	464 (3.5)	0 (1.3)		
South Africa	461 (3.7)	461 (3.8)	0 (0.7)	459 (3.8)	-2 (1.0)		

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

- Retrieving
- Inferencing and Integrating

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

Instructions: Read across the row to determine if the performance in the row year is significantly higher (▲) or significantly lower (▼) than the performance in the column year.

Country	Literary				Informational			
	Assessment Year	Average Scale Score	Differences Between Years		Assessment Year	Average Scale Score	Differences Between Years	
			2006	2001			2006	2001
Austria								
2011	533 (2.2)	-7 ▼		2011	526 (2.0)	-10 ▼		
2006	540 (2.2)			2006	536 (2.3)			
Belgium (French)								
2011	508 (2.9)	8 ▲		2011	504 (3.2)	7		
2006	500 (2.5)			2006	497 (2.9)			
Bulgaria								
2011	532 (4.4)	-12	-19 ▼	2011	533 (4.0)	-18 ▼	-18 ▼	
2006	544 (4.7)		-7	2006	551 (4.5)		0	
2001	551 (4.0)			2001	551 (3.8)			
Chinese Taipei								
2011	542 (1.9)	9 ▲		2011	565 (1.8)	27 ▲		
2006	532 (2.1)			2006	539 (1.8)			
Colombia								
2011	453 (4.1)		29 ▲	2011	440 (4.4)		22 ▲	
2001	424 (4.7)			2001	419 (4.5)			
Czech Republic								
2011	545 (2.1)		7 ▲	2011	545 (2.0)		9 ▲	
2001	538 (2.3)			2001	536 (2.6)			
Denmark								
2011	555 (1.7)	6		2011	553 (1.8)	10 ▲		
2006	549 (2.6)			2006	543 (2.6)			
England								
2011	553 (2.8)	12 ▲	-9	2011	549 (2.6)	11 ▲	1	
2006	540 (2.6)		-21 ▼	2006	538 (2.6)		-10 ▼	
2001	561 (3.8)			2001	548 (3.7)			
France								
2011	521 (2.6)	4	2	2011	519 (2.6)	-7 ▼	-13 ▼	
2006	517 (2.5)		-2	2006	526 (2.2)		-6	
2001	519 (2.6)			2001	532 (2.6)			
Georgia								
2011	491 (2.9)	15 ▲		2011	482 (3.1)	20 ▲		
2006	477 (3.3)			2006	462 (3.8)			
Germany								
2011	545 (2.2)	-6	5	2011	538 (2.5)	-8 ▼	-2	
2006	551 (2.1)		11 ▲	2006	546 (2.4)		6 ▲	
2001	539 (1.8)			2001	539 (1.8)			
Hong Kong SAR								
2011	565 (2.5)	5	45 ▲	2011	578 (2.2)	7 ▲	41 ▲	
2006	559 (2.7)		39 ▲	2006	570 (2.3)		33 ▲	
2001	520 (3.4)			2001	537 (3.1)			
Hungary								
2011	542 (2.8)	-17 ▼	-10 ▼	2011	536 (3.0)	-6	-1	
2006	559 (3.0)		8 ▲	2006	542 (3.2)		6	
2001	551 (2.2)			2001	537 (2.2)			
Indonesia								
2011	418 (4.0)	24 ▲		2011	439 (4.5)	26 ▲		
2006	395 (4.1)			2006	413 (4.4)			
Iran, Islamic Rep. of								
2011	459 (2.9)	34 ▲	39 ▲	2011	455 (2.9)	40 ▲	52 ▲	
2006	425 (3.3)		4	2006	415 (3.2)		12 ▲	
2001	420 (4.4)			2001	403 (4.5)			

- ▲ More recent year significantly higher
- ▼ More recent year significantly lower

Ψ Reservations about reliability of average achievement because the percentage of students with achievement too low for estimation does not exceed 25% but exceeds 15%. Such annotations in exhibits with trend data began in 2011, so data from assessments prior to 2011 are not annotated for reservations.

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

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

Exhibit 3.5: Trends in Achievement for Reading Purposes (Continued)

Instructions: Read across the row to determine if the performance in the row year is significantly higher (▲) or significantly lower (▼) than the performance in the column year.

Country	Literary			Informational				
	Assessment Year	Average Scale Score	Differences Between Years		Assessment Year	Average Scale Score	Differences Between Years	
			2006	2001			2006	2001
Italy								
2011	539 (2.0)	-15 ▼	-7 ▼	2011	545 (2.0)	-5	8 ▲	
2006	554 (3.4)		8	2006	550 (3.0)		13 ▲	
2001	546 (2.7)			2001	537 (2.6)			
Lithuania								
2011	529 (1.8)	-15 ▼	-19 ▼	2011	527 (2.0)	-3	-12 ▼	
2006	543 (2.0)		-5	2006	530 (1.7)		-9 ▼	
2001	548 (2.8)			2001	539 (2.8)			
Netherlands								
2011	545 (2.4)	-2	-10 ▼	2011	547 (1.9)	-2	-7 ▼	
2006	546 (1.9)		-9 ▼	2006	549 (1.5)		-5	
2001	555 (2.6)			2001	554 (2.8)			
New Zealand								
2011	533 (2.3)	4	-1	2011	530 (2.0)	-5	4	
2006	529 (2.1)		-6	2006	534 (2.4)		8	
2001	535 (4.1)			2001	526 (4.0)			
Norway								
2011	508 (2.0)	6	0	2011	505 (2.3)	12 ▲	14 ▲	
2006	502 (2.6)		-5	2006	493 (2.8)		2	
2001	507 (3.1)			2001	491 (3.1)			
Poland								
2011	531 (2.1)	6		2011	519 (2.4)	5		
2006	525 (2.5)			2006	514 (2.2)			
Romania								
2011	504 (4.2)	11	-9	2011	500 (4.6)	15 ▲	-11	
2006	493 (5.0)		-20 ▼	2006	485 (5.2)		-26 ▼	
2001	513 (4.8)			2001	511 (5.1)			
Russian Federation								
2011	567 (2.7)	4	42 ▲	2011	570 (2.7)	4	40 ▲	
2006	563 (3.4)		38 ▲	2006	566 (3.5)		35 ▲	
2001	526 (4.2)			2001	530 (4.6)			
Singapore								
2011	567 (3.5)	13 ▲	36 ▲	2011	569 (3.3)	4	42 ▲	
2006	554 (3.0)		23 ▲	2006	565 (2.9)		37 ▲	
2001	531 (5.8)			2001	528 (5.2)			
Slovak Republic								
2011	540 (2.9)	5	25 ▲	2011	530 (3.0)	3	9 ▲	
2006	535 (2.9)		21 ▲	2006	527 (2.7)		5	
2001	514 (2.9)			2001	522 (2.9)			
Slovenia								
2011	532 (2.4)	12 ▲	32 ▲	2011	528 (2.0)	5	26 ▲	
2006	521 (2.0)		20 ▲	2006	523 (2.4)		21 ▲	
2001	501 (2.1)			2001	502 (2.1)			
Spain								
2011	516 (2.1)	-2		2011	512 (2.0)	5		
2006	517 (2.7)			2006	507 (2.8)			
Sweden								
2011	547 (2.4)	-1	-15 ▼	2011	537 (2.4)	-13 ▼	-23 ▼	
2006	548 (2.2)		-14 ▼	2006	550 (2.5)		-10 ▼	
2001	562 (2.4)			2001	560 (2.4)			

- ▲ More recent year significantly higher
- ▼ More recent year significantly lower

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

Instructions: Read across the row to determine if the performance in the row year is significantly higher (▲) or significantly lower (▼) than the performance in the column year.

Literary				Informational				
Country	Assessment Year	Average Scale Score	Differences Between Years		Assessment Year	Average Scale Score	Differences Between Years	
			2006	2001			2006	2001
Trinidad and Tobago								
	2011	467 (4.1)	35 ▲		2011	474 (3.8)	37 ▲	
	2006	433 (4.8)			2006	436 (4.8)		
United States								
	2011	563 (1.8)	20 ▲	10 ▲	2011	553 (1.6)	15 ▲	19 ▲
	2006	542 (3.7)		-10	2006	538 (3.7)		4
	2001	552 (4.1)			2001	534 (3.9)		
Benchmarking Participants[◊]								
Alberta, Canada								
	2011	552 (3.0)	-11 ▼		2011	545 (2.8)	-13 ▼	
	2006	563 (2.8)			2006	558 (2.6)		
Ontario, Canada								
	2011	558 (2.6)	1	4	2011	549 (2.7)	-5	5
	2006	558 (3.1)		4	2006	554 (3.0)		10 ▲
	2001	554 (3.4)			2001	544 (3.5)		
Quebec, Canada								
	2011	539 (2.0)	8 ▲	3	2011	536 (2.4)	2	-6
	2006	531 (2.8)		-5	2006	534 (2.9)		-8 ▼
	2001	536 (3.2)			2001	542 (3.0)		
Eng/Afr (5) - RSA								
Ψ	2011	414 (7.5)	22		2011	430 (6.7)	17	
	2006	392 (12.6)			2006	413 (11.5)		

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

- ▲ More recent year significantly higher
- ▼ More recent year significantly lower

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

Exhibit 3.6: Trends in Achievement for Comprehension Processes

Instructions: Read across the row to determine if the performance in the row year is significantly higher (▲) or significantly lower (▼) than the performance in the column year.

Retrieving and Straightforward Inferencing				Interpreting, Integrating, and Evaluating				
Country	Assessment Year	Average Scale Score	Differences Between Years		Assessment Year	Average Scale Score	Differences Between Years	
			2006	2001			2006	2001
Austria								
	2011	539 (2.3)	-9 ▼		2011	521 (2.0)	-8 ▼	
	2006	548 (2.2)			2006	528 (2.4)		
Belgium (French)								
	2011	512 (2.9)	8		2011	499 (3.2)	6	
	2006	504 (2.6)			2006	493 (2.7)		
Bulgaria								
	2011	532 (4.0)	-9	-20 ▼	2011	532 (3.9)	-20 ▼	-18 ▼
	2006	541 (4.2)		-11	2006	552 (4.7)		1
	2001	552 (4.1)			2001	550 (3.6)		
Chinese Taipei								
	2011	551 (1.8)	7 ▲		2011	555 (1.9)	27 ▲	
	2006	545 (2.0)			2006	527 (2.0)		
Colombia								
	2011	450 (4.1)		20 ▲	2011	442 (4.6)		32 ▲
	2001	431 (4.3)			2001	410 (4.9)		
Czech Republic								
	2011	548 (2.4)		5	2011	544 (2.0)		12 ▲
	2001	543 (2.7)			2001	532 (2.3)		
Denmark								
	2011	556 (1.9)	3		2011	553 (1.5)	12 ▲	
	2006	554 (2.8)			2006	541 (2.4)		
England								
	2011	546 (2.6)	9 ▲	-3	2011	555 (2.7)	13 ▲	-1
	2006	537 (2.7)		-12 ▼	2006	542 (2.5)		-14 ▼
	2001	549 (3.2)			2001	556 (3.5)		
France								
	2011	528 (2.4)	1	-1	2011	512 (2.8)	-4	-11 ▼
	2006	527 (2.1)		-2	2006	515 (2.4)		-7 ▼
	2001	529 (2.7)			2001	523 (2.5)		
Georgia								
	2011	484 (3.0)	4		2011	491 (3.1)	35 ▲	
	2006	480 (3.4)			2006	456 (3.7)		
Germany								
	2011	548 (2.3)	-10 ▼	3	2011	536 (2.2)	-4	1
	2006	558 (2.6)		13 ▲	2006	540 (2.2)		5
	2001	545 (1.8)			2001	535 (2.0)		
Hong Kong SAR								
	2011	562 (2.0)	1	37 ▲	2011	578 (2.4)	12 ▲	48 ▲
	2006	561 (2.5)		37 ▲	2006	566 (2.6)		36 ▲
	2001	525 (3.2)			2001	530 (3.4)		
Hungary								
	2011	537 (2.8)	-10 ▼	-6	2011	542 (2.7)	-12 ▼	-2
	2006	547 (2.8)		4	2006	554 (3.2)		10 ▲
	2001	543 (2.1)			2001	544 (2.2)		
Indonesia								
	2011	431 (4.3)	21 ▲		2011	423 (4.7)	29 ▲	
	2006	410 (4.1)			2006	394 (4.7)		
Iran, Islamic Rep. of								
	2011	458 (2.9)	29 ▲	35 ▲	2011	456 (3.0)	48 ▲	58 ▲
	2006	429 (3.5)		6	2006	409 (3.5)		10
	2001	423 (4.6)			2001	399 (5.0)		

▲ More recent year significantly higher
▼ More recent year significantly lower

Ψ Reservations about reliability of average achievement because the percentage of students with achievement too low for estimation does not exceed 25% but exceeds 15%. Such annotations in exhibits with trend data began in 2011, so data from assessments prior to 2011 are not annotated for reservations.

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

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

Instructions: Read across the row to determine if the performance in the row year is significantly higher (▲) or significantly lower (▼) than the performance in the column year.

Retrieving and Straightforward Inferencing				Interpreting, Integrating, and Evaluating				
Country	Assessment Year	Average Scale Score	Differences Between Years		Assessment Year	Average Scale Score	Differences Between Years	
			2006	2001			2006	2001
Italy								
	2011	539 (1.9)	-8 ▼	-2	2011	544 (2.0)	-12 ▼	3
	2006	547 (2.9)		6	2006	556 (3.0)		16 ▲
	2001	541 (2.4)			2001	540 (2.6)		
Lithuania								
	2011	530 (1.9)	-5 ▼	-13 ▼	2011	527 (2.0)	-11 ▼	-16 ▼
	2006	536 (1.9)		-8 ▼	2006	539 (1.8)		-5
	2001	543 (3.1)			2001	544 (2.8)		
Netherlands								
	2011	549 (2.2)	-5	-10 ▼	2011	543 (2.0)	1	-8 ▼
	2006	554 (1.8)		-5	2006	542 (1.7)		-10 ▼
	2001	559 (2.6)			2001	552 (2.4)		
New Zealand								
	2011	527 (2.0)	0	3	2011	535 (1.9)	-1	1
	2006	527 (2.4)		2	2006	537 (2.3)		2
	2001	525 (3.9)			2001	534 (4.0)		
Norway								
	2011	511 (1.8)	5	4	2011	502 (2.6)	11 ▲	10 ▲
	2006	506 (2.3)		-1	2006	490 (2.6)		-2
	2001	508 (2.9)			2001	492 (3.0)		
Poland								
	2011	526 (2.1)	7 ▲		2011	525 (2.1)	5	
	2006	519 (2.3)			2006	519 (2.5)		
Romania								
	2011	500 (4.2)	9	-12	2011	503 (4.5)	17 ▲	-9
	2006	491 (5.4)		-21 ▼	2006	486 (5.6)		-26 ▼
	2001	512 (5.2)			2001	512 (4.8)		
Russian Federation								
	2011	565 (2.7)	0	32 ▲	2011	571 (2.6)	7	47 ▲
	2006	565 (3.4)		32 ▲	2006	564 (3.4)		40 ▲
	2001	533 (4.3)			2001	524 (5.0)		
Singapore								
	2011	565 (3.4)	2	31 ▲	2011	570 (3.4)	14 ▲	44 ▲
	2006	563 (3.2)		29 ▲	2006	557 (2.9)		31 ▲
	2001	534 (5.6)			2001	526 (5.1)		
Slovak Republic								
	2011	534 (2.9)	2	10 ▲	2011	536 (2.7)	6	24 ▲
	2006	533 (2.8)		8 ▲	2006	530 (3.0)		18 ▲
	2001	524 (2.8)			2001	512 (3.2)		
Slovenia								
	2011	533 (1.9)	11 ▲	26 ▲	2011	530 (2.2)	8 ▲	32 ▲
	2006	522 (2.2)		15 ▲	2006	522 (2.1)		25 ▲
	2001	506 (2.2)			2001	497 (2.2)		
Spain								
	2011	516 (2.1)	5		2011	510 (2.1)	-3	
	2006	511 (2.6)			2006	513 (2.8)		
Sweden								
	2011	543 (2.1)	-11 ▼	-23 ▼	2011	540 (2.1)	-6	-18 ▼
	2006	554 (2.3)		-12 ▼	2006	546 (2.3)		-13 ▼
	2001	565 (2.5)			2001	559 (2.2)		

▲ More recent year significantly higher
▼ More recent year significantly lower

Exhibit 3.6: Trends in Achievement for Comprehension Processes (Continued)

Instructions: Read across the row to determine if the performance in the row year is significantly higher (▲) or significantly lower (▼) than the performance in the column year.

Retrieving and Straightforward Inferencing				Interpreting, Integrating, and Evaluating				
Country	Assessment Year	Average Scale Score	Differences Between Years		Assessment Year	Average Scale Score	Differences Between Years	
			2006	2001			2006	2001
Trinidad and Tobago								
	2011	474 (3.8)	34 ▲		2011	464 (4.0)	35 ▲	
	2006	440 (4.9)			2006	429 (5.2)		
United States								
	2011	549 (1.5)	14 ▲	11 ▲	2011	563 (1.6)	17 ▲	16 ▲
	2006	535 (3.4)		-3	2006	545 (3.7)		-2
	2001	538 (4.3)			2001	547 (3.8)		

Benchmarking Participants[◇]

Alberta, Canada								
	2011	542 (2.9)	-15 ▼		2011	554 (3.2)	-11 ▼	
	2006	557 (2.8)			2006	565 (2.6)		
Ontario, Canada								
	2011	545 (2.5)	-3	3	2011	559 (2.6)	-3	6
	2006	547 (3.2)		6	2006	563 (3.1)		9 ▲
	2001	541 (3.3)			2001	553 (2.9)		
Quebec, Canada								
	2011	538 (2.1)	2	1	2011	538 (2.3)	8 ▲	-2
	2006	536 (2.7)		0	2006	530 (2.8)		-10 ▼
	2001	537 (3.1)			2001	540 (2.9)		
Eng/Afr (5) - RSA								
Ψ	2011	420 (7.3)	16		2011	422 (7.0)	21	
	2006	404 (12.0)			2006	400 (12.3)		

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

- ▲ More recent year significantly higher
- ▼ More recent year significantly lower

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

Achievement in the Reading Purposes and Comprehension Processes by Gender

Exhibit 3.7 presents the PIRLS 2011 gender differences in average achievement for the two reading purposes, literary and informational, as well as for the two comprehension processes, retrieval-inferencing and interpreting-integrating-evaluating. For the literary reading purpose, girls had significantly higher average achievement than boys in every participating entity except Colombia and Israel. By contrast, a number of European countries had little if any gender difference in informational reading, including Austria, Belgium (French), Czech Republic, France, Germany, Italy, the Netherlands, Poland, and Spain. Colombia and Israel also had no gender difference in informational reading, as was the case in the two benchmarking participants of Andalusia, Spain and Dubai, United Arab Emirates. The larger gender gap in literary compared to informational reading also was reflected in the average achievement differences. Across the countries, on average, fourth grade girls had a 20-point advantage in literary reading (522 vs. 502) compared to a 12-point advantage in informational reading (519 vs. 507).

Exhibit 3.8 presents average achievement by gender for prePIRLS. Not surprisingly (because they were the same students as for PIRLS), the Colombian students did not show a gender difference for the reading purposes. However, girls in Botswana and South Africa had higher average reading achievement than boys in both literary and informational reading.

Mirroring the results overall and for the literary and informational purposes, girls typically had higher achievement than boys in both the retrieval-inferencing and interpreting-integrating-evaluating comprehension processes, with an equivalent gender gap. Across the countries, on average, fourth grade girls had a 16-point advantage in the retrieval-inferencing processes (521 vs. 505), compared to a 17-point advantage in the interpreting-integrating-evaluating process (519 vs. 502). Several countries did not have gender differences for the retrieval-inferencing processes, including Austria, Colombia, Israel, Italy, the Netherlands, Spain, and the benchmarking participant of Dubai. For the interpreting-integrating-evaluating processes, there was no gender difference in Belgium (French), Colombia, France, Israel, and Italy. In all countries participating at the sixth grade, girls had higher achievement than boys in both types of comprehension processes. For prePIRLS, the girls in Botswana and South Africa had higher average achievement than boys in both the retrieving and inferencing-integrating comprehension processes. There were no gender differences in Colombia in average achievement for the comprehension processes.

Exhibit 3.7: Achievement in Reading Purposes and Comprehension Processes by Gender

Country	Reading Purposes				Comprehension Processes			
	Literary		Informational		Retrieving and Straightforward Inferencing		Interpreting, Integrating, and Evaluating	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Australia	539 (3.0) ▲	516 (3.2)	534 (2.9) ▲	522 (2.7)	536 (3.1) ▲	517 (3.1)	538 (2.8) ▲	521 (2.7)
Austria	539 (2.3) ▲	526 (2.7)	527 (2.2)	525 (2.5)	542 (2.5)	537 (2.8)	526 (2.1) ▲	516 (2.4)
² Azerbaijan	470 (3.7) ▲	454 (3.3)	466 (4.5) ▲	455 (4.0)	475 (3.2) ▲	463 (3.6)	458 (4.0) ▲	441 (3.9)
² † Belgium (French)	513 (3.2) ▲	503 (3.4)	504 (3.6)	503 (3.4)	514 (3.3) ▲	509 (3.0)	502 (3.3)	497 (3.6)
Bulgaria	541 (4.8) ▲	523 (4.7)	538 (4.5) ▲	527 (4.3)	540 (4.5) ▲	525 (4.3)	540 (4.4) ▲	525 (4.3)
² Canada	562 (2.0) ▲	544 (2.2)	549 (1.9) ▲	542 (2.0)	549 (1.8) ▲	538 (1.9)	560 (1.8) ▲	548 (2.0)
Chinese Taipei	550 (2.2) ▲	535 (2.3)	572 (2.1) ▲	560 (2.0)	560 (2.2) ▲	544 (2.3)	561 (2.2) ▲	549 (2.3)
Colombia	453 (4.6)	452 (4.6)	438 (5.1)	442 (4.9)	449 (4.6)	452 (4.7)	443 (5.0)	442 (5.2)
² Croatia	566 (2.3) ▲	545 (2.5)	555 (1.8) ▲	548 (2.1)	561 (2.2) ▲	547 (2.4)	560 (1.9) ▲	545 (2.2)
Czech Republic	550 (2.8) ▲	539 (2.4)	547 (2.7)	543 (2.3)	552 (3.0) ▲	544 (2.6)	547 (2.5) ▲	541 (2.3)
² Denmark	565 (2.0) ▲	545 (2.2)	557 (2.3) ▲	550 (2.1)	563 (2.3) ▲	549 (2.5)	558 (1.9) ▲	548 (1.9)
† England	567 (2.9) ▲	539 (3.4)	560 (3.0) ▲	539 (3.2)	557 (3.0) ▲	535 (3.2)	568 (3.1) ▲	544 (3.2)
Finland	582 (2.4) ▲	556 (2.4)	575 (2.6) ▲	561 (2.6)	579 (2.7) ▲	560 (2.3)	578 (2.4) ▲	557 (2.0)
France	526 (3.3) ▲	517 (2.6)	519 (3.2)	519 (2.9)	531 (3.0) ▲	525 (2.5)	513 (3.5)	510 (2.7)
¹ Georgia	504 (2.5) ▲	480 (4.2)	494 (3.1) ▲	472 (4.1)	497 (2.6) ▲	473 (4.0)	502 (3.0) ▲	481 (4.4)
Germany	550 (2.9) ▲	539 (2.5)	540 (2.8)	536 (2.8)	554 (2.9) ▲	543 (2.8)	540 (2.4) ▲	532 (2.8)
³ Hong Kong SAR	577 (2.8) ▲	555 (2.7)	582 (2.5) ▲	574 (2.3)	569 (2.4) ▲	556 (2.5)	588 (2.6) ▲	570 (2.7)
Hungary	553 (3.2) ▲	531 (3.3)	540 (3.4) ▲	531 (3.4)	545 (3.1) ▲	530 (3.0)	550 (3.2) ▲	534 (3.1)
Indonesia	428 (4.4) ▲	408 (4.1)	447 (4.7) ▲	430 (4.7)	441 (4.7) ▲	421 (4.1)	430 (4.9) ▲	415 (4.9)
Iran, Islamic Rep. of	469 (4.6) ▲	449 (4.5)	465 (4.2) ▲	445 (4.5)	469 (4.3) ▲	447 (4.5)	466 (4.5) ▲	448 (4.5)
Ireland	569 (3.1) ▲	546 (3.4)	553 (3.1) ▲	545 (3.0)	558 (3.7) ▲	546 (3.1)	562 (2.9) ▲	545 (2.9)
³ Israel	546 (3.2) ▲	538 (3.7)	542 (3.1)	540 (3.3)	540 (3.3)	536 (3.3)	546 (3.5)	541 (3.8)
Italy	542 (2.4) ▲	535 (2.4)	545 (2.4)	545 (2.4)	541 (2.4)	538 (2.2)	546 (2.4)	542 (2.7)
¹ ² Lithuania	541 (2.2) ▲	517 (2.2)	534 (2.4) ▲	521 (2.3)	540 (2.4) ▲	521 (2.3)	537 (2.7) ▲	518 (2.3)
Malta	482 (2.1) ▲	459 (2.7)	491 (1.9) ▲	478 (2.1)	489 (2.3) ▲	470 (2.4)	483 (2.6) ▲	466 (2.2)
✳ Morocco	314 (4.3) ▲	285 (4.1)	335 (4.3) ▲	308 (4.0)	336 (3.7) ▲	314 (3.4)	307 (4.6) ▲	271 (4.8)
† Netherlands	549 (2.4) ▲	540 (2.6)	549 (2.4)	545 (2.2)	551 (2.4)	547 (2.5)	549 (2.2) ▲	538 (2.2)
New Zealand	546 (2.7) ▲	521 (3.3)	537 (2.4) ▲	522 (2.8)	536 (2.4) ▲	519 (2.8)	545 (2.5) ▲	526 (2.5)
† Northern Ireland	575 (3.2) ▲	552 (3.5)	561 (3.1) ▲	549 (3.4)	563 (2.8) ▲	548 (3.4)	571 (2.8) ▲	553 (3.3)
‡ Norway	516 (2.5) ▲	498 (2.6)	511 (2.5) ▲	499 (3.2)	518 (2.3) ▲	503 (2.5)	508 (2.5) ▲	495 (3.7)
⊘ Oman	400 (3.1) ▲	360 (3.3)	425 (3.1) ▲	383 (3.7)	414 (2.8) ▲	376 (2.8)	404 (3.5) ▲	361 (3.4)
Poland	542 (2.8) ▲	520 (2.4)	523 (3.3)	516 (3.2)	534 (2.7) ▲	519 (2.7)	531 (2.7) ▲	519 (2.5)
Portugal	548 (3.1) ▲	528 (2.9)	549 (3.2) ▲	539 (2.7)	547 (3.1) ▲	532 (2.9)	549 (3.2) ▲	535 (2.9)
² Qatar	431 (4.7) ▲	400 (4.0)	449 (4.9) ▲	424 (4.2)	439 (4.7) ▲	410 (3.8)	440 (4.7) ▲	412 (4.1)
Romania	512 (4.8) ▲	497 (4.3)	508 (5.1) ▲	493 (4.8)	506 (4.9) ▲	494 (4.7)	512 (4.9) ▲	494 (4.9)
Russian Federation	578 (2.8) ▲	557 (3.1)	577 (2.9) ▲	563 (2.9)	574 (3.2) ▲	557 (3.0)	581 (2.7) ▲	561 (3.0)
Saudi Arabia	449 (3.1) ▲	393 (8.5)	464 (3.9) ▲	414 (8.2)	457 (3.3) ▲	408 (8.8)	453 (3.7) ▲	393 (8.3)
² Singapore	578 (3.9) ▲	556 (3.8)	576 (3.5) ▲	563 (3.6)	573 (3.5) ▲	557 (3.7)	579 (3.6) ▲	562 (3.7)
Slovak Republic	547 (3.6) ▲	533 (2.9)	533 (3.3) ▲	528 (3.1)	538 (3.4) ▲	531 (3.1)	542 (3.2) ▲	530 (2.8)
Slovenia	543 (2.7) ▲	523 (3.2)	534 (2.0) ▲	522 (2.8)	541 (2.1) ▲	524 (3.0)	538 (2.1) ▲	522 (3.1)
Spain	520 (2.5) ▲	511 (2.5)	512 (2.2)	512 (2.7)	518 (2.3)	514 (2.6)	513 (2.5) ▲	507 (2.6)
Sweden	557 (3.1) ▲	538 (2.6)	543 (2.7) ▲	531 (3.1)	549 (2.6) ▲	537 (2.6)	549 (2.5) ▲	532 (2.6)
Trinidad and Tobago	486 (4.8) ▲	450 (4.5)	488 (4.3) ▲	460 (4.2)	490 (4.3) ▲	459 (4.4)	480 (4.5) ▲	448 (4.8)
United Arab Emirates	442 (3.0) ▲	413 (3.6)	465 (2.7) ▲	439 (3.6)	452 (3.1) ▲	426 (3.3)	453 (2.9) ▲	423 (3.5)
² United States	570 (2.3) ▲	555 (1.9)	556 (1.9) ▲	549 (1.9)	554 (1.8) ▲	544 (1.7)	568 (2.0) ▲	557 (1.9)
International Avg.	522 (0.5) ▲	502 (0.5)	519 (0.5) ▲	507 (0.5)	521 (0.5) ▲	505 (0.5)	519 (0.5) ▲	502 (0.5)

▲ Average significantly higher than other gender

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

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

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

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

Exhibit 3.7: Achievement in Reading Purposes and Comprehension Processes by Gender (Continued)

Country	Reading Purposes				Comprehension Processes				
	Literary		Informational		Retrieving and Straightforward Inferencing		Interpreting, Integrating, and Evaluating		
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	
Sixth Grade Participants									
Botswana	396 (5.2) ⬆	371 (5.9)	471 (3.8) ⬆	441 (3.8)	431 (4.2) ⬆	401 (5.0)	432 (4.2) ⬆	409 (4.5)	
Honduras	457 (6.0) ⬆	440 (5.3)	452 (5.6) ⬆	443 (4.7)	457 (5.5) ⬆	447 (5.1)	450 (5.5) ⬆	435 (5.2)	
^{1 †} Kuwait	440 (6.2) ⬆	391 (7.1)	447 (7.3) ⬆	390 (7.7)	444 (5.8) ⬆	397 (6.4)	442 (6.9) ⬆	381 (7.8)	
Morocco	434 (4.1) ⬆	400 (5.1)	450 (3.9) ⬆	418 (4.7)	447 (3.7) ⬆	415 (4.6)	431 (3.8) ⬆	394 (5.0)	
Benchmarking Participants[⊖]									
² Alberta, Canada	561 (3.4) ⬆	544 (3.2)	547 (3.0) ⬆	542 (3.1)	547 (3.1) ⬆	537 (3.1)	560 (3.4) ⬆	549 (3.4)	
² Ontario, Canada	567 (3.5) ⬆	549 (2.9)	553 (3.7) ⬆	545 (2.7)	551 (3.2) ⬆	539 (2.8)	566 (3.4) ⬆	553 (2.7)	
Quebec, Canada	549 (2.7) ⬆	529 (2.2)	540 (2.8)	533 (2.7)	544 (2.6) ⬆	532 (2.3)	545 (2.9) ⬆	531 (2.4)	
Maltese - Malta	473 (2.6) ⬆	443 (2.6)	464 (2.0) ⬆	447 (3.1)	473 (2.6) ⬆	449 (3.1)	464 (2.1) ⬆	439 (2.4)	
[⊗] Eng/Afr (5) - RSA	428 (7.9) ⬆	400 (9.4)	443 (7.1) ⬆	418 (8.1)	435 (7.7) ⬆	407 (8.8)	437 (7.5) ⬆	407 (8.4)	
Andalusia, Spain	524 (2.8) ⬆	512 (2.8)	514 (2.5) ⬆	511 (2.8)	521 (2.5) ⬆	514 (2.7)	515 (2.7) ⬆	506 (3.0)	
Abu Dhabi, UAE	432 (5.6) ⬆	395 (6.7)	455 (5.2) ⬆	420 (6.3)	441 (5.5) ⬆	407 (5.9)	444 (5.5) ⬆	406 (6.1)	
Dubai, UAE	474 (4.1) ⬆	458 (4.2)	494 (3.6) ⬆	483 (4.2)	484 (4.0) ⬆	472 (3.7)	482 (4.3) ⬆	467 (3.6)	
^{1 † 3} Florida, US	587 (4.0) ⬆	567 (3.5)	571 (3.3) ⬆	557 (3.0)	571 (3.7) ⬆	556 (3.2)	581 (3.4) ⬆	567 (3.0)	

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

⬆ Average significantly higher than other gender

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

Exhibit 3.8: Achievement in Reading Purposes and Comprehension Processes by Gender

Country	Reading Purposes				Comprehension Processes			
	Literary		Informational		Retrieving		Inferencing and Integrating	
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Botswana	478 (3.8) ⬆	441 (3.6)	486 (3.7) ⬆	447 (4.1)	485 (3.7) ⬆	443 (3.8)	481 (3.7) ⬆	447 (3.7)
Colombia	580 (3.4)	576 (4.0)	577 (3.9)	575 (4.1)	580 (4.2)	575 (4.1)	579 (3.7)	576 (4.1)
South Africa	479 (4.1) ⬆	447 (4.5)	472 (4.0) ⬆	444 (4.1)	477 (3.8) ⬆	445 (4.4)	473 (3.9) ⬆	446 (4.4)

⬆ Average significantly higher than other gender

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

