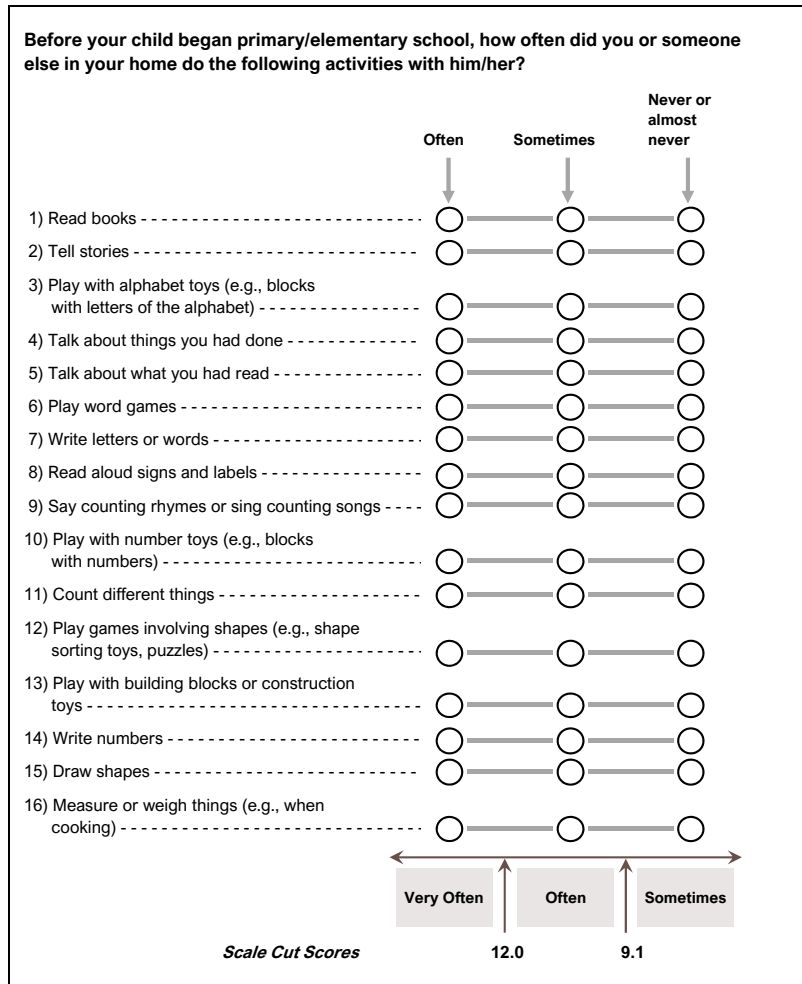


Exhibit 3.2.1: Home Early Literacy and Numeracy Activities Before Primary School – Parents’ Reports

About the Scale

Students were scored according to their parents’ reports regarding the frequency they or someone in the home engaged their children in the sixteen activities on the *Early Literacy and Numeracy Activities* scale. Cut scores divide the scale into three categories. Students who **Very Often** engaged in early literacy and numeracy activities before primary school had a score at or above the cut score corresponding to their parents reporting they “often” did twelve of the sixteen activities and “sometimes” did the other four, on average. Students who **Sometimes** engaged in early literacy and numeracy activities before primary school had a score at or below the cut score corresponding to their parents reporting they “never or almost never” did one of the sixteen activities, “sometimes” did twelve of the sixteen activities and “often” did the other three, on average. All other students **Often** engaged in early literacy and numeracy activities.



SOURCE: IEA’s Trends in International Mathematics and Science Study - TIMSS 2023
Downloaded from <https://timss2023.org/results>

Exhibit 3.2.2: Home Early Literacy and Numeracy Activities Before Primary School – Parents' Reports

Country	Very Often		Often		Sometimes		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Albania	40 (2.6)	526 (8.9)	40 (1.7)	503 (7.0)	20 (2.6)	490 (8.4)	11.4 (0.16)
Armenia	19 (0.9)	523 (4.5)	60 (1.0)	515 (2.9)	21 (0.9)	499 (3.9)	10.5 (0.04)
Azerbaijan	15 (0.7)	518 (6.1)	58 (1.5)	505 (3.3)	28 (1.5)	462 (4.7)	10.1 (0.07)
Bahrain	28 (0.9)	476 (5.5)	53 (0.8)	459 (4.3)	19 (0.6)	452 (5.1)	10.9 (0.04)
Belgium (Flemish)	11 (0.6)	544 (4.2)	50 (1.0)	526 (2.8)	39 (1.0)	517 (2.5)	9.7 (0.03)
Belgium (French)	15 (0.6)	510 (4.0)	55 (0.8)	497 (2.7)	30 (0.8)	479 (3.1)	10.1 (0.03)
Bosnia & Herzegovina	30 (1.4)	467 (5.0)	56 (1.3)	453 (3.3)	14 (1.3)	424 (12.3)	11.1 (0.07)
Brazil	9 (0.5)	431 (7.0)	47 (0.9)	409 (3.9)	44 (1.0)	390 (3.2)	9.5 (0.04)
Bulgaria	20 (0.8)	561 (4.2)	51 (1.3)	547 (2.7)	30 (1.5)	484 (6.9)	10.0 (0.10)
Chile	23 (0.8)	470 (4.2)	51 (0.9)	446 (3.6)	26 (0.8)	427 (4.5)	10.5 (0.04)
Chinese Taipei	11 (0.5)	630 (3.2)	43 (0.7)	614 (1.9)	46 (0.8)	596 (2.3)	9.6 (0.03)
Cyprus	25 (0.7)	539 (3.1)	52 (0.8)	518 (2.9)	23 (0.7)	501 (3.8)	10.7 (0.04)
Czech Republic	22 (0.8)	541 (3.6)	60 (0.8)	537 (2.5)	18 (0.7)	532 (3.2)	10.7 (0.04)
Denmark	12 (0.6)	541 (4.3)	54 (0.8)	527 (2.4)	34 (0.8)	520 (2.7)	9.9 (0.04)
Finland	10 (0.5)	551 (5.1)	56 (0.9)	536 (2.7)	34 (0.9)	527 (3.2)	9.9 (0.03)
France	21 (0.9)	509 (4.1)	57 (1.0)	488 (3.1)	22 (0.9)	466 (4.2)	10.5 (0.04)
Georgia	33 (1.1)	504 (4.4)	52 (1.0)	500 (3.7)	15 (1.0)	483 (5.2)	11.2 (0.06)
Germany	15 (0.8)	551 (4.5)	60 (1.1)	537 (2.6)	25 (0.9)	529 (3.6)	10.3 (0.04)
Hong Kong SAR	9 (0.5)	629 (6.9)	44 (1.5)	610 (3.8)	47 (1.5)	575 (4.4)	9.5 (0.04)
Hungary	25 (1.1)	550 (5.0)	57 (1.4)	537 (3.1)	18 (1.4)	499 (11.9)	10.8 (0.09)
Iran, Islamic Rep. of	9 (0.6)	442 (7.1)	54 (0.9)	427 (4.0)	37 (0.9)	407 (5.3)	9.7 (0.04)
Ireland	33 (1.0)	566 (2.8)	50 (1.1)	548 (3.1)	17 (0.7)	523 (6.5)	11.2 (0.04)
Italy	21 (0.8)	525 (3.6)	60 (0.8)	514 (3.0)	19 (0.7)	507 (3.9)	10.6 (0.03)
Japan	8 (0.4)	614 (4.5)	40 (0.8)	600 (2.7)	53 (1.0)	584 (2.6)	9.2 (0.04)
Jordan	13 (0.7)	455 (6.5)	56 (1.0)	430 (5.1)	31 (1.1)	418 (7.1)	10.0 (0.04)
Kazakhstan	36 (1.0)	500 (3.8)	52 (1.0)	484 (4.2)	13 (0.7)	469 (4.9)	11.3 (0.05)
Korea, Rep. of	34 (0.9)	615 (2.8)	48 (1.0)	592 (3.0)	17 (1.0)	567 (4.3)	11.1 (0.05)
Kosovo	31 (1.2)	472 (4.0)	57 (1.2)	458 (4.1)	12 (1.2)	428 (11.3)	11.1 (0.06)
Kuwait	16 (0.7)	440 (6.9)	57 (0.9)	388 (4.7)	26 (0.9)	373 (6.1)	10.3 (0.03)
Latvia	24 (1.1)	548 (5.8)	58 (1.1)	540 (3.7)	18 (0.9)	529 (4.9)	10.8 (0.05)
Lithuania	25 (0.9)	576 (4.1)	56 (1.0)	565 (3.4)	20 (0.8)	561 (4.4)	10.7 (0.04)
Macao SAR	6 (0.3)	607 (4.8)	44 (0.7)	592 (1.6)	50 (0.7)	571 (1.5)	9.3 (0.02)
Montenegro	32 (0.8)	490 (3.3)	54 (0.9)	478 (2.9)	14 (0.5)	461 (4.3)	11.2 (0.03)
Morocco	5 (0.6)	427 (8.6)	36 (1.4)	408 (4.8)	59 (1.6)	383 (6.0)	8.3 (0.12)
North Macedonia	32 (1.0)	493 (4.2)	53 (1.1)	473 (4.0)	15 (1.0)	445 (6.5)	11.1 (0.05)
Norway (5)	13 (0.8)	558 (5.4)	54 (0.9)	544 (2.6)	32 (1.0)	533 (4.3)	10.1 (0.04)
Oman	18 (0.6)	448 (7.1)	59 (0.7)	420 (4.3)	23 (0.6)	401 (4.6)	10.4 (0.03)
Poland	30 (1.0)	558 (3.0)	57 (1.0)	544 (2.3)	13 (0.6)	540 (5.1)	11.1 (0.03)
Portugal	17 (0.5)	538 (3.5)	55 (0.8)	523 (3.3)	28 (0.8)	499 (3.3)	10.3 (0.03)
Qatar	28 (0.9)	478 (5.6)	49 (0.9)	466 (4.1)	23 (0.9)	444 (4.8)	10.8 (0.06)
Romania	31 (1.5)	568 (5.4)	51 (1.4)	553 (4.8)	18 (1.4)	532 (8.9)	11.0 (0.09)
Saudi Arabia	27 (0.9)	431 (5.7)	50 (0.7)	424 (4.3)	24 (0.7)	411 (5.3)	10.7 (0.05)
Serbia	30 (1.0)	531 (4.1)	56 (1.0)	526 (3.3)	14 (1.0)	499 (7.7)	11.1 (0.05)
Singapore	25 (0.7)	642 (2.9)	43 (0.8)	628 (3.1)	32 (0.8)	615 (3.4)	10.5 (0.04)
Slovak Republic	26 (0.8)	532 (2.9)	55 (1.0)	521 (3.0)	19 (1.2)	476 (8.2)	10.7 (0.09)
Slovenia	22 (0.9)	525 (3.5)	57 (0.8)	518 (2.1)	21 (0.7)	509 (3.3)	10.6 (0.04)
South Africa (5)	11 (0.5)	426 (8.7)	48 (0.9)	381 (5.0)	41 (1.1)	339 (4.1)	9.7 (0.05)
Spain	19 (0.6)	519 (2.8)	55 (0.7)	503 (2.2)	25 (0.7)	488 (2.7)	10.4 (0.03)
Sweden	11 (0.5)	540 (6.0)	52 (0.8)	538 (3.3)	37 (0.8)	533 (2.6)	9.8 (0.03)
Türkiye (5)	18 (1.1)	592 (5.3)	52 (1.1)	560 (4.3)	30 (1.1)	529 (5.7)	10.2 (0.07)
United Arab Emirates	28 (0.4)	527 (2.1)	47 (0.4)	512 (1.8)	25 (0.4)	496 (2.1)	10.8 (0.02)
Uzbekistan	21 (1.0)	458 (4.2)	69 (1.0)	444 (3.3)	10 (0.8)	418 (6.3)	10.9 (0.05)
International Average	21 (0.1)	523 (0.7)	53 (0.1)	507 (0.5)	26 (0.1)	487 (0.8)	
Canada	34 (0.8)	538 (3.3)	48 (0.9)	517 (2.8)	18 (0.6)	509 (4.3)	11.2 (0.04)
New Zealand	--	--	--	--	--	--	--
Australia	--	--	--	--	--	--	--
England	--	--	--	--	--	--	--
Netherlands	--	--	--	--	--	--	--
United States	--	--	--	--	--	--	--
Benchmarking Participants							
Quebec, Canada	25 (1.2)	543 (4.1)	54 (1.2)	519 (3.8)	21 (0.9)	506 (5.5)	10.7 (0.05)
Sharjah, UAE	31 (1.4)	531 (4.7)	46 (1.1)	519 (4.4)	23 (0.8)	501 (5.4)	10.9 (0.07)
Abu Dhabi, UAE	23 (0.7)	498 (4.4)	48 (0.7)	485 (3.2)	29 (0.8)	468 (3.4)	10.5 (0.04)
Dubai, UAE	30 (0.7)	576 (3.3)	48 (0.8)	563 (3.3)	22 (0.8)	553 (3.4)	10.9 (0.04)
Ontario, Canada	--	--	--	--	--	--	--

This TIMSS context questionnaire scale was established in 2011 based on the combined response distribution of countries that participated in TIMSS 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.

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 at least 40% but less than 50% of the students—interpret with caution.

A "y" indicates data are available for less than 40% of the students.

A dash (-) indicates comparable data not available.

Exhibit 3.2.3: Home Early Literacy and Numeracy Activities Before Primary School – Parents' Reports

Country	Very Often		Often		Sometimes		Average Scale Score	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement		
Albania	s	40 (2.6)	500 (7.6)	40 (1.7)	485 (5.8)	20 (2.6)	472 (9.0)	11.4 (0.16)
Armenia		19 (0.9)	466 (4.3)	60 (1.0)	458 (2.9)	21 (0.9)	448 (3.2)	10.5 (0.04)
Azerbaijan		15 (0.7)	443 (5.4)	58 (1.5)	431 (3.1)	28 (1.5)	394 (4.7)	10.1 (0.07)
Bahrain		28 (0.9)	496 (5.9)	53 (0.8)	471 (3.9)	19 (0.6)	457 (4.9)	10.9 (0.04)
Belgium (Flemish)		11 (0.6)	511 (3.7)	50 (1.0)	495 (3.1)	39 (1.0)	482 (3.3)	9.7 (0.03)
Belgium (French)		15 (0.6)	504 (3.7)	55 (0.8)	487 (3.0)	30 (0.8)	468 (3.4)	10.1 (0.03)
Bosnia & Herzegovina	s	30 (1.4)	470 (5.7)	56 (1.3)	451 (4.8)	14 (1.3)	416 (14.6)	11.1 (0.07)
Brazil		9 (0.5)	457 (6.4)	47 (0.9)	438 (4.4)	44 (1.0)	412 (3.2)	9.5 (0.04)
Bulgaria		20 (0.8)	563 (5.0)	51 (1.3)	552 (3.5)	30 (1.5)	476 (9.8)	10.0 (0.10)
Chile	s	23 (0.8)	510 (4.6)	51 (0.9)	482 (3.3)	26 (0.8)	462 (3.9)	10.5 (0.04)
Chinese Taipei		11 (0.5)	595 (3.3)	43 (0.7)	580 (2.1)	46 (0.8)	562 (2.2)	9.6 (0.03)
Cyprus		25 (0.7)	510 (3.8)	52 (0.8)	490 (3.4)	23 (0.7)	470 (5.3)	10.7 (0.04)
Czech Republic	r	22 (0.8)	536 (3.6)	60 (0.8)	532 (2.8)	18 (0.7)	528 (3.1)	10.7 (0.04)
Denmark		12 (0.6)	540 (4.2)	54 (0.8)	526 (2.9)	34 (0.8)	521 (3.0)	9.9 (0.04)
Finland		10 (0.5)	558 (4.4)	56 (0.9)	551 (3.1)	34 (0.9)	539 (3.1)	9.9 (0.03)
France		21 (0.9)	512 (4.2)	57 (1.0)	492 (3.2)	22 (0.9)	471 (4.0)	10.5 (0.04)
Georgia		33 (1.1)	469 (3.7)	52 (1.0)	467 (4.2)	15 (1.0)	455 (5.4)	11.2 (0.06)
Germany	s	15 (0.8)	545 (4.6)	60 (1.1)	533 (3.3)	25 (0.9)	522 (4.6)	10.3 (0.04)
Hong Kong SAR	r	9 (0.5)	586 (6.8)	44 (1.5)	558 (3.9)	47 (1.5)	524 (4.6)	9.5 (0.04)
Hungary	s	25 (1.1)	548 (4.2)	57 (1.4)	542 (3.3)	18 (1.4)	506 (12.8)	10.8 (0.09)
Iran, Islamic Rep. of		9 (0.6)	460 (7.7)	54 (0.9)	440 (4.3)	37 (0.9)	417 (5.6)	9.7 (0.04)
Ireland		33 (1.0)	550 (3.6)	50 (1.1)	534 (3.4)	17 (0.7)	510 (6.2)	11.2 (0.04)
Italy		21 (0.8)	525 (3.3)	60 (0.8)	511 (2.6)	19 (0.7)	504 (3.8)	10.6 (0.03)
Japan		8 (0.4)	581 (4.6)	40 (0.8)	564 (2.9)	53 (1.0)	547 (2.7)	9.2 (0.04)
Jordan		13 (0.7)	456 (7.4)	56 (1.0)	423 (4.6)	31 (1.1)	405 (6.7)	10.0 (0.04)
Kazakhstan		36 (1.0)	484 (4.4)	52 (1.0)	462 (3.7)	13 (0.7)	443 (5.1)	11.3 (0.05)
Korea, Rep. of		34 (0.9)	600 (2.7)	48 (1.0)	581 (2.9)	17 (1.0)	562 (4.2)	11.1 (0.05)
Kosovo	s	31 (1.2)	425 (4.5)	57 (1.2)	410 (3.9)	12 (1.2)	382 (10.3)	11.1 (0.06)
Kuwait		16 (0.7)	400 (7.9)	57 (0.9)	380 (5.6)	26 (0.9)	364 (7.4)	10.3 (0.03)
Latvia	s	24 (1.1)	540 (5.4)	58 (1.1)	531 (4.3)	18 (0.9)	526 (5.4)	10.8 (0.05)
Lithuania	s	25 (0.9)	554 (4.0)	56 (1.0)	540 (3.7)	20 (0.8)	534 (4.6)	10.7 (0.04)
Macao SAR		6 (0.3)	564 (5.5)	44 (0.7)	544 (2.0)	50 (0.7)	526 (1.9)	9.3 (0.02)
Montenegro	r	32 (0.8)	472 (3.3)	54 (0.9)	462 (2.9)	14 (0.5)	442 (4.3)	11.2 (0.03)
Morocco		5 (0.6)	435 (10.9)	36 (1.4)	407 (5.9)	59 (1.6)	378 (6.6)	8.3 (0.12)
North Macedonia		32 (1.0)	460 (4.4)	53 (1.1)	438 (4.2)	15 (1.0)	408 (6.9)	11.1 (0.05)
Norway (5)	s	13 (0.8)	562 (4.9)	54 (0.9)	544 (3.4)	32 (1.0)	532 (4.8)	10.1 (0.04)
Oman		18 (0.6)	467 (7.5)	59 (0.7)	432 (4.6)	23 (0.6)	410 (4.7)	10.4 (0.03)
Poland		30 (1.0)	562 (2.7)	57 (1.0)	548 (2.7)	13 (0.6)	544 (4.5)	11.1 (0.03)
Portugal		17 (0.5)	529 (2.9)	55 (0.8)	514 (2.6)	28 (0.8)	495 (3.2)	10.3 (0.03)
Qatar	s	28 (0.9)	495 (5.6)	49 (0.9)	478 (4.4)	23 (0.9)	453 (4.7)	10.8 (0.06)
Romania	s	31 (1.5)	549 (5.3)	51 (1.4)	538 (4.6)	18 (1.4)	524 (8.4)	11.0 (0.09)
Saudi Arabia	r	27 (0.9)	447 (5.4)	50 (0.7)	432 (4.3)	24 (0.7)	415 (5.1)	10.7 (0.05)
Serbia		30 (1.0)	519 (4.0)	56 (1.0)	511 (3.2)	14 (1.0)	488 (6.5)	11.1 (0.05)
Singapore	r	25 (0.7)	638 (2.9)	43 (0.8)	618 (2.8)	32 (0.8)	604 (3.3)	10.5 (0.04)
Slovak Republic		26 (0.8)	542 (3.9)	55 (1.0)	530 (2.8)	19 (1.2)	471 (9.1)	10.7 (0.09)
Slovenia		22 (0.9)	540 (4.0)	57 (0.8)	529 (2.3)	21 (0.7)	518 (3.5)	10.6 (0.04)
South Africa (5)	r	11 (0.5)	395 (12.0)	48 (0.9)	332 (6.8)	41 (1.1)	277 (5.6)	9.7 (0.05)
Spain		19 (0.6)	524 (2.5)	55 (0.7)	509 (2.2)	25 (0.7)	492 (3.1)	10.4 (0.03)
Sweden	r	11 (0.5)	545 (5.9)	52 (0.8)	541 (3.7)	37 (0.8)	538 (2.9)	9.8 (0.03)
Türkiye (5)		18 (1.1)	603 (4.3)	52 (1.1)	576 (3.7)	30 (1.1)	549 (5.0)	10.2 (0.07)
United Arab Emirates	s	28 (0.4)	530 (2.6)	47 (0.4)	513 (2.4)	25 (0.4)	491 (2.6)	10.8 (0.02)
Uzbekistan		21 (1.0)	428 (4.2)	69 (1.0)	412 (3.6)	10 (0.8)	383 (7.9)	10.9 (0.05)
International Average		21 (0.1)	513 (0.7)	53 (0.1)	496 (0.5)	26 (0.1)	475 (0.8)	
Canada	x	34 (0.8)	552 (2.9)	48 (0.9)	529 (2.8)	18 (0.6)	520 (4.6)	11.2 (0.04)
New Zealand	y	--	--	--	--	--	--	--
Australia		--	--	--	--	--	--	--
England		--	--	--	--	--	--	--
Netherlands		--	--	--	--	--	--	--
United States		--	--	--	--	--	--	--
Benchmarking Participants								
Quebec, Canada	s	25 (1.2)	533 (4.9)	54 (1.2)	513 (4.0)	21 (0.9)	501 (5.5)	10.7 (0.05)
Sharjah, UAE	s	31 (1.4)	537 (5.7)	46 (1.1)	522 (4.6)	23 (0.8)	497 (6.5)	10.9 (0.07)
Abu Dhabi, UAE	x	23 (0.7)	492 (5.2)	48 (0.7)	478 (4.5)	29 (0.8)	455 (4.6)	10.5 (0.04)
Dubai, UAE	x	30 (0.7)	585 (3.2)	48 (0.8)	572 (3.0)	22 (0.8)	559 (4.4)	10.9 (0.04)
Ontario, Canada	y	--	--	--	--	--	--	--

This TIMSS context questionnaire scale was established in 2011 based on the combined response distribution of countries that participated in TIMSS 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.

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 at least 40% but less than 50% of the students—interpret with caution.

A "y" indicates data are available for less than 40% of the students.

A dash (-) indicates comparable data not available.