

### Exhibit 5.4: Instruction Affected by Reading Resource Shortages – Principals’ Reports

Exhibit 5.4 presents the results for the *Reading Resource Shortages* scale. Countries are ordered according to the percentage of students (from most to least) in schools **Not Affected** by resource shortages, from a high of 64 percent to a low of 1 percent. On average, 31 percent of the fourth grade students attended well-resourced schools and they had the highest average reading achievement (521). Sixty-two percent of the students were in schools **Somewhat Affected** by resource shortages and 6 percent were in schools **Affected A Lot**. Average reading achievement for these two groups was 507 and 474, respectively.

**Exhibit 5.4: Instruction Affected by Reading Resource Shortages – Principals' Reports**

*Students Categorized by Principals' Reports*

Students were scored according to their principals' responses concerning twelve 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 10.8, which corresponds to their principals reporting that shortages affected instruction "not at all" for six of the twelve resources and "a little" for the other six, on average. Students in schools where instruction was **Affected A Lot** had a score no higher than 7.1, which corresponds to their principals reporting that shortages affected instruction "a lot" for six of the twelve resources and "some" for the other six, on average. All other students attended schools where instruction was **Somewhat Affected** by resource shortages.

Country	Not Affected		Somewhat Affected		Affected A Lot		Average Scale Score	Difference in Average Scale Score from 2011
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement		
Australia	64 (3.4)	552 (3.1)	35 (3.3)	530 (4.7)	2 (0.9)	~ ~	11.5 (0.15)	0.3 (0.21)
Singapore	63 (0.0)	574 (4.0)	32 (0.0)	575 (6.1)	6 (0.0)	601 (11.8)	11.2 (0.00)	0.8 (0.00) ⬆
Slovenia	62 (4.6)	545 (2.7)	38 (4.6)	539 (3.3)	0 (0.0)	~ ~	11.3 (0.14)	-0.4 (0.18)
Netherlands	62 (4.4)	547 (2.4)	38 (4.4)	544 (4.6)	0 (0.0)	~ ~	11.3 (0.10)	r 0.3 (0.15)
Sweden	55 (4.3)	560 (3.5)	44 (4.3)	549 (3.1)	0 (0.5)	~ ~	11.3 (0.16)	0.6 (0.22)
Canada	55 (2.5)	545 (2.4)	44 (2.5)	542 (3.1)	2 (0.7)	~ ~	11.0 (0.08)	0.2 (0.12)
Bulgaria	54 (3.7)	559 (5.7)	45 (3.6)	541 (6.8)	1 (0.7)	~ ~	11.1 (0.12)	0.1 (0.18)
New Zealand	54 (3.7)	530 (4.2)	45 (3.7)	522 (5.3)	2 (1.0)	~ ~	10.9 (0.12)	-0.3 (0.18)
Poland	53 (4.3)	568 (2.9)	47 (4.3)	561 (3.4)	0 (0.0)	~ ~	11.0 (0.14)	- -
United States	52 (4.0)	555 (4.0)	46 (4.1)	540 (5.3)	2 (1.0)	~ ~	11.0 (0.16)	-0.2 (0.20)
Czech Republic	51 (3.4)	543 (2.5)	48 (3.4)	544 (3.5)	1 (0.6)	~ ~	11.0 (0.10)	0.4 (0.16) ⬆
England	51 (4.1)	561 (2.9)	49 (4.1)	557 (3.2)	0 (0.0)	~ ~	10.9 (0.12)	0.0 (0.22)
Denmark	47 (4.2)	550 (3.3)	53 (4.1)	545 (2.9)	0 (0.5)	~ ~	10.9 (0.12)	0.0 (0.17)
Northern Ireland	r 44 (5.6)	564 (4.3)	54 (5.6)	564 (3.9)	2 (1.3)	~ ~	10.6 (0.16)	r 0.0 (0.24)
Norway (5)	42 (4.5)	566 (3.1)	57 (4.5)	554 (2.9)	0 (0.3)	~ ~	10.7 (0.10)	- -
Germany	40 (3.7)	547 (3.4)	59 (3.8)	530 (5.6)	1 (0.6)	~ ~	10.5 (0.10)	0.0 (0.14)
Slovak Republic	40 (3.8)	535 (4.3)	59 (3.7)	534 (5.0)	1 (0.7)	~ ~	10.4 (0.10)	0.5 (0.14) ⬆
Bahrain	38 (3.0)	463 (4.8)	48 (3.1)	432 (3.8)	14 (2.1)	449 (7.0)	10.0 (0.15)	- -
Spain	36 (2.9)	537 (2.5)	62 (3.0)	524 (2.1)	2 (0.8)	~ ~	10.5 (0.09)	-0.2 (0.17)
Finland	36 (4.0)	567 (3.8)	62 (4.1)	566 (2.5)	2 (1.2)	~ ~	10.5 (0.12)	0.2 (0.20)
Austria	36 (4.1)	548 (3.5)	64 (4.0)	536 (3.1)	0 (0.5)	~ ~	10.6 (0.11)	-0.2 (0.17)
Latvia	35 (4.3)	554 (3.5)	58 (4.2)	560 (2.5)	7 (2.0)	554 (10.8)	10.0 (0.16)	- -
Ireland	34 (4.0)	570 (3.1)	66 (4.0)	565 (3.2)	0 (0.0)	~ ~	10.3 (0.14)	-0.2 (0.20)
Chile	34 (4.6)	508 (5.2)	62 (4.8)	485 (3.8)	4 (1.9)	505 (8.5)	10.1 (0.16)	- -
United Arab Emirates	31 (1.8)	495 (5.7)	53 (2.4)	426 (4.1)	16 (1.7)	448 (9.4)	9.7 (0.10)	r 0.1 (0.14)
Qatar	31 (0.4)	480 (3.8)	34 (0.3)	435 (2.8)	35 (0.3)	416 (2.8)	8.7 (0.02)	-0.4 (0.26)
Russian Federation	30 (3.4)	585 (5.0)	65 (3.6)	579 (3.1)	4 (1.4)	576 (15.2)	10.1 (0.14)	0.2 (0.21)
Lithuania	30 (3.8)	554 (4.8)	68 (3.9)	546 (3.7)	2 (1.3)	~ ~	10.0 (0.11)	-0.2 (0.15)
Belgium (Flemish)	30 (3.9)	530 (4.3)	70 (3.9)	524 (2.7)	0 (0.2)	~ ~	10.3 (0.11)	- -
Georgia	29 (3.3)	500 (5.0)	70 (3.2)	485 (3.8)	1 (0.6)	~ ~	10.2 (0.11)	-0.4 (0.19)
Kazakhstan	27 (4.2)	543 (5.0)	51 (4.2)	531 (4.3)	22 (3.5)	541 (5.2)	9.4 (0.22)	- -
Israel	26 (3.7)	559 (4.6)	60 (4.3)	530 (5.1)	14 (2.7)	481 (10.6)	9.4 (0.16)	-0.2 (0.23)
Malta	24 (0.1)	454 (3.3)	72 (0.1)	451 (1.9)	5 (0.1)	464 (4.3)	9.7 (0.00)	-0.6 (0.01) ⬇
Oman	21 (2.3)	439 (5.3)	62 (2.9)	413 (4.3)	17 (2.3)	414 (7.1)	9.1 (0.12)	r 0.7 (0.15) ⬆
Belgium (French)	20 (3.3)	500 (4.9)	80 (3.3)	498 (3.3)	0 (0.0)	~ ~	10.0 (0.09)	0.2 (0.14)
Portugal	20 (3.6)	537 (7.4)	78 (4.0)	526 (2.3)	2 (1.9)	~ ~	9.7 (0.11)	0.0 (0.19)
Chinese Taipei	17 (3.3)	562 (4.2)	69 (4.1)	559 (2.3)	14 (2.9)	553 (5.3)	8.9 (0.14)	0.4 (0.21)
France	17 (3.3)	520 (5.3)	83 (3.3)	510 (2.8)	0 (0.0)	~ ~	9.7 (0.10)	-0.2 (0.15)
Hungary	15 (3.1)	551 (10.5)	82 (3.5)	553 (3.0)	4 (1.6)	560 (19.2)	9.6 (0.13)	-0.9 (0.21) ⬇
Italy	11 (2.2)	553 (8.3)	88 (2.1)	548 (2.4)	1 (0.9)	~ ~	9.5 (0.09)	-0.2 (0.13)
Egypt	10 (2.1)	366 (22.5)	81 (3.2)	329 (6.0)	9 (2.6)	308 (22.0)	9.0 (0.15)	- -
Azerbaijan	8 (2.7)	439 (27.2)	84 (3.3)	471 (3.9)	7 (2.2)	514 (14.5)	8.8 (0.16)	0.5 (0.20)
Morocco	8 (2.3)	326 (12.8)	84 (3.1)	360 (4.1)	8 (2.3)	358 (23.8)	8.9 (0.13)	-0.7 (0.17) ⬇
Iran, Islamic Rep. of	7 (1.7)	482 (10.0)	78 (2.8)	425 (5.0)	15 (2.5)	414 (10.3)	8.7 (0.11)	0.3 (0.16)
Trinidad and Tobago	6 (2.2)	517 (21.1)	88 (3.1)	482 (4.1)	6 (2.2)	483 (13.1)	8.7 (0.12)	0.2 (0.16)
South Africa	r 6 (1.6)	410 (24.4)	89 (2.2)	314 (4.4)	4 (1.5)	302 (31.9)	9.1 (0.10)	r 0.0 (0.14)
Kuwait	4 (1.5)	444 (34.0)	59 (4.8)	388 (6.6)	37 (4.7)	400 (7.4)	7.6 (0.16)	- -
Macao SAR	4 (0.0)	521 (3.9)	89 (0.1)	546 (1.1)	7 (0.1)	553 (4.3)	8.4 (0.00)	- -
Saudi Arabia	2 (0.8)	~ ~	77 (2.6)	426 (4.5)	21 (2.5)	446 (10.5)	8.1 (0.10)	-0.8 (0.21) ⬇
Hong Kong SAR	1 (0.8)	~ ~	88 (2.5)	571 (2.9)	12 (2.4)	559 (6.8)	8.2 (0.08)	0.2 (0.11)
International Avg.	31 (0.5)	521 (1.4)	62 (0.5)	507 (0.6)	6 (0.2)	474 (2.8)		

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

This PIRLS questionnaire scale was established in 2011 based on the combined response distribution of all countries that participated in PIRLS 2011. To provide a point of reference for country comparisons, the scale centerpoint of 10 was located at the mean of the combined distribution. The units of the scale were chosen so that 2 scale score points corresponded to the standard deviation of the distribution.

( ) 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.

Significantly higher than 2011 ⬆  
Significantly lower than 2011 ⬇

**Exhibit 5.4: Instruction Affected by Reading Resource Shortages – Principals' Reports (Continued)**

Country	Not Affected		Somewhat Affected		Affected A Lot		Average Scale Score	Difference in Average Scale Score from 2011
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement		
<b>Benchmarking Participants</b>								
Quebec, Canada	61 (5.4)	552 (3.0)	37 (5.6)	542 (5.9)	2 (1.5)	~ ~	11.2 (0.18)	0.2 (0.23)
Madrid, Spain	58 (3.8)	554 (2.8)	42 (3.8)	542 (2.5)	0 (0.0)	~ ~	11.2 (0.13)	--
Ontario, Canada	56 (4.3)	546 (3.7)	42 (4.3)	541 (5.2)	2 (1.3)	~ ~	11.0 (0.18)	0.3 (0.26)
Buenos Aires, Argentina	51 (4.2)	495 (4.6)	49 (4.2)	465 (4.6)	0 (0.0)	~ ~	11.0 (0.16)	--
Denmark (3)	47 (3.9)	501 (4.2)	52 (3.9)	500 (3.7)	0 (0.1)	~ ~	10.9 (0.11)	--
Moscow City, Russian Fed.	46 (4.0)	614 (3.5)	49 (4.1)	611 (3.1)	5 (1.8)	608 (9.2)	10.6 (0.17)	--
Norway (4)	44 (4.5)	522 (3.2)	56 (4.5)	514 (2.6)	0 (0.0)	~ ~	10.8 (0.11)	0.1 (0.19)
Dubai, UAE	44 (0.3)	527 (2.8)	39 (0.3)	495 (2.5)	17 (0.3)	532 (6.1)	10.2 (0.02)	-0.2 (0.03) ▼
Andalusia, Spain	28 (3.5)	534 (2.9)	72 (3.5)	521 (2.6)	0 (0.0)	~ ~	10.4 (0.10)	-0.1 (0.16)
Abu Dhabi, UAE	25 (3.1)	471 (10.6)	59 (3.6)	397 (6.4)	16 (2.5)	392 (11.4)	9.5 (0.16)	0.3 (0.29)
Eng/Afr/Zulu - RSA (5)	8 (3.2)	506 (22.7)	84 (4.4)	403 (7.2)	8 (3.6)	384 (38.5)	9.1 (0.20)	--

Significantly higher than 2011 ●  
Significantly lower than 2011 ▼

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

