

**Exhibit 4.7: Students Attended Preprimary Education**

*Policies Reported by National Research Coordinators and Preprimary Attendance Reported by Parents*

Country	Country Provides Universal Preprimary Coverage	National Preprimary Curriculum Includes Mathematics and Numeracy Skills	Students Attended Preprimary Education							
			3 Years or More		2 Years		1 Year or Less		Did Not Attend	
			Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Hungary	●	●	93 (0.7)	534 (2.8)	4 (0.6)	479 (11.5)	2 (0.2)	~ ~	0 (0.1)	~ ~
Denmark	●	●	93 (0.5)	543 (2.8)	5 (0.5)	530 (8.5)	2 (0.2)	~ ~	1 (0.1)	~ ~
Italy	●	●	89 (0.6)	512 (2.5)	7 (0.4)	494 (5.4)	2 (0.3)	~ ~	2 (0.3)	~ ~
Sweden	●	●	89 (1.2)	527 (2.5)	5 (0.6)	510 (8.3)	4 (0.6)	503 (9.0)	2 (0.4)	~ ~
Belgium (Flemish)	●	●	88 (0.6)	552 (2.0)	5 (0.4)	531 (6.3)	3 (0.3)	527 (6.9)	3 (0.3)	497 (6.7)
France	●	●	88 (0.7)	495 (2.9)	6 (0.5)	476 (7.8)	4 (0.4)	464 (8.3)	3 (0.3)	472 (8.8)
Korea, Rep. of	●	●	86 (0.7)	610 (2.4)	11 (0.7)	599 (3.8)	2 (0.2)	~ ~	1 (0.2)	~ ~
Slovenia	s	●	80 (1.3)	531 (2.3)	9 (0.7)	530 (5.4)	5 (0.6)	503 (8.6)	5 (0.7)	525 (7.4)
Singapore	●	●	80 (0.6)	627 (3.6)	12 (0.5)	589 (5.8)	4 (0.2)	582 (9.0)	4 (0.3)	579 (9.5)
Czech Republic	●	●	78 (0.9)	535 (2.2)	14 (0.8)	516 (3.3)	5 (0.4)	504 (5.1)	3 (0.3)	496 (10.2)
Portugal	●	●	74 (1.0)	550 (2.3)	14 (0.8)	532 (3.6)	7 (0.4)	512 (4.2)	4 (0.4)	504 (6.6)
Slovak Republic	●	●	73 (1.4)	512 (2.4)	12 (0.7)	485 (5.5)	10 (1.0)	471 (11.1)	5 (0.6)	413 (10.1)
Hong Kong SAR	●	●	72 (0.9)	620 (3.0)	5 (0.4)	605 (11.4)	12 (0.5)	612 (4.5)	10 (0.8)	596 (5.3)
Finland	●	●	69 (1.4)	537 (2.5)	12 (0.8)	538 (3.6)	18 (1.0)	541 (3.8)	1 (0.2)	~ ~
Bulgaria	●	●	68 (1.8)	535 (3.7)	10 (1.2)	502 (9.8)	17 (1.1)	510 (12.8)	5 (0.7)	500 (13.8)
Lithuania	●	●	68 (1.2)	549 (2.6)	8 (0.6)	512 (6.5)	20 (1.0)	516 (3.9)	4 (0.4)	520 (8.8)
Germany	s	●	66 (1.1)	540 (2.3)	8 (0.6)	521 (4.9)	15 (0.7)	525 (4.6)	10 (0.8)	511 (5.4)
Poland	●	●	63 (1.5)	545 (2.3)	17 (0.8)	521 (3.5)	19 (1.5)	517 (4.1)	0 (0.1)	~ ~
Russian Federation	●	●	59 (1.7)	571 (4.2)	10 (0.5)	560 (4.2)	13 (0.7)	561 (4.1)	19 (1.1)	548 (4.3)
Georgia	●	●	59 (1.5)	468 (3.8)	21 (0.9)	460 (4.9)	10 (0.6)	464 (7.1)	11 (1.2)	446 (9.0)
Croatia	●	●	58 (1.6)	514 (2.1)	10 (0.8)	491 (4.3)	12 (0.8)	487 (4.6)	20 (1.7)	486 (3.7)
Spain	r	●	57 (0.9)	521 (2.1)	18 (0.8)	501 (3.7)	13 (0.6)	500 (4.8)	12 (0.5)	482 (4.8)
Cyprus	●	●	57 (1.0)	537 (2.8)	24 (0.8)	517 (3.4)	12 (0.6)	508 (4.5)	8 (0.6)	503 (5.6)
New Zealand	s	●	56 (1.2)	518 (3.1)	31 (1.0)	513 (3.4)	8 (0.6)	492 (7.2)	5 (0.5)	478 (10.5)
Chinese Taipei	●	●	52 (1.0)	601 (2.4)	40 (1.0)	596 (2.5)	7 (0.4)	586 (5.4)	1 (0.2)	~ ~
South Africa (5)	●	●	48 (1.3)	390 (4.6)	14 (0.8)	384 (5.6)	28 (1.2)	362 (3.5)	10 (0.6)	353 (4.3)
Kazakhstan	●	●	47 (1.7)	552 (5.6)	12 (1.1)	545 (7.1)	20 (1.1)	542 (5.8)	21 (1.4)	529 (7.0)
Serbia	●	●	46 (1.5)	541 (3.2)	12 (0.8)	517 (5.9)	38 (1.6)	498 (6.7)	4 (0.5)	471 (14.0)
Canada	r	●	44 (1.4)	529 (2.3)	25 (0.6)	515 (2.7)	20 (1.1)	505 (3.3)	11 (0.6)	506 (4.0)
Chile	r	●	42 (1.1)	471 (2.9)	35 (1.1)	464 (3.5)	15 (0.7)	455 (3.9)	7 (0.6)	444 (5.6)
Bahrain	●	●	34 (0.7)	462 (2.2)	34 (0.6)	460 (2.5)	17 (0.8)	451 (5.1)	15 (0.5)	429 (3.6)
Ireland	●	●	33 (1.0)	560 (2.6)	36 (1.0)	555 (3.0)	25 (0.9)	539 (4.1)	5 (0.5)	517 (7.0)
Morocco	●	●	29 (1.1)	397 (4.5)	21 (0.7)	383 (4.2)	18 (0.9)	360 (4.6)	32 (1.4)	373 (6.7)
United Arab Emirates	●	●	21 (0.4)	477 (3.6)	44 (0.6)	447 (2.7)	21 (0.4)	462 (3.6)	14 (0.5)	438 (3.9)
Qatar	r	●	20 (0.8)	463 (6.1)	33 (1.0)	454 (4.1)	25 (0.8)	449 (4.7)	22 (1.2)	417 (5.9)
Kuwait	r	●	20 (0.9)	372 (5.8)	40 (1.2)	352 (4.7)	20 (1.1)	367 (6.5)	20 (1.4)	355 (6.0)
Indonesia	●	●	18 (1.1)	410 (5.5)	28 (1.6)	425 (4.2)	26 (1.3)	405 (3.7)	28 (2.2)	360 (5.3)
Iran, Islamic Rep. of	●	●	17 (1.0)	452 (6.0)	14 (0.6)	462 (4.3)	48 (1.4)	432 (3.9)	21 (1.3)	396 (7.2)
Oman	○	n/a	15 (0.5)	441 (5.1)	27 (0.8)	444 (3.4)	29 (0.6)	432 (4.1)	29 (0.9)	400 (3.1)
Jordan	●	●	13 (0.9)	401 (7.0)	21 (1.0)	422 (4.8)	41 (1.3)	401 (3.5)	25 (1.1)	345 (5.1)
Turkey	●	●	11 (0.9)	496 (8.5)	11 (0.7)	523 (6.5)	50 (0.9)	493 (3.2)	28 (1.1)	447 (4.2)
Saudi Arabia	●	●	6 (0.6)	404 (8.4)	18 (1.2)	384 (5.6)	31 (1.4)	388 (4.4)	45 (1.8)	380 (5.6)
Australia	●	●	x x	x x	x x	x x	x x	x x	x x	x x
Netherlands	○	n/a	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	Varies by state	n/a	--	--	--	--	--	--	--	--
International Avg.			54 (0.2)	510 (0.6)	18 (0.1)	496 (0.9)	17 (0.1)	485 (1.0)	11 (0.1)	462 (1.2)

● Yes  
○ No

( ) 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. An "s" indicates data are available for at least 50% but less than 70% of the students.

An "x" indicates data are available for less than 50% of students.

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

**Exhibit 4.7: Students Attended Preprimary Education (Continued)**

Country	Country Provides Universal Preprimary Coverage	National Preprimary Curriculum Includes Mathematics and Numeracy Skills	Students Attended Preprimary Education							
			3 Years or More		2 Years		1 Year or Less		Did Not Attend	
			Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
<b>Benchmarking Participants</b>										
Quebec, Canada	r ●	●	62 (1.6)	544 (4.2)	15 (0.8)	542 (5.5)	17 (1.3)	526 (5.1)	7 (0.9)	531 (7.6)
Ontario, Canada	r ●	●	40 (1.9)	527 (3.0)	29 (1.0)	518 (3.6)	17 (1.9)	514 (3.6)	14 (0.9)	506 (4.6)
Dubai, UAE	●	●	27 (0.6)	521 (2.8)	41 (0.7)	508 (1.9)	21 (0.6)	526 (3.2)	11 (0.5)	493 (4.4)
Abu Dhabi, UAE	r ●	●	19 (1.0)	456 (8.1)	45 (1.2)	412 (5.1)	22 (1.2)	430 (6.8)	14 (0.8)	419 (8.0)
Buenos Aires, Argentina	○	n/a	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	●	●	--	--	--	--	--	--	--	--

● Yes  
○ No

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