Exhibit 3.2: Achievement in Comprehension Processes

The *PIRLS 2016 Assessment Framework* integrates four broad-based comprehension processes within each of the two purposes for reading: focus on and retrieve explicitly stated information, make straightforward inferences, interpret and integrate ideas and information, and evaluate and critique content and textual elements. To summarize fourth grade achievement across countries for the comprehension processes, Exhibit 3.2 presents results for two scales—each encompassing two of the four processes. The Retrieving and Straightforward Inferencing scale includes items assessing the retrieval process (20% of the assessment) and those assessing straightforward inferencing (30%). The Interpreting, Integrating, and Evaluating scale combines the interpreting and integrating process items (30%) with the evaluating and critiquing content items (20%).

To examine relative performance on the two process scales, PIRLS used item response theory (IRT) scaling to place achievement in each of the two processes on the PIRLS 2016 achievement scale. Exhibit 3.2 shows the overall average PIRLS achievement as well as the average scale score for each process with the difference between reading achievement overall and achievement in the process. Up and down arrows are used to indicate whether a country's average score for a process is significantly higher or lower than its overall PIRLS average score. Generally, the higher performing countries overall had higher achievement in the reading comprehension processes and the lower performing countries had lower achievement. Nevertheless, most countries had a relative strength in one process or the other. The results within countries indicate that fourth grade students in the same number of countries had a relative strength in retrieving/straightforward inferencing as they did in interpreting/integrating/evaluating. Interestingly, fourth graders in fewer countries had a relative weakness in retrieving/straightforward inferencing compared with the number of countries with a relative weakness in interpreting/integrating/evaluating. Across the countries, the results show that 14 countries performed higher on the Retrieving and Straightforward Inferencing scale than on PIRLS overall, and 13 countries had lower achievement on that scale than they did overall. In comparison, 14 countries had higher achievement on the Interpreting, Integrating, and Evaluating scale than on PIRLS overall, while 18 countries had lower results.

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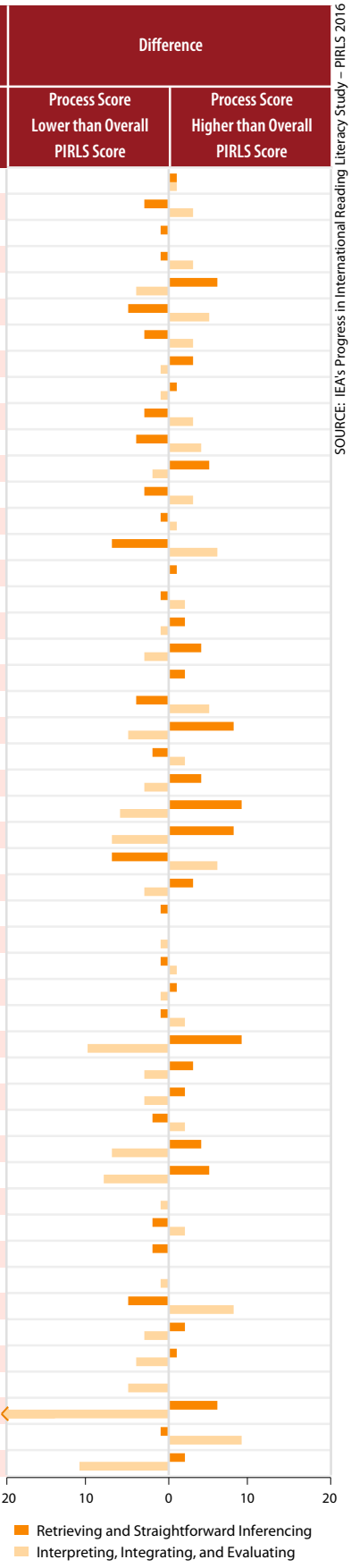
Exhibit 3.2: Achievement in Comprehension Processes

Country	Overall PIRLS Average Scale Score	Retrieving and Straightforward Inferencing: Average Scale Score	Retrieving and Straightforward Inferencing: Difference from Overall PIRLS Score	Interpreting, Integrating, and Evaluating: Average Scale Score	Interpreting, Integrating, and Evaluating: Difference from Overall PIRLS Score
Russian Federation	581 (2.2)	581 (2.3)	1 (0.9)	582 (2.2)	1 (1.5)
[3] Singapore	576 (3.2)	573 (3.1)	-3 (1.0) ▼	579 (3.2)	3 (0.7) ▲
[2] † Hong Kong SAR	569 (2.7)	568 (2.7)	-1 (1.1)	568 (2.9)	0 (0.9)
Ireland	567 (2.5)	566 (2.6)	-1 (1.1)	569 (2.9)	3 (1.4)
Finland	566 (1.8)	572 (2.0)	6 (0.9) ▲	562 (1.8)	-4 (0.7) ▼
Poland	565 (2.1)	560 (2.1)	-5 (1.1) ▼	570 (2.4)	5 (1.7) ▲
Northern Ireland	565 (2.2)	562 (2.1)	-3 (1.1) ▼	567 (2.2)	3 (1.4)
Norway (5)	559 (2.3)	561 (2.4)	3 (1.5)	558 (2.4)	-1 (1.2)
Chinese Taipei	559 (2.0)	560 (1.9)	1 (0.9)	558 (2.2)	-1 (1.3)
England	559 (1.9)	556 (2.0)	-3 (0.7) ▼	561 (1.9)	3 (0.7) ▲
[2] Latvia	558 (1.7)	554 (1.9)	-4 (1.0) ▼	562 (1.7)	4 (0.9) ▲
Sweden	555 (2.4)	560 (2.7)	5 (1.0) ▲	553 (2.5)	-2 (0.8) ▼
Hungary	554 (2.9)	552 (3.3)	-3 (1.5)	557 (3.0)	3 (1.1) ▲
Bulgaria	552 (4.2)	550 (4.0)	-1 (1.0)	552 (4.3)	1 (1.0)
† United States	549 (3.1)	543 (3.0)	-7 (0.8) ▼	555 (3.1)	6 (0.7) ▲
Lithuania	548 (2.6)	549 (2.6)	1 (1.3)	548 (2.6)	0 (1.5)
Italy	548 (2.2)	547 (2.1)	-1 (1.1)	550 (2.1)	2 (1.3)
[2] Denmark	547 (2.1)	550 (2.1)	2 (1.1) ▲	546 (2.2)	-1 (1.4)
Macao SAR	546 (1.0)	549 (1.1)	4 (1.1) ▲	543 (1.6)	-3 (1.0) ▼
† Netherlands	545 (1.7)	546 (2.0)	2 (1.0)	544 (1.7)	0 (0.9)
Australia	544 (2.5)	541 (2.6)	-4 (1.4) ▼	549 (2.4)	5 (1.0) ▲
Czech Republic	543 (2.1)	551 (2.4)	8 (1.0) ▲	538 (2.2)	-5 (1.2) ▼
[1 2] Canada	543 (1.8)	541 (1.8)	-2 (0.6) ▼	545 (1.8)	2 (0.7) ▲
Slovenia	542 (2.0)	547 (2.3)	4 (0.9) ▲	539 (2.5)	-3 (1.2) ▼
[2] Austria	541 (2.4)	550 (2.8)	9 (1.4) ▲	534 (2.5)	-6 (1.0) ▼
Germany	537 (3.2)	546 (3.3)	8 (0.9) ▲	530 (3.2)	-7 (1.0) ▼
Kazakhstan	536 (2.5)	529 (2.5)	-7 (0.8) ▼	542 (2.4)	6 (0.9) ▲
Slovak Republic	535 (3.1)	538 (3.1)	3 (1.2) ▲	531 (3.2)	-3 (1.2) ▼
[3] Israel	530 (2.5)	530 (2.4)	-1 (1.0)	530 (2.7)	0 (1.0)
[2] Portugal	528 (2.3)	528 (2.2)	0 (0.8)	526 (2.4)	-1 (0.9)
Spain	528 (1.7)	526 (1.7)	-1 (0.6) ▼	529 (1.7)	1 (0.6) ▲
Belgium (Flemish)	525 (1.9)	526 (2.1)	1 (1.3)	524 (2.2)	-1 (1.2)
New Zealand	523 (2.2)	521 (2.3)	-1 (1.0)	525 (2.4)	2 (0.8) ▲
France	511 (2.2)	521 (2.3)	9 (0.9) ▲	501 (2.4)	-10 (0.7) ▼
[2] Belgium (French)	497 (2.6)	501 (2.3)	3 (1.3) ▲	494 (2.4)	-3 (1.4) ▼
Chile	494 (2.5)	496 (2.5)	2 (1.1)	491 (2.9)	-3 (1.0) ▼
[1] Georgia	488 (2.8)	486 (2.6)	-2 (1.1) ▼	490 (2.9)	2 (0.9)
Trinidad and Tobago	479 (3.3)	483 (3.6)	4 (1.5) ▲	472 (3.6)	-7 (1.0) ▼
Azerbaijan	472 (4.2)	477 (4.2)	5 (1.0) ▲	465 (4.3)	-8 (0.9) ▼
[2] Malta	452 (1.8)	452 (1.7)	0 (1.2)	451 (1.9)	-1 (1.5)
United Arab Emirates	450 (3.2)	448 (3.2)	-2 (1.0) ▼	453 (3.3)	2 (0.8) ▲
Bahrain	446 (2.3)	444 (2.1)	-2 (0.9)	446 (2.7)	0 (1.5)
Qatar	442 (1.8)	442 (1.8)	0 (0.7)	441 (1.9)	-1 (0.8)
Saudi Arabia	430 (4.2)	425 (4.1)	-5 (1.7) ▼	439 (4.1)	8 (1.5) ▲
Iran, Islamic Rep. of	428 (4.0)	429 (4.0)	2 (1.4)	425 (4.1)	-3 (1.3) ▼
Oman	418 (3.3)	419 (3.2)	1 (1.1)	415 (3.6)	-4 (0.9) ▼
Kuwait	393 (4.1)	394 (4.1)	0 (1.2)	388 (4.5)	-5 (1.2) ▼
Morocco	358 (3.9)	364 (3.9)	6 (0.9) ▲	336 (4.5)	-22 (1.4) ▼
Egypt	330 (5.6)	329 (5.6)	-1 (1.4)	340 (5.7)	9 (2.1) ▲
South Africa	320 (4.4)	321 (4.5)	2 (0.9)	308 (5.3)	-11 (1.9) ▼



SOURCE: IEA's Progress in International Reading Literacy Study – PIRLS 2016

▲ Scale score significantly higher than overall PIRLS score
▼ Scale score significantly lower than overall PIRLS score

See Appendix C.1 for target population coverage notes 1, 2, and 3. See Appendix C.4 for sampling guidelines and sampling participation notes †, ‡, and ≡.
( ) Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.

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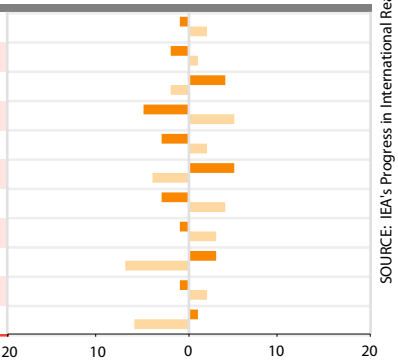
Exhibit 3.2: Achievement in Comprehension Processes (Continued)

Country	Overall PIRLS Average Scale Score	Retrieving and Straightforward Inferencing		Interpreting, Integrating, and Evaluating		Difference	
		Average Scale Score	Difference from Overall PIRLS Score	Average Scale Score	Difference from Overall PIRLS Score	Process Score Lower than Overall PIRLS Score	Process Score Higher than Overall PIRLS Score
Benchmarking Participants							
Moscow City, Russian Fed.	612 (2.2)	611 (2.4)	-1 (1.1)	614 (2.1)	2 (1.0) ▲		
[2] Madrid, Spain	549 (2.0)	547 (2.0)	-2 (1.0) ▼	550 (2.0)	1 (1.0)		
≡ Quebec, Canada	547 (2.8)	551 (3.0)	4 (1.4) ▲	545 (3.0)	-2 (1.3)		
Ontario, Canada	544 (3.2)	539 (3.3)	-5 (1.4) ▼	548 (3.2)	5 (1.0) ▲		
Andalusia, Spain	525 (2.1)	522 (1.9)	-3 (0.8) ▼	527 (2.3)	2 (1.6)		
Norway (4)	517 (2.0)	521 (2.0)	5 (1.0) ▲	513 (1.9)	-4 (1.3) ▼		
Dubai, UAE	515 (1.9)	512 (2.4)	-3 (1.5) ▼	519 (1.9)	4 (1.2) ▲		
[2] Denmark (3)	501 (2.7)	500 (2.3)	-1 (2.1)	504 (2.5)	3 (1.9)		
Buenos Aires, Argentina	480 (3.1)	483 (2.9)	3 (1.0) ▲	473 (3.7)	-7 (1.4) ▼		
Abu Dhabi, UAE	414 (4.7)	413 (4.6)	-1 (1.8)	417 (4.7)	2 (1.4)		
Eng/Afr/Zulu - RSA (5)	406 (6.0)	407 (6.1)	1 (1.4)	400 (6.2)	-6 (1.6) ▼		



▲ Scale score significantly higher than overall PIRLS score
▼ Scale score significantly lower than overall PIRLS score

Retrieving and Straightforward Inferencing
Interpreting, Integrating, and Evaluating

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