

Exhibit 4.8: Early Preparation for School

Reported by Parents

Country	Attended Preprimary Education Program for Three Years or More and Often Engaged in Early Literacy and Numeracy Activities		Attended Preprimary Education Program for Three Years or More and Sometimes or Never Engaged in Early Literacy and Numeracy Activities		Attended Preprimary Education Program for Less than Three Years and Often Engaged in Early Literacy and Numeracy Activities		Attended Preprimary Education Program for Less than Three Years and Sometimes or Never Engaged in Early Literacy and Numeracy Activities	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Hungary	53 (1.0)	553 (3.1)	41 (0.9)	538 (3.8)	4 (0.4)	505 (14.5)	3 (0.4)	476 (11.7)
Italy	46 (1.0)	528 (2.8)	43 (1.1)	515 (2.9)	5 (0.4)	511 (6.8)	5 (0.4)	490 (6.8)
Slovenia	46 (1.1)	559 (3.3)	34 (0.9)	548 (3.9)	10 (0.7)	552 (5.4)	10 (0.9)	540 (6.2)
Slovak Republic	46 (1.0)	535 (2.9)	28 (0.9)	535 (2.7)	14 (0.8)	504 (5.9)	13 (0.9)	466 (8.9)
Czech Republic	44 (0.9)	542 (2.2)	34 (0.9)	537 (3.0)	13 (0.7)	521 (4.3)	10 (0.6)	514 (5.9)
Russian Federation	44 (1.2)	578 (4.1)	16 (0.8)	568 (4.6)	26 (1.2)	563 (2.9)	15 (0.9)	545 (4.8)
Korea, Rep. of	42 (1.0)	604 (2.6)	44 (0.9)	580 (2.3)	6 (0.4)	599 (4.2)	8 (0.5)	569 (4.1)
Poland	39 (1.3)	561 (2.6)	24 (1.0)	552 (3.4)	22 (1.1)	537 (3.1)	15 (0.8)	521 (4.2)
France	37 (1.1)	505 (3.5)	50 (1.1)	485 (2.8)	4 (0.4)	487 (8.9)	8 (0.6)	468 (6.2)
Croatia	36 (1.2)	550 (3.2)	22 (0.9)	533 (2.6)	23 (0.9)	531 (3.0)	19 (1.0)	509 (3.2)
New Zealand	36 (1.0)	544 (3.3)	20 (0.8)	517 (4.1)	25 (0.8)	532 (3.5)	19 (0.9)	496 (4.8)
Bulgaria	35 (1.5)	566 (3.8)	33 (1.2)	536 (5.7)	9 (0.7)	546 (9.2)	23 (1.7)	493 (13.4)
Lithuania	34 (1.1)	545 (3.4)	34 (1.1)	534 (3.3)	14 (0.8)	521 (4.7)	18 (0.8)	507 (4.9)
Denmark	34 (1.1)	539 (2.6)	59 (1.1)	527 (2.5)	3 (0.4)	522 (8.0)	4 (0.3)	504 (7.8)
Portugal	33 (1.0)	523 (2.9)	41 (0.8)	506 (2.4)	10 (0.5)	505 (3.9)	16 (0.8)	490 (3.5)
Kazakhstan	33 (1.4)	564 (5.8)	14 (0.7)	546 (6.5)	33 (1.3)	550 (5.5)	20 (1.1)	528 (5.5)
Germany	32 (1.0)	552 (2.9)	35 (0.9)	548 (3.5)	14 (0.8)	530 (5.4)	19 (0.8)	518 (4.1)
Georgia	32 (1.1)	461 (4.9)	27 (1.0)	446 (4.7)	21 (1.0)	458 (5.4)	20 (0.9)	441 (5.5)
Serbia	32 (1.3)	549 (3.2)	15 (0.7)	538 (4.1)	30 (1.1)	522 (3.6)	23 (1.2)	492 (10.5)
Cyprus	31 (0.9)	508 (3.3)	25 (0.8)	480 (3.1)	19 (0.7)	485 (3.3)	25 (0.8)	461 (3.4)
Singapore	30 (0.7)	617 (3.5)	50 (0.7)	591 (3.7)	5 (0.3)	583 (8.0)	15 (0.5)	547 (5.9)
Sweden	29 (0.9)	561 (3.4)	60 (1.2)	546 (3.6)	3 (0.4)	521 (11.0)	8 (0.9)	510 (8.7)
Spain	29 (0.7)	543 (3.0)	28 (0.8)	521 (3.4)	19 (0.7)	521 (3.5)	24 (0.7)	503 (3.2)
Canada	26 (1.1)	546 (2.8)	19 (0.6)	526 (3.3)	29 (0.8)	538 (2.4)	26 (1.4)	516 (3.3)
Belgium (Flemish)	25 (0.8)	529 (3.1)	63 (0.9)	516 (2.3)	3 (0.2)	485 (6.5)	9 (0.6)	475 (4.9)
Ireland	22 (0.8)	548 (3.2)	12 (0.5)	530 (4.3)	40 (1.2)	538 (2.7)	26 (1.0)	509 (3.6)
Chile	20 (0.8)	502 (4.1)	23 (0.9)	478 (3.8)	24 (0.8)	495 (4.0)	34 (1.1)	471 (3.9)
Finland	20 (1.0)	567 (4.1)	49 (1.2)	549 (2.7)	10 (0.6)	569 (4.1)	21 (1.0)	554 (3.4)
Bahrain	16 (0.6)	490 (4.2)	18 (0.8)	460 (5.2)	24 (0.9)	479 (4.3)	41 (0.9)	446 (4.5)
Hong Kong SAR	16 (0.6)	587 (4.5)	56 (1.0)	555 (3.1)	5 (0.6)	569 (7.7)	23 (1.0)	542 (4.3)
Chinese Taipei	12 (0.6)	578 (2.9)	40 (1.0)	554 (2.2)	10 (0.6)	572 (3.6)	37 (1.0)	547 (2.5)
United Arab Emirates	9 (0.4)	509 (5.2)	12 (0.3)	453 (4.6)	29 (0.4)	479 (2.8)	49 (0.6)	436 (3.1)
Qatar	9 (0.6)	485 (8.5)	12 (0.6)	445 (6.9)	27 (1.0)	473 (4.4)	53 (1.1)	429 (4.6)
Kuwait	8 (0.6)	382 (12.2)	11 (0.7)	349 (8.6)	24 (1.1)	364 (10.1)	57 (1.2)	336 (6.3)
Morocco	7 (0.5)	412 (9.3)	22 (1.0)	374 (8.5)	7 (0.5)	368 (7.6)	65 (1.4)	341 (5.8)
Indonesia	7 (0.8)	420 (12.1)	12 (0.9)	399 (10.1)	20 (1.2)	420 (6.1)	61 (1.5)	390 (5.6)
Iran, Islamic Rep. of	6 (0.6)	468 (7.5)	11 (1.0)	433 (7.8)	20 (1.2)	437 (8.5)	63 (1.6)	411 (4.6)
Oman	5 (0.4)	474 (7.8)	10 (0.4)	438 (6.4)	19 (0.6)	464 (5.1)	65 (0.8)	422 (3.3)
Turkey	4 (0.5)	527 (8.0)	7 (0.6)	486 (9.2)	21 (0.9)	522 (3.5)	68 (1.4)	471 (3.9)
Saudi Arabia	3 (0.4)	429 (11.2)	3 (0.4)	402 (13.3)	29 (1.1)	404 (5.5)	65 (1.2)	385 (5.2)
Australia	x x	x x	x x	x x	x x	x x	x x	x x
Netherlands	x x	x x	x x	x x	x x	x x	x x	x x
Norway (5)	x x	x x	x x	x x	x x	x x	x x	x x
England	--	--	--	--	--	--	--	--
Japan	--	--	--	--	--	--	--	--
Northern Ireland	--	--	--	--	--	--	--	--
United States	--	--	--	--	--	--	--	--
International Avg.	27 (0.1)	526 (0.9)	29 (0.1)	504 (0.8)	17 (0.1)	507 (1.0)	28 (0.2)	482 (0.9)

SOURCE: IEA's Trends in International Mathematics and Science Study - TIMSS 2015

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

A dash (-) indicates comparable data not available.

An "r" indicates data are available for at least 70% but less than 85% of the students. An "s" indicates data are available for at least 50% but less than 70% of the students. An "x" indicates that data are available for less than 50% of students.

Exhibit 4.8: Early Preparation for School (Continued)

Country	Attended Preprimary Education Program for Three Years or More and Often Engaged in Early Literacy and Numeracy Activities		Attended Preprimary Education Program for Three Years or More and Sometimes or Never Engaged in Early Literacy and Numeracy Activities		Attended Preprimary Education Program for Less than Three Years and Often Engaged in Early Literacy and Numeracy Activities		Attended Preprimary Education Program for Less than Three Years and Sometimes or Never Engaged in Early Literacy and Numeracy Activities		
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Benchmarking Participants									
Quebec, Canada	r	30 (1.3)	537 (4.4)	32 (1.2)	526 (5.4)	18 (0.8)	535 (5.6)	20 (1.4)	514 (5.1)
Ontario, Canada	r	25 (1.5)	554 (3.4)	15 (0.8)	526 (4.1)	33 (1.2)	541 (3.2)	27 (2.1)	521 (3.5)
Dubai, UAE		13 (0.4)	555 (4.1)	14 (0.5)	504 (3.7)	32 (0.6)	543 (2.6)	41 (0.7)	504 (3.3)
Abu Dhabi, UAE	r	9 (0.7)	481 (10.8)	11 (0.7)	427 (11.1)	28 (0.9)	444 (6.1)	52 (1.2)	404 (5.9)
Buenos Aires, Argentina		x x	x x	x x	x x	x x	x x	x x	x x
Norway (4)		x x	x x	x x	x x	x x	x x	x x	x x
Florida, US		--	--	--	--	--	--	--	--

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