

Exhibit 3.3: Instruction Affected by Digital Resources Shortages – Principals’ Reports

Exhibit 3.3 presents the results for the *Digital Resource Shortages* scale, with the questions comprising the scale provided below the results. Countries are ordered according to the percentage of students (from most to least) in schools **Not Affected** by resource shortages, from a high of 57 to a low of 9 percent. On average, 33 percent of the ePIRLS students attended well-resourced schools and they had the highest average achievement (548). Sixty percent of the students were in schools **Somewhat Affected** by resource shortages and 7 percent in schools **Affected A Lot**. For ePIRLS, average reading achievement for these two groups was similar, 536 and 539.

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Students Categorized by Principals' Reports

Note: Results based on students who participated in both PIRLS and ePIRLS.

Students were scored according to their principals' responses concerning four school and classroom resources on the *Digital Resource Shortages* scale. Students in schools where instruction was **Not Affected** by resource shortages had a score on the scale of at least 11.3, which corresponds to their principals reporting that shortages affected instruction "not at all" for two of the four resources and "a little" for the other two resources, on average. Students in schools where instruction was **Affected A Lot** had a score no higher than 7.2, which corresponds to their principals reporting that shortages affected instruction "a lot" for two of the four resources and "some" for the other two resources, 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
	Percent of Students	Average ePIRLS Achievement	Percent of Students	Average ePIRLS Achievement	Percent of Students	Average ePIRLS Achievement	
Singapore	57 (0.0)	583 (4.2)	37 (0.0)	592 (5.6)	6 (0.0)	606 (11.6)	11.2 (0.00)
Sweden	52 (4.3)	566 (3.6)	47 (4.3)	552 (2.7)	1 (0.8)	~ ~	11.3 (0.16)
Slovenia	49 (5.2)	527 (3.3)	50 (5.1)	523 (3.0)	1 (0.4)	~ ~	11.1 (0.14)
Canada	46 (4.8)	546 (4.4)	49 (4.9)	540 (4.1)	5 (1.4)	539 (7.1)	10.8 (0.18)
United States	44 (4.7)	557 (4.3)	52 (4.9)	555 (4.4)	3 (1.0)	591 (17.7)	10.9 (0.17)
Denmark	43 (4.2)	561 (3.5)	56 (4.5)	555 (3.1)	1 (0.8)	~ ~	11.0 (0.13)
Norway (5)	35 (4.2)	572 (3.7)	62 (4.3)	565 (2.7)	3 (1.3)	567 (14.3)	10.7 (0.12)
United Arab Emirates	30 (1.7)	508 (5.1)	55 (2.3)	449 (3.6)	15 (1.7)	464 (8.1)	9.8 (0.10)
Ireland	26 (4.0)	575 (3.9)	69 (4.1)	565 (3.0)	5 (1.9)	543 (8.1)	10.2 (0.15)
Georgia	25 (3.1)	485 (6.5)	74 (3.1)	475 (4.2)	1 (0.7)	~ ~	10.1 (0.11)
Israel	17 (3.2)	555 (5.3)	69 (3.9)	539 (3.9)	14 (2.9)	499 (8.3)	9.3 (0.18)
Chinese Taipei	15 (3.2)	551 (4.7)	71 (4.3)	545 (2.4)	14 (3.1)	542 (5.7)	9.3 (0.14)
Portugal	10 (2.0)	546 (9.2)	75 (3.3)	521 (2.1)	15 (3.1)	513 (6.3)	9.1 (0.14)
Italy	9 (2.3)	540 (6.0)	78 (3.5)	532 (2.7)	13 (3.0)	531 (5.7)	8.9 (0.13)
International Avg.	33 (1.0)	548 (1.4)	60 (1.1)	536 (0.9)	7 (0.5)	539 (3.2)	

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

Benchmarking Participants

Dubai, UAE	45 (0.3)	544 (2.4)	38 (0.3)	508 (2.2)	18 (0.3)	531 (4.5)	10.3 (0.02)
Abu Dhabi, UAE	27 (3.4)	479 (10.9)	62 (3.9)	416 (4.7)	11 (2.4)	405 (16.2)	9.8 (0.16)

This PIRLS questionnaire scale was established in 2016 based on the combined response distribution of all countries that participated in PIRLS 2016. 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 tilde (~) indicates insufficient data to report achievement.

