

Exhibit 3.1 and 3.2: Home Resources for Learning

The *Home Resources for Learning* scale combines data reported by students and their parents. The parents' data were collected using the PIRLS 2016 Learning to Read Survey in which students' parents were asked to provide information about their child's experiences learning to read. As explained in Exhibit 3.1, students provided information about the number of books in the home and other study supports, while the parents provided information about the number of children's books, the parents' levels of education, and their occupations. As also explained, students were assigned a score on the scale according to the availability of these five home resources for learning.

In Exhibit 3.1, ePIRLS countries are ordered by the percentage of students in the **Many Resources** category. However, on average, almost three-fourths of the students (71%) were assigned to the **Some Resources** category. Twenty-six percent were in the **Many Resources** category and only 3 percent in the **Few Resources** category. Students in the **Many Resources** category had higher achievement on ePIRLS than the students in the **Some Resources** category (577 vs. 530).

Exhibit 3.2 presents information about students' access to digital devices in the home. The percentages of students with **High, Medium, and Low Access** and their associated average achievement mirror the percentages with **Many, Some, and Few Resources**.

Exhibit 3.1: Home Resources for Learning

Students Categorized by Parents' and Students' Reports

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

Students were scored according to their own and their parents' responses concerning the availability of five resources on the *Home Resources for Learning* scale. Students with **Many Resources** had a score of at least 11.8, which is the point on the scale corresponding to students reporting they had more than 100 books in the home and two home study supports, and parents reporting that they had more than 25 children's books in the home, that at least one parent had finished university, and that at least one parent had a professional occupation, on average. Students with **Few Resources** had a score no higher than 7.5, which is the scale point corresponding to students reporting that they had 25 or fewer books in the home and neither of the two home study supports, and parents reporting that they had 10 or fewer children's books in the home, that neither parent had gone beyond upper-secondary education, and that neither parent was a small business owner or had a clerical or professional occupation, on average. All other students were assigned to the **Some Resources** category.

Country	Many Resources		Some Resources		Few Resources		Average Scale Score
	Percent of Students	Average ePIRLS Achievement	Percent of Students	Average ePIRLS Achievement	Percent of Students	Average ePIRLS Achievement	
Norway (5)	46 (1.3)	588 (2.3)	54 (1.3)	554 (2.3)	1 (0.1)	~ ~	11.5 (0.05)
Sweden	43 (1.5)	589 (2.4)	56 (1.5)	546 (2.6)	0 (0.1)	~ ~	11.4 (0.05)
Denmark	40 (1.7)	586 (2.5)	59 (1.7)	545 (2.3)	1 (0.2)	~ ~	11.3 (0.06)
Canada	r 34 (1.5)	578 (3.6)	65 (1.5)	533 (2.7)	0 (0.2)	~ ~	11.2 (0.06)
Ireland	33 (1.5)	604 (2.4)	66 (1.6)	557 (2.4)	1 (0.3)	~ ~	11.0 (0.06)
Singapore	29 (0.9)	634 (3.5)	69 (0.8)	574 (3.2)	2 (0.2)	~ ~	10.9 (0.03)
Israel	22 (1.3)	586 (2.9)	76 (1.3)	529 (2.6)	2 (0.2)	~ ~	10.9 (0.05)
Slovenia	22 (1.1)	563 (2.8)	77 (1.1)	518 (2.1)	1 (0.2)	~ ~	10.6 (0.04)
Chinese Taipei	21 (1.3)	578 (2.4)	74 (1.2)	540 (1.9)	5 (0.4)	497 (6.3)	10.3 (0.06)
Portugal	18 (1.0)	561 (3.7)	76 (1.0)	518 (2.1)	6 (0.5)	483 (5.3)	10.1 (0.05)
United Arab Emirates	13 (0.5)	547 (4.0)	85 (0.5)	468 (2.2)	3 (0.3)	408 (9.9)	10.2 (0.03)
Georgia	12 (1.1)	510 (5.1)	82 (1.4)	476 (3.2)	6 (0.9)	439 (7.9)	10.0 (0.06)
Italy	8 (0.8)	575 (3.7)	86 (0.8)	535 (1.8)	6 (0.6)	496 (6.4)	9.7 (0.05)
United States	--	--	--	--	--	--	--
International Avg.	26 (0.3)	577 (0.9)	71 (0.3)	530 (0.7)	3 (0.1)	465 (3.3)	

Benchmarking Participants

Dubai, UAE	21 (0.5)	585 (2.2)	77 (0.5)	522 (1.8)	2 (0.1)	~ ~	10.7 (0.02)
Abu Dhabi, UAE	r 10 (0.7)	513 (8.7)	87 (0.8)	436 (3.8)	3 (0.4)	358 (14.1)	10.0 (0.04)

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.

<p>Number of books in the home (students):</p> <p>1) 0-10 2) 11-25 3) 26-100 4) 101-200 5) More than 200</p>	<p>Number of children's books in the home (parents):</p> <p>1) 0-10 2) 11-25 3) 26-50 4) 51-100 5) More than 100</p>
<p>Number of home study supports (students):</p> <p>1) None 2) Internet connection or own room 3) Both</p>	<p>Highest level of education of either parent (parents):</p> <p>1) Finished some primary or lower secondary or did not go to school 2) Finished lower secondary 3) Finished upper secondary 4) Finished post-secondary education 5) Finished university or higher</p>
<p>Highest level of occupation of either parent (parents):</p> <p>1) Has never worked outside home for pay, general laborer, or semi-professional (skilled agricultural or fishery worker, craft or trade worker, plant or machine operator) 2) Clerical (clerk or service or sales worker) 3) Small business owner 4) Professional (corporate manager or senior official, professional, or technician or associate professional)</p>	
<p>The diagram shows a horizontal scale with three boxes: 'Many Resources' (score 11.8), 'Some Resources' (score 7.5), and 'Few Resources'. Arrows indicate the direction of the scale from left to right.</p>	

Exhibit 3.2: Digital Devices in the Home

Students Categorized by Parents' and Students' Reports

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

Students were scored according to their own and their parents' responses concerning the availability of four items on the *Digital Devices in the Home* scale. Students with **High Access** had a score of at least 12.1, which is the point on the scale corresponding to students reporting that they had a computer and Internet connection, and parents reporting they had seven or more digital information devices in the home as well as a digital device for reading for both themselves and their child. Students with **Low Access** had a score no higher than 6.0, which is the scale point corresponding to students reporting that they did not have a computer or Internet connection, and parents reporting that they had less than four digital information devices in the home and no digital devices for reading for either themselves or their child. All other students were assigned to the **Medium Access** category.

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

Country	High Access		Medium Access		Low Access		Average Scale Score
	Percent of Students	Average ePIRLS Achievement	Percent of Students	Average ePIRLS Achievement	Percent of Students	Average ePIRLS Achievement	
Norway (5)	58 (1.1)	574 (2.4)	42 (1.1)	561 (2.7)	0 (0.0)	~ ~	11.8 (0.04)
Denmark	49 (1.2)	565 (2.8)	51 (1.2)	557 (2.4)	0 (0.0)	~ ~	11.5 (0.05)
Sweden	43 (1.3)	572 (2.9)	57 (1.2)	557 (2.5)	0 (0.1)	~ ~	11.3 (0.05)
Canada ^r	27 (1.2)	564 (3.5)	72 (1.2)	542 (3.3)	0 (0.1)	~ ~	10.6 (0.05)
United Arab Emirates	26 (0.6)	492 (3.0)	73 (0.5)	469 (2.5)	1 (0.1)	~ ~	10.5 (0.03)
Ireland	25 (1.1)	584 (3.1)	75 (1.1)	566 (2.7)	0 (0.1)	~ ~	10.4 (0.04)
Singapore	24 (0.6)	619 (3.1)	76 (0.6)	582 (3.2)	1 (0.1)	~ ~	10.4 (0.03)
Israel	23 (0.9)	551 (3.5)	76 (0.9)	539 (2.7)	1 (0.3)	~ ~	10.3 (0.04)
Portugal	21 (0.9)	545 (4.0)	78 (0.9)	518 (2.1)	1 (0.2)	~ ~	10.4 (0.03)
Italy	14 (0.7)	551 (3.9)	85 (0.8)	534 (2.0)	2 (0.3)	~ ~	9.8 (0.04)
Slovenia	13 (0.7)	551 (3.6)	86 (0.6)	523 (2.0)	1 (0.2)	~ ~	9.9 (0.03)
Chinese Taipei	11 (0.5)	569 (3.8)	87 (0.5)	544 (2.1)	2 (0.2)	~ ~	9.7 (0.03)
Georgia	4 (0.3)	505 (6.3)	87 (1.0)	479 (3.1)	9 (1.0)	464 (9.4)	9.0 (0.06)
United States	--	--	--	--	--	--	--
International Avg.	26 (0.2)	557 (1.0)	73 (0.3)	536 (0.7)	1 (0.1)	464 (9.4)	

Benchmarking Participants

Dubai, UAE	30 (0.5)	544 (2.6)	70 (0.5)	528 (1.8)	0 (0.1)	~ ~	10.8 (0.02)
Abu Dhabi, UAE ^r	26 (1.0)	462 (5.6)	73 (1.0)	432 (4.2)	1 (0.1)	~ ~	10.5 (0.04)

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.

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