

Challenges to Teaching and Learning

Student Absenteeism

Exhibits 10.1, 10.2, 10.3, and 10.4 present students' reports about the frequency they are absent from school—"never or almost never," "once every two months," "once a month," "once every two weeks," and "once a week," with the percentage of students and average achievement reported for each category. Countries are sorted by the percentage of students reporting they are "never or almost never" absent. In fourth grade (Exhibits 10.1 and 10.2), 61 percent of students, on average, reported they are "never or almost never" absent, 13 percent that they are absent "once every two months," 10 percent that they are absent "once a month," 5 percent that they are absent "once every two weeks," and 11 percent that they are absent "once a week." Just over half (55%) of eighth grade students said they are absent "never or almost never," 16 percent that they are absent "once every two months," 14 percent "once a month," 7 percent "once every two weeks," and 8 percent "once a week" (Exhibits 10.3 and 10.4). In both grades, students in Korea reported the lowest rate of absenteeism, with 88 percent of fourth grade students and 94 percent of eighth grade students reporting that they are "never or almost never" absent, and just 1 percent or less saying that they are absent "once a week." In contrast, in some countries, more than one-fifth or more of students miss school "once a week."

Because coming to school is the foundation for having an opportunity to learn, it is not surprising that an increase in frequency of being absent is highly related to a decrease in average achievement, especially for students absent "once every two weeks" or more. For example, the average mathematics score in eighth grade decreased from 502 for students "never or almost never" absent to 495 for students absent "once every two months," to 475 for students absent "once a month," to 452 for students absent "once every two weeks," and to 412 for students absent "once a week"—a 90-point difference between regular attendance and missing school very often. Frequently missing school may indicate that a student has other challenges, which can cause or compound the problem of missed instruction.

Exhibit 10.1: Frequency of Student Absences
Students' Reports

Country	Never or Almost Never		Once Every Two Months		Once a Month		Once Every Two Weeks		Once a Week	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Korea, Rep. of	88 (0.7)	604 (2.2)	7 (0.6)	585 (5.8)	3 (0.3)	575 (11.3)	1 (0.2)	~ ~	1 (0.2)	~ ~
France	82 (0.9)	491 (3.0)	6 (0.5)	494 (6.3)	5 (0.4)	474 (6.2)	2 (0.3)	~ ~	5 (0.5)	406 (7.0)
Portugal	82 (0.8)	530 (2.7)	6 (0.5)	531 (6.2)	5 (0.4)	520 (6.0)	2 (0.2)	~ ~	5 (0.4)	469 (5.4)
Chinese Taipei	81 (0.8)	604 (1.8)	11 (0.7)	598 (4.1)	3 (0.3)	589 (7.8)	1 (0.2)	~ ~	3 (0.3)	519 (6.6)
Japan	79 (0.7)	602 (1.7)	12 (0.5)	582 (3.8)	5 (0.4)	557 (5.4)	1 (0.2)	~ ~	3 (0.3)	506 (6.8)
Spain	79 (0.9)	509 (2.3)	6 (0.5)	510 (6.1)	6 (0.4)	491 (5.0)	3 (0.3)	468 (8.9)	7 (0.5)	448 (6.6)
Belgium (Flemish)	79 (0.8)	538 (1.8)	11 (0.6)	529 (3.6)	5 (0.3)	511 (5.6)	2 (0.3)	~ ~	3 (0.3)	480 (6.8)
Austria	78 (0.8)	543 (2.1)	10 (0.5)	548 (3.6)	6 (0.5)	535 (5.5)	2 (0.2)	~ ~	4 (0.4)	482 (5.7)
Germany	77 (0.8)	529 (2.4)	9 (0.6)	529 (4.8)	6 (0.4)	518 (5.3)	2 (0.3)	~ ~	5 (0.4)	471 (6.9)
Lithuania	76 (1.0)	546 (2.8)	10 (0.6)	548 (5.2)	6 (0.5)	552 (7.9)	3 (0.3)	515 (10.5)	4 (0.4)	482 (6.6)
Hong Kong SAR	74 (1.2)	610 (3.5)	14 (0.8)	591 (4.4)	5 (0.5)	590 (7.7)	3 (0.3)	557 (8.9)	4 (0.6)	537 (7.0)
Singapore	74 (0.8)	638 (3.5)	13 (0.5)	623 (4.0)	6 (0.3)	596 (6.6)	2 (0.2)	~ ~	5 (0.5)	516 (7.6)
Cyprus	74 (0.9)	540 (2.7)	11 (0.7)	526 (4.8)	8 (0.4)	519 (5.6)	3 (0.3)	485 (8.7)	4 (0.4)	475 (7.9)
Montenegro	72 (0.7)	464 (2.0)	5 (0.4)	463 (6.3)	7 (0.4)	451 (4.4)	4 (0.3)	437 (8.1)	12 (0.5)	405 (4.3)
Netherlands	71 (1.1)	543 (1.9)	15 (0.8)	539 (3.4)	8 (0.6)	525 (5.7)	2 (0.3)	~ ~	4 (0.4)	496 (7.9)
Russian Federation	71 (1.2)	570 (3.5)	12 (0.7)	573 (4.4)	8 (0.5)	565 (5.2)	3 (0.4)	539 (10.2)	6 (0.4)	535 (6.8)
Albania	69 (1.5)	502 (3.4)	11 (0.9)	513 (5.9)	6 (0.6)	499 (7.5)	3 (0.3)	451 (12.7)	10 (0.7)	449 (5.4)
England	68 (1.0)	565 (3.4)	17 (0.7)	554 (5.3)	8 (0.6)	547 (6.3)	3 (0.3)	524 (14.0)	4 (0.4)	472 (9.0)
Serbia	68 (1.5)	518 (3.3)	9 (1.0)	525 (6.7)	10 (0.9)	504 (7.9)	5 (0.4)	488 (6.8)	9 (0.7)	440 (7.7)
Latvia	67 (1.0)	550 (3.1)	11 (0.5)	551 (4.3)	10 (0.5)	548 (4.7)	4 (0.4)	530 (5.5)	8 (0.5)	518 (6.1)
Northern Ireland	67 (1.0)	580 (2.9)	18 (0.9)	563 (4.6)	9 (0.6)	541 (6.0)	3 (0.4)	514 (10.9)	4 (0.4)	450 (9.3)
Italy	66 (0.9)	519 (2.4)	8 (0.5)	523 (5.3)	10 (0.5)	519 (5.6)	6 (0.4)	502 (6.3)	10 (0.7)	480 (4.4)
Kosovo	66 (1.0)	457 (2.9)	11 (0.9)	452 (6.1)	5 (0.4)	439 (5.5)	3 (0.3)	421 (11.4)	15 (0.8)	403 (5.8)
Malta	66 (0.8)	517 (1.7)	14 (0.6)	514 (4.0)	9 (0.5)	501 (4.4)	4 (0.3)	478 (8.5)	6 (0.4)	458 (5.0)
Norway (5)	66 (1.2)	549 (2.5)	15 (0.9)	557 (3.7)	11 (0.6)	533 (4.5)	4 (0.5)	504 (9.0)	5 (0.4)	495 (7.0)
Morocco	64 (1.2)	394 (4.5)	11 (0.8)	400 (10.4)	9 (0.5)	372 (12.8)	4 (0.4)	334 (12.0)	12 (0.7)	353 (7.1)
United States	63 (0.9)	547 (2.5)	15 (0.6)	548 (3.4)	9 (0.4)	536 (4.5)	5 (0.3)	507 (7.4)	8 (0.4)	457 (4.7)
Bulgaria	62 (1.5)	527 (3.4)	14 (0.9)	538 (4.9)	9 (0.6)	505 (6.5)	5 (0.6)	484 (8.4)	11 (1.3)	445 (11.0)
Chile	61 (0.9)	451 (2.6)	7 (0.4)	460 (6.1)	8 (0.4)	447 (5.7)	6 (0.4)	432 (6.6)	18 (0.9)	409 (4.4)
Bosnia and Herzegovina	61 (1.0)	462 (2.7)	13 (0.7)	463 (3.4)	9 (0.4)	456 (4.4)	4 (0.4)	415 (6.9)	13 (0.7)	410 (4.1)
Poland	60 (0.9)	531 (2.7)	15 (0.6)	527 (4.4)	11 (0.6)	523 (4.9)	5 (0.4)	490 (6.5)	9 (0.5)	458 (4.3)
Canada	60 (0.9)	519 (2.3)	16 (0.6)	517 (3.1)	12 (0.5)	506 (3.1)	5 (0.3)	487 (6.0)	6 (0.4)	455 (4.8)
Ireland	60 (0.9)	559 (2.5)	20 (0.7)	552 (4.1)	11 (0.7)	535 (5.2)	4 (0.3)	515 (7.7)	4 (0.5)	472 (7.8)
Turkey (5)	60 (1.1)	542 (4.4)	14 (0.7)	534 (5.5)	11 (0.6)	511 (5.6)	5 (0.3)	485 (12.1)	10 (0.6)	440 (5.8)
Sweden	60 (1.1)	526 (3.2)	16 (0.7)	534 (4.9)	14 (0.8)	514 (5.1)	5 (0.5)	511 (6.9)	5 (0.4)	472 (7.1)
Bahrain	59 (0.8)	491 (2.8)	8 (0.4)	485 (6.5)	8 (0.4)	484 (4.3)	5 (0.4)	467 (6.5)	19 (0.8)	451 (3.5)
United Arab Emirates	58 (0.5)	497 (1.9)	10 (0.3)	500 (2.8)	9 (0.3)	481 (3.5)	6 (0.2)	445 (3.5)	17 (0.3)	439 (2.8)
Croatia	57 (1.1)	517 (2.9)	22 (0.9)	514 (3.6)	12 (0.7)	496 (4.8)	3 (0.3)	498 (8.0)	7 (0.7)	459 (5.8)
Denmark	57 (1.1)	532 (2.3)	17 (0.7)	533 (3.4)	13 (0.7)	524 (4.1)	5 (0.4)	514 (6.8)	9 (0.6)	477 (5.7)
Australia	57 (0.9)	525 (3.2)	18 (0.8)	531 (4.1)	13 (0.6)	513 (4.2)	6 (0.4)	489 (7.2)	7 (0.5)	435 (7.5)
Oman	55 (0.9)	452 (4.2)	10 (0.8)	438 (6.5)	9 (0.5)	409 (5.0)	5 (0.3)	382 (7.4)	21 (1.0)	401 (5.3)
New Zealand	55 (0.9)	499 (2.9)	18 (0.6)	506 (4.1)	12 (0.6)	484 (5.1)	5 (0.4)	456 (6.6)	9 (0.4)	407 (4.8)
North Macedonia	54 (1.9)	494 (5.7)	13 (1.1)	488 (8.3)	9 (0.7)	468 (7.6)	4 (0.4)	429 (12.8)	20 (1.2)	433 (7.3)
Iran, Islamic Rep. of	53 (1.3)	461 (3.8)	16 (0.8)	456 (6.8)	9 (0.5)	433 (5.3)	7 (1.0)	405 (9.7)	15 (0.8)	397 (5.9)
Kazakhstan	53 (1.5)	523 (3.1)	12 (0.7)	519 (4.4)	10 (0.5)	512 (5.0)	3 (0.3)	494 (6.6)	21 (1.1)	483 (4.0)
Qatar	53 (1.0)	472 (4.3)	11 (0.5)	474 (5.3)	9 (0.5)	441 (7.2)	6 (0.5)	416 (7.7)	21 (0.8)	403 (4.5)
Azerbaijan	50 (1.4)	535 (2.9)	18 (0.9)	525 (4.2)	12 (0.7)	510 (4.5)	5 (0.4)	504 (6.8)	15 (0.9)	486 (4.4)
South Africa (5)	49 (1.2)	401 (4.0)	8 (0.4)	379 (6.1)	11 (0.6)	357 (5.9)	7 (0.5)	318 (4.7)	24 (0.7)	348 (3.8)
Armenia	49 (1.1)	511 (2.7)	11 (0.6)	503 (4.0)	12 (0.6)	499 (4.5)	6 (0.5)	487 (5.3)	22 (0.9)	474 (3.3)
Kuwait	47 (1.6)	410 (5.4)	7 (0.5)	407 (9.8)	11 (0.7)	379 (7.9)	8 (0.5)	350 (9.0)	28 (1.2)	354 (5.4)
Hungary	42 (1.0)	541 (3.3)	27 (0.9)	529 (3.2)	16 (0.6)	517 (4.3)	6 (0.4)	497 (5.6)	9 (0.7)	458 (5.0)
Saudi Arabia	42 (1.2)	419 (4.4)	10 (0.6)	420 (5.1)	11 (0.6)	408 (6.4)	9 (0.5)	376 (6.5)	28 (0.9)	367 (4.2)
Czech Republic	41 (1.0)	540 (3.3)	29 (0.8)	539 (2.9)	16 (0.7)	541 (4.7)	7 (0.4)	518 (6.1)	8 (0.5)	484 (6.3)
Finland	39 (1.0)	537 (3.0)	36 (0.8)	537 (2.6)	17 (0.7)	529 (3.9)	5 (0.3)	515 (6.7)	4 (0.4)	477 (8.1)
Georgia	38 (1.2)	495 (4.1)	17 (1.0)	496 (6.9)	14 (0.9)	489 (4.8)	9 (0.7)	464 (7.1)	21 (1.2)	446 (6.3)
Slovak Republic	35 (1.0)	527 (3.3)	25 (0.9)	522 (4.0)	19 (0.9)	515 (4.8)	8 (0.5)	487 (8.0)	13 (1.0)	451 (7.2)
Philippines	32 (1.5)	329 (7.3)	9 (0.5)	294 (7.6)	14 (0.8)	265 (8.1)	13 (0.8)	263 (7.3)	32 (1.1)	301 (6.5)
Pakistan	30 (3.6)	337 (18.2)	11 (0.8)	323 (13.7)	23 (2.3)	335 (16.3)	10 (1.4)	318 (12.4)	26 (2.4)	320 (11.3)
International Average	61 (0.2)	512 (0.5)	13 (0.1)	509 (0.7)	10 (0.1)	495 (0.8)	5 (0.1)	462 (1.2)	11 (0.1)	448 (0.8)
Benchmarking Participants										
Madrid, Spain	81 (0.8)	522 (2.1)	6 (0.4)	530 (5.1)	6 (0.5)	511 (5.2)	2 (0.2)	~ ~	5 (0.5)	465 (7.2)
Quebec, Canada	71 (0.9)	534 (2.8)	13 (0.6)	539 (4.6)	10 (0.6)	525 (4.7)	3 (0.3)	513 (13.5)	4 (0.5)	484 (8.3)
Moscow City, Russian Fed.	67 (1.0)	594 (2.4)	13 (0.6)	604 (3.5)	11 (0.6)	595 (4.0)	5 (0.3)	583 (6.3)	5 (0.4)	549 (6.3)
Dubai, UAE	60 (0.9)	551 (1.7)	12 (0.6)	551 (3.8)	11 (0.5)	545 (4.3)	5 (0.3)	528 (8.1)	13 (0.5)	511 (3.9)
Ontario, Canada	55 (1.7)	521 (4.2)	18 (1.1)	519 (4.5)	14 (0.9)	507 (5.2)	6 (0.5)	493 (8.6)	7 (0.6)	455 (7.5)
Abu Dhabi, UAE	54 (0.9)	460 (2.3)	9 (0.5)	464 (3.9)	9 (0.4)	439 (5.6)	7 (0.3)	403 (5.0)	20 (0.6)	397 (3.4)

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

Exhibit 10.2: Frequency of Student Absences

Students' Reports

Country	Never or Almost Never		Once Every Two Months		Once a Month		Once Every Two Weeks		Once a Week	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Korea, Rep. of	88 (0.7)	591 (2.1)	7 (0.6)	577 (5.4)	3 (0.3)	569 (10.4)	1 (0.2)	~ ~	1 (0.2)	~ ~
France	82 (0.9)	494 (3.0)	6 (0.5)	495 (6.2)	5 (0.4)	473 (6.9)	2 (0.3)	~ ~	5 (0.5)	411 (7.6)
Portugal	82 (0.8)	507 (2.6)	6 (0.5)	512 (6.7)	5 (0.4)	506 (6.4)	2 (0.2)	~ ~	5 (0.4)	454 (4.7)
Chinese Taipei	81 (0.8)	563 (1.9)	11 (0.7)	556 (3.7)	3 (0.3)	544 (6.5)	1 (0.2)	~ ~	3 (0.3)	481 (7.6)
Japan	79 (0.7)	568 (1.8)	12 (0.5)	562 (3.8)	5 (0.4)	537 (5.5)	1 (0.2)	~ ~	3 (0.3)	473 (7.2)
Spain	79 (0.9)	518 (2.0)	6 (0.5)	511 (6.0)	6 (0.4)	503 (5.6)	3 (0.3)	478 (8.5)	7 (0.5)	454 (5.9)
Belgium (Flemish)	79 (0.8)	506 (2.1)	11 (0.6)	500 (3.8)	5 (0.3)	473 (7.2)	2 (0.3)	~ ~	3 (0.3)	450 (8.8)
Austria	78 (0.8)	528 (2.8)	10 (0.5)	522 (4.5)	6 (0.5)	509 (6.5)	2 (0.2)	~ ~	4 (0.4)	441 (7.5)
Germany	77 (0.8)	527 (2.4)	9 (0.6)	527 (5.6)	6 (0.4)	517 (6.8)	2 (0.3)	~ ~	5 (0.4)	463 (7.5)
Lithuania	76 (1.0)	541 (2.6)	10 (0.6)	547 (4.7)	6 (0.5)	548 (6.8)	3 (0.3)	510 (11.1)	4 (0.4)	485 (6.4)
Hong Kong SAR	74 (1.2)	539 (3.5)	14 (0.8)	526 (5.6)	5 (0.5)	518 (9.3)	3 (0.3)	493 (9.6)	4 (0.6)	455 (7.2)
Singapore	74 (0.8)	608 (3.0)	13 (0.5)	592 (3.9)	6 (0.3)	561 (6.4)	2 (0.2)	~ ~	5 (0.5)	483 (7.6)
Cyprus	74 (0.9)	520 (3.1)	11 (0.7)	504 (4.5)	8 (0.4)	498 (6.1)	3 (0.3)	468 (8.7)	4 (0.4)	454 (8.3)
Montenegro	72 (0.7)	466 (2.7)	5 (0.4)	464 (5.7)	7 (0.4)	452 (6.1)	4 (0.3)	437 (10.2)	12 (0.5)	402 (4.6)
Netherlands	71 (1.1)	525 (2.6)	15 (0.8)	519 (4.6)	8 (0.6)	504 (5.9)	2 (0.3)	~ ~	4 (0.4)	466 (8.4)
Russian Federation	71 (1.2)	570 (3.1)	12 (0.7)	577 (4.1)	8 (0.5)	559 (6.4)	3 (0.4)	539 (10.4)	6 (0.4)	543 (6.3)
Albania	69 (1.5)	499 (3.6)	11 (0.9)	499 (5.7)	6 (0.6)	495 (10.2)	3 (0.3)	457 (13.0)	10 (0.7)	442 (7.0)
England	68 (1.0)	544 (3.2)	17 (0.7)	542 (4.9)	8 (0.6)	528 (5.0)	3 (0.3)	515 (13.1)	4 (0.4)	461 (9.2)
Serbia	68 (1.5)	527 (3.4)	9 (1.0)	531 (7.2)	10 (0.9)	507 (7.6)	5 (0.4)	503 (8.2)	9 (0.7)	458 (10.0)
Latvia	67 (1.0)	545 (2.8)	11 (0.5)	544 (4.7)	10 (0.5)	546 (5.2)	4 (0.4)	535 (4.7)	8 (0.5)	516 (5.3)
Northern Ireland	67 (1.0)	528 (2.4)	18 (0.9)	520 (4.0)	9 (0.6)	498 (4.8)	3 (0.4)	488 (8.6)	4 (0.4)	435 (7.7)
Italy	66 (0.9)	517 (3.0)	8 (0.5)	509 (4.6)	10 (0.5)	508 (7.5)	6 (0.4)	494 (6.1)	10 (0.7)	473 (5.6)
Kosovo	66 (1.0)	427 (3.8)	11 (0.9)	414 (6.5)	5 (0.4)	394 (8.0)	3 (0.3)	380 (11.4)	15 (0.8)	379 (5.9)
Malta	66 (0.8)	505 (1.6)	14 (0.6)	502 (3.9)	9 (0.5)	482 (4.6)	4 (0.3)	460 (8.5)	6 (0.4)	436 (6.1)
Norway (5)	66 (1.2)	543 (2.6)	15 (0.9)	552 (3.6)	11 (0.6)	536 (5.3)	4 (0.5)	522 (8.2)	5 (0.4)	498 (8.0)
Morocco	64 (1.2)	388 (6.0)	11 (0.8)	384 (11.3)	9 (0.5)	356 (15.0)	4 (0.4)	332 (13.4)	12 (0.7)	337 (8.9)
United States	63 (0.9)	549 (2.7)	15 (0.6)	557 (3.7)	9 (0.4)	537 (4.9)	5 (0.3)	510 (7.3)	8 (0.4)	461 (5.3)
Bulgaria	62 (1.5)	536 (4.3)	14 (0.9)	551 (6.0)	9 (0.6)	512 (7.8)	5 (0.6)	480 (9.5)	11 (1.3)	435 (10.1)
Chile	61 (0.9)	480 (2.6)	7 (0.4)	480 (6.9)	8 (0.4)	478 (5.4)	6 (0.4)	457 (5.9)	18 (0.9)	438 (4.0)
Bosnia and Herzegovina	61 (1.0)	468 (3.3)	13 (0.7)	474 (4.0)	9 (0.4)	463 (5.9)	4 (0.4)	430 (7.2)	13 (0.7)	414 (4.6)
Poland	60 (0.9)	541 (2.6)	15 (0.6)	536 (3.9)	11 (0.6)	535 (4.4)	5 (0.4)	507 (7.9)	9 (0.5)	474 (5.6)
Canada	60 (0.9)	529 (2.1)	16 (0.6)	530 (3.1)	12 (0.5)	521 (3.0)	5 (0.3)	510 (5.4)	6 (0.4)	471 (5.4)
Ireland	60 (0.9)	537 (2.8)	20 (0.7)	532 (4.5)	11 (0.7)	517 (5.8)	4 (0.3)	509 (7.6)	4 (0.5)	447 (9.5)
Turkey (5)	60 (1.1)	543 (3.9)	14 (0.7)	536 (5.6)	11 (0.6)	520 (5.1)	5 (0.3)	490 (12.4)	10 (0.6)	456 (6.1)
Sweden	60 (1.1)	542 (3.6)	16 (0.7)	552 (5.0)	14 (0.8)	534 (4.4)	5 (0.5)	520 (6.2)	5 (0.4)	479 (7.9)
Bahrain	59 (0.8)	512 (3.0)	8 (0.4)	496 (8.3)	8 (0.4)	491 (5.2)	5 (0.4)	467 (9.0)	19 (0.8)	446 (4.7)
United Arab Emirates	58 (0.5)	492 (2.3)	10 (0.3)	489 (3.3)	9 (0.3)	471 (4.3)	6 (0.2)	426 (4.7)	17 (0.3)	425 (3.0)
Croatia	57 (1.1)	532 (3.0)	22 (0.9)	525 (2.7)	12 (0.7)	512 (4.6)	3 (0.3)	509 (9.0)	7 (0.7)	479 (4.6)
Denmark	57 (1.1)	527 (2.6)	17 (0.7)	533 (3.5)	13 (0.7)	527 (4.4)	5 (0.4)	508 (6.1)	9 (0.6)	481 (5.1)
Australia	57 (0.9)	538 (2.5)	18 (0.8)	549 (4.4)	13 (0.6)	536 (4.2)	6 (0.4)	508 (7.2)	7 (0.5)	460 (6.8)
Oman	55 (0.9)	463 (4.6)	10 (0.8)	432 (7.6)	9 (0.5)	405 (5.2)	5 (0.3)	379 (8.8)	21 (1.0)	402 (5.4)
New Zealand	55 (0.9)	514 (2.6)	18 (0.6)	519 (3.5)	12 (0.6)	502 (4.4)	5 (0.4)	472 (6.0)	9 (0.4)	424 (5.1)
North Macedonia	54 (1.9)	448 (7.3)	13 (1.1)	442 (9.8)	9 (0.7)	427 (9.2)	4 (0.4)	388 (11.8)	20 (1.2)	384 (8.1)
Iran, Islamic Rep. of	53 (1.3)	459 (4.4)	16 (0.8)	448 (6.6)	9 (0.5)	427 (6.4)	7 (1.0)	410 (8.5)	15 (0.8)	398 (5.8)
Kazakhstan	53 (1.5)	510 (3.8)	12 (0.7)	498 (5.1)	10 (0.5)	493 (5.3)	3 (0.3)	486 (8.3)	21 (1.1)	456 (4.4)
Qatar	53 (1.0)	477 (4.9)	11 (0.5)	471 (6.6)	9 (0.5)	441 (7.6)	6 (0.5)	402 (9.1)	21 (0.8)	399 (4.6)
Azerbaijan	50 (1.4)	446 (3.7)	18 (0.9)	438 (5.2)	12 (0.7)	422 (5.9)	5 (0.4)	422 (8.1)	15 (0.9)	396 (5.0)
South Africa (5)	49 (1.2)	360 (5.3)	8 (0.4)	333 (9.7)	11 (0.6)	307 (7.5)	7 (0.5)	251 (7.1)	24 (0.7)	290 (5.6)
Armenia	49 (1.1)	482 (3.2)	11 (0.6)	472 (5.5)	12 (0.6)	465 (5.4)	6 (0.5)	451 (7.3)	22 (0.9)	441 (4.9)
Kuwait	47 (1.6)	422 (6.6)	7 (0.5)	407 (12.5)	11 (0.7)	387 (10.1)	8 (0.5)	353 (10.8)	28 (1.2)	363 (6.6)
Hungary	42 (1.0)	547 (3.1)	27 (0.9)	533 (3.2)	16 (0.6)	523 (4.5)	6 (0.4)	504 (6.1)	9 (0.7)	469 (5.9)
Saudi Arabia	42 (1.2)	422 (5.0)	10 (0.6)	424 (7.2)	11 (0.6)	411 (6.4)	9 (0.5)	383 (7.7)	28 (0.9)	375 (4.9)
Czech Republic	41 (1.0)	540 (3.0)	29 (0.8)	541 (4.0)	16 (0.7)	543 (3.6)	7 (0.4)	515 (5.5)	8 (0.5)	484 (6.5)
Finland	39 (1.0)	556 (3.4)	36 (0.8)	561 (2.7)	17 (0.7)	554 (4.2)	5 (0.3)	542 (6.2)	4 (0.4)	499 (7.6)
Georgia	38 (1.2)	469 (4.7)	17 (1.0)	466 (6.2)	14 (0.9)	457 (5.8)	9 (0.7)	443 (7.1)	21 (1.2)	420 (7.3)
Slovak Republic	35 (1.0)	541 (3.4)	25 (0.9)	536 (3.7)	19 (0.9)	520 (6.3)	8 (0.5)	498 (7.9)	13 (1.0)	457 (7.6)
Philippines	32 (1.5)	287 (8.9)	9 (0.5)	249 (10.5)	14 (0.8)	219 (8.9)	13 (0.8)	220 (9.8)	32 (1.1)	244 (7.6)
Pakistan	30 (3.6)	303 (22.8)	11 (0.8)	300 (16.3)	23 (2.3)	290 (17.7)	10 (1.4)	279 (16.4)	26 (2.4)	279 (13.0)
International Average	61 (0.2)	503 (0.6)	13 (0.1)	498 (0.8)	10 (0.1)	484 (0.9)	5 (0.1)	455 (1.3)	11 (0.1)	437 (0.9)
Benchmarking Participants										
Madrid, Spain	81 (0.8)	527 (2.1)	6 (0.4)	527 (5.2)	6 (0.5)	518 (4.5)	2 (0.2)	~ ~	5 (0.5)	471 (6.1)
Quebec, Canada	71 (0.9)	524 (2.8)	13 (0.6)	527 (4.6)	10 (0.6)	516 (5.8)	3 (0.3)	510 (8.8)	4 (0.5)	477 (9.7)
Moscow City, Russian Fed.	67 (1.0)	596 (2.7)	13 (0.6)	605 (3.9)	11 (0.6)	601 (4.0)	5 (0.3)	590 (7.4)	5 (0.4)	549 (8.1)
Dubai, UAE	60 (0.9)	552 (1.6)	12 (0.6)	549 (3.8)	11 (0.5)	544 (4.6)	5 (0.3)	529 (8.5)	13 (0.5)	513 (4.8)
Ontario, Canada	55 (1.7)	533 (3.3)	18 (1.1)	530 (5.3)	14 (0.9)	522 (4.4)	6 (0.5)	513 (8.1)	7 (0.6)	468 (8.0)
Abu Dhabi, UAE	54 (0.9)	442 (3.1)	9 (0.5)	442 (4.9)	9 (0.4)	417 (6.0)	7 (0.3)	369 (7.2)	20 (0.6)	369 (3.9)

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

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.

Exhibit 10.3: Frequency of Student Absences
Students' Reports

Country	Never or Almost Never		Once Every Two Months		Once a Month		Once Every Two Weeks		Once a Week	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Korea, Rep. of	94 (0.4)	612 (2.8)	3 (0.3)	558 (10.5)	2 (0.2)	~ ~	1 (0.1)	~ ~	0 (0.1)	~ ~
Japan	84 (0.7)	600 (2.7)	9 (0.4)	583 (5.0)	4 (0.3)	554 (7.4)	2 (0.2)	~ ~	2 (0.2)	~ ~
Chinese Taipei	83 (0.8)	620 (2.8)	9 (0.5)	607 (5.0)	4 (0.3)	568 (8.1)	2 (0.2)	~ ~	2 (0.3)	~ ~
Hong Kong SAR	81 (0.9)	584 (3.9)	11 (0.7)	584 (6.3)	5 (0.4)	550 (10.7)	1 (0.2)	~ ~	2 (0.4)	~ ~
Portugal	79 (0.9)	504 (3.2)	10 (0.6)	505 (6.0)	7 (0.5)	485 (5.6)	2 (0.4)	~ ~	2 (0.3)	~ ~
Singapore	75 (0.8)	629 (3.3)	13 (0.5)	607 (5.6)	7 (0.4)	569 (7.5)	3 (0.3)	538 (9.2)	2 (0.3)	~ ~
Iran, Islamic Rep. of	65 (1.0)	456 (3.8)	18 (0.7)	450 (6.0)	10 (0.5)	427 (6.2)	3 (0.2)	415 (7.8)	5 (0.4)	367 (7.9)
Morocco	63 (1.0)	396 (2.7)	11 (0.5)	392 (3.6)	10 (0.5)	380 (3.6)	4 (0.3)	369 (5.0)	12 (0.6)	359 (3.6)
France	63 (1.0)	494 (2.8)	16 (0.7)	484 (3.6)	13 (0.7)	466 (3.6)	5 (0.5)	448 (6.3)	4 (0.5)	416 (7.6)
South Africa (9)	62 (0.8)	399 (2.3)	9 (0.3)	418 (3.8)	10 (0.4)	384 (2.7)	4 (0.2)	377 (4.7)	15 (0.5)	345 (2.7)
Lebanon	62 (1.3)	438 (3.6)	15 (0.7)	436 (4.5)	11 (0.6)	422 (5.3)	4 (0.3)	413 (6.5)	9 (0.7)	384 (4.3)
Cyprus	60 (1.1)	514 (2.4)	20 (0.8)	499 (3.6)	14 (0.7)	474 (4.6)	4 (0.3)	478 (7.1)	2 (0.3)	~ ~
Romania	60 (1.4)	494 (4.8)	12 (0.7)	482 (7.7)	12 (0.8)	469 (6.0)	7 (0.6)	457 (6.4)	10 (0.7)	422 (7.7)
Turkey	59 (1.0)	523 (4.1)	16 (0.6)	489 (5.6)	13 (0.7)	459 (5.5)	5 (0.4)	436 (10.0)	5 (0.5)	383 (8.5)
Oman	59 (0.9)	429 (2.5)	15 (0.5)	416 (3.8)	10 (0.4)	397 (5.6)	5 (0.4)	375 (6.4)	11 (0.5)	344 (5.7)
England	59 (1.1)	529 (5.5)	23 (0.9)	517 (5.9)	11 (0.7)	496 (7.7)	4 (0.4)	473 (9.1)	3 (0.3)	447 (15.4)
Lithuania	57 (1.1)	523 (3.3)	14 (0.7)	529 (5.0)	18 (0.8)	525 (3.8)	7 (0.5)	512 (6.3)	3 (0.3)	457 (9.1)
Chile	57 (0.9)	445 (3.1)	11 (0.6)	460 (4.5)	15 (0.6)	448 (3.8)	8 (0.5)	435 (6.0)	9 (0.6)	392 (4.4)
Norway (9)	57 (1.0)	510 (2.7)	19 (0.8)	511 (3.8)	16 (0.7)	503 (4.7)	6 (0.4)	479 (5.7)	3 (0.3)	448 (11.8)
Kazakhstan	54 (1.2)	499 (3.6)	20 (0.9)	486 (4.3)	12 (0.6)	477 (5.4)	4 (0.4)	460 (7.4)	9 (0.7)	454 (5.4)
Russian Federation	54 (1.1)	545 (4.6)	15 (0.6)	551 (5.5)	16 (0.7)	546 (6.2)	9 (0.5)	540 (6.5)	6 (0.5)	515 (8.5)
Sweden	54 (1.0)	511 (3.0)	16 (0.6)	508 (4.2)	15 (0.7)	504 (3.8)	8 (0.4)	489 (4.9)	6 (0.5)	454 (5.1)
United Arab Emirates	52 (0.5)	495 (2.0)	16 (0.5)	495 (3.3)	14 (0.3)	462 (2.6)	8 (0.3)	428 (3.8)	10 (0.3)	395 (3.3)
United States	51 (0.7)	524 (6.0)	22 (0.6)	528 (4.5)	15 (0.5)	515 (4.4)	8 (0.4)	493 (6.2)	4 (0.3)	424 (8.3)
Bahrain	48 (0.9)	491 (2.9)	14 (0.6)	492 (4.4)	17 (0.6)	481 (4.3)	9 (0.5)	471 (5.1)	12 (0.5)	435 (3.9)
Ireland	46 (1.0)	534 (2.9)	23 (0.7)	535 (3.5)	18 (0.7)	519 (3.6)	9 (0.6)	490 (4.5)	4 (0.4)	461 (9.9)
Jordan	46 (1.0)	438 (3.7)	18 (0.6)	428 (5.0)	16 (0.7)	411 (5.2)	9 (0.5)	398 (6.4)	11 (0.8)	379 (10.6)
Italy	46 (1.1)	504 (2.9)	16 (0.8)	514 (3.8)	21 (0.8)	503 (3.5)	12 (0.7)	477 (4.7)	5 (0.5)	428 (6.5)
Australia	46 (1.1)	535 (4.2)	23 (0.7)	524 (4.9)	17 (0.6)	509 (4.6)	8 (0.4)	477 (4.8)	5 (0.4)	439 (6.8)
New Zealand	44 (1.1)	492 (4.3)	22 (0.6)	506 (4.2)	18 (0.6)	480 (3.6)	10 (0.6)	462 (4.9)	7 (0.4)	405 (6.5)
Qatar	43 (1.5)	476 (4.7)	18 (0.8)	449 (5.4)	17 (0.9)	431 (5.5)	10 (0.6)	411 (4.2)	12 (0.8)	360 (4.7)
Kuwait	43 (1.5)	427 (4.9)	10 (0.6)	423 (6.6)	15 (0.6)	395 (5.5)	13 (0.6)	386 (5.9)	20 (1.0)	362 (6.8)
Malaysia	40 (1.4)	495 (3.3)	18 (0.7)	475 (4.2)	14 (0.7)	450 (4.2)	10 (0.6)	428 (4.6)	17 (1.1)	394 (4.4)
Israel	40 (1.1)	534 (5.0)	18 (0.7)	541 (5.6)	20 (0.6)	522 (5.5)	11 (0.6)	508 (6.3)	11 (0.7)	452 (6.3)
Egypt	38 (1.1)	427 (5.5)	9 (0.6)	413 (8.0)	9 (0.6)	407 (7.9)	10 (0.4)	404 (6.7)	34 (1.3)	408 (6.2)
Finland	33 (0.8)	520 (3.0)	32 (0.8)	516 (3.2)	22 (0.6)	505 (3.0)	9 (0.4)	492 (5.0)	4 (0.4)	461 (6.2)
Hungary	32 (0.9)	532 (4.2)	36 (0.9)	523 (3.7)	22 (0.7)	508 (3.9)	7 (0.6)	485 (7.0)	3 (0.4)	409 (10.8)
Saudi Arabia	27 (1.0)	419 (3.5)	14 (0.5)	407 (4.4)	20 (0.7)	398 (3.9)	18 (0.6)	388 (3.3)	22 (0.8)	358 (3.3)
Georgia	25 (1.1)	477 (5.4)	17 (0.8)	472 (5.5)	26 (1.0)	464 (5.2)	16 (0.8)	465 (6.3)	16 (0.9)	418 (6.6)
International Average	55 (0.2)	502 (0.6)	16 (0.1)	495 (0.8)	14 (0.1)	475 (0.9)	7 (0.1)	452 (1.1)	8 (0.1)	412 (1.3)
Benchmarking Participants										
Gauteng, RSA (9)	62 (1.0)	431 (3.2)	12 (0.5)	443 (4.8)	11 (0.5)	405 (4.2)	3 (0.3)	406 (9.0)	11 (0.5)	365 (4.0)
Western Cape, RSA (9)	60 (1.0)	449 (4.9)	12 (0.5)	480 (6.1)	11 (0.5)	435 (6.0)	5 (0.4)	436 (7.7)	12 (0.6)	375 (3.6)
Quebec, Canada	60 (1.3)	548 (4.0)	18 (0.9)	556 (4.4)	13 (0.7)	538 (4.3)	6 (0.6)	520 (5.8)	4 (0.5)	492 (12.3)
Dubai, UAE	55 (1.0)	547 (2.2)	19 (0.6)	551 (2.9)	13 (0.5)	528 (3.8)	7 (0.5)	498 (6.4)	6 (0.5)	458 (7.2)
Abu Dhabi, UAE	45 (0.8)	468 (3.3)	17 (0.6)	458 (3.7)	15 (0.5)	423 (4.5)	10 (0.4)	389 (5.1)	13 (0.6)	365 (4.6)
Moscow City, Russian Fed.	44 (1.1)	578 (4.4)	17 (0.7)	585 (4.7)	21 (0.7)	577 (4.9)	11 (0.6)	572 (7.0)	7 (0.5)	535 (8.5)
Ontario, Canada	39 (1.3)	540 (4.8)	24 (0.9)	538 (5.5)	21 (0.8)	528 (5.1)	12 (0.8)	508 (5.4)	4 (0.4)	470 (9.7)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
A tilde (~) indicates insufficient data to report achievement.

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019
Downloaded from <http://timss2019.org/download>

Exhibit 10.4: Frequency of Student Absences

Students' Reports

Country	Never or Almost Never		Once Every Two Months		Once a Month		Once Every Two Weeks		Once a Week	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Korea, Rep. of	94 (0.4)	565 (2.1)	3 (0.3)	515 (9.4)	2 (0.2)	~ ~	1 (0.1)	~ ~	0 (0.1)	~ ~
Japan	84 (0.7)	574 (2.1)	9 (0.4)	560 (5.0)	4 (0.3)	548 (7.0)	2 (0.2)	~ ~	2 (0.2)	~ ~
Chinese Taipei	83 (0.8)	581 (1.9)	9 (0.5)	569 (4.2)	4 (0.3)	542 (6.2)	2 (0.2)	~ ~	2 (0.3)	~ ~
Hong Kong SAR	81 (0.9)	508 (5.2)	11 (0.7)	508 (8.1)	5 (0.4)	487 (10.6)	1 (0.2)	~ ~	2 (0.4)	~ ~
Portugal	79 (0.9)	521 (2.9)	10 (0.6)	524 (5.0)	7 (0.5)	516 (6.8)	2 (0.4)	~ ~	2 (0.3)	~ ~
Singapore	75 (0.8)	620 (3.2)	13 (0.5)	598 (5.7)	7 (0.4)	563 (7.7)	3 (0.3)	536 (9.3)	2 (0.3)	~ ~
Iran, Islamic Rep. of	65 (1.0)	459 (3.6)	18 (0.7)	452 (5.6)	10 (0.5)	430 (5.8)	3 (0.2)	421 (8.9)	5 (0.4)	371 (8.7)
Morocco	63 (1.0)	406 (3.0)	11 (0.5)	390 (4.6)	10 (0.5)	380 (3.3)	4 (0.3)	370 (6.7)	12 (0.6)	360 (4.2)
France	63 (1.0)	500 (2.7)	16 (0.7)	492 (4.2)	13 (0.7)	471 (4.4)	5 (0.5)	451 (6.6)	4 (0.5)	407 (7.6)
South Africa (9)	62 (0.8)	383 (3.1)	9 (0.3)	402 (5.0)	10 (0.4)	365 (4.3)	4 (0.2)	352 (6.8)	15 (0.5)	313 (3.6)
Lebanon	62 (1.3)	389 (5.4)	15 (0.7)	385 (7.4)	11 (0.6)	365 (8.2)	4 (0.3)	361 (11.1)	9 (0.7)	317 (7.0)
Cyprus	60 (1.1)	498 (2.6)	20 (0.8)	482 (3.9)	14 (0.7)	456 (4.8)	4 (0.3)	460 (7.9)	2 (0.3)	~ ~
Romania	60 (1.4)	486 (4.8)	12 (0.7)	473 (7.2)	12 (0.8)	455 (6.5)	7 (0.6)	455 (6.5)	10 (0.7)	410 (8.3)
Turkey	59 (1.0)	539 (3.7)	16 (0.6)	509 (4.8)	13 (0.7)	488 (5.2)	5 (0.4)	465 (8.8)	5 (0.5)	405 (6.9)
Oman	59 (0.9)	478 (2.5)	15 (0.5)	466 (4.0)	10 (0.4)	438 (6.0)	5 (0.4)	407 (7.0)	11 (0.5)	387 (6.4)
England	59 (1.1)	531 (5.1)	23 (0.9)	520 (5.2)	11 (0.7)	496 (8.5)	4 (0.4)	467 (10.4)	3 (0.3)	439 (17.2)
Lithuania	57 (1.1)	535 (3.2)	14 (0.7)	543 (4.5)	18 (0.8)	539 (3.7)	7 (0.5)	529 (6.3)	3 (0.3)	482 (9.1)
Chile	57 (0.9)	467 (3.2)	11 (0.6)	484 (5.1)	15 (0.6)	467 (4.2)	8 (0.5)	458 (4.8)	9 (0.6)	412 (4.8)
Norway (9)	57 (1.0)	501 (3.3)	19 (0.8)	505 (4.0)	16 (0.7)	495 (4.6)	6 (0.4)	476 (7.4)	3 (0.3)	446 (14.6)
Kazakhstan	54 (1.2)	492 (3.3)	20 (0.9)	476 (3.9)	12 (0.6)	460 (5.5)	4 (0.4)	459 (10.3)	9 (0.7)	436 (6.2)
Russian Federation	54 (1.1)	546 (4.2)	15 (0.6)	546 (5.7)	16 (0.7)	544 (5.7)	9 (0.5)	537 (6.5)	6 (0.5)	512 (7.9)
Sweden	54 (1.0)	535 (3.6)	16 (0.6)	529 (5.0)	15 (0.7)	519 (4.7)	8 (0.4)	504 (5.8)	6 (0.5)	457 (8.0)
United Arab Emirates	52 (0.5)	502 (2.5)	16 (0.5)	500 (4.2)	14 (0.3)	459 (3.1)	8 (0.3)	414 (4.8)	10 (0.3)	367 (4.5)
United States	51 (0.7)	529 (5.9)	22 (0.6)	537 (4.3)	15 (0.5)	524 (4.1)	8 (0.4)	506 (5.8)	4 (0.3)	422 (9.5)
Bahrain	48 (0.9)	503 (3.0)	14 (0.6)	515 (4.2)	17 (0.6)	485 (4.1)	9 (0.5)	457 (5.4)	12 (0.5)	410 (5.9)
Ireland	46 (1.0)	534 (3.3)	23 (0.7)	533 (3.7)	18 (0.7)	519 (4.1)	9 (0.6)	491 (5.1)	4 (0.4)	449 (12.5)
Jordan	46 (1.0)	476 (4.3)	18 (0.6)	458 (5.5)	16 (0.7)	442 (5.8)	9 (0.5)	439 (8.7)	11 (0.8)	389 (8.1)
Italy	46 (1.1)	510 (2.6)	16 (0.8)	516 (4.3)	21 (0.8)	501 (3.7)	12 (0.7)	479 (4.6)	5 (0.5)	428 (9.2)
Australia	46 (1.1)	543 (3.6)	23 (0.7)	537 (4.4)	17 (0.6)	524 (4.1)	8 (0.4)	494 (5.1)	5 (0.4)	454 (8.0)
New Zealand	44 (1.1)	509 (4.3)	22 (0.6)	523 (4.4)	18 (0.6)	501 (4.3)	10 (0.6)	479 (5.1)	7 (0.4)	415 (6.6)
Qatar	43 (1.5)	507 (5.3)	18 (0.8)	483 (5.6)	17 (0.9)	465 (6.3)	10 (0.6)	438 (6.4)	12 (0.8)	388 (5.2)
Kuwait	43 (1.5)	475 (5.3)	10 (0.6)	463 (7.9)	15 (0.6)	436 (6.6)	13 (0.6)	425 (6.7)	20 (1.0)	391 (7.0)
Malaysia	40 (1.4)	492 (3.7)	18 (0.7)	475 (3.9)	14 (0.7)	460 (4.7)	10 (0.6)	434 (5.6)	17 (1.1)	386 (5.4)
Israel	40 (1.1)	528 (4.8)	18 (0.7)	532 (5.1)	20 (0.6)	517 (5.9)	11 (0.6)	500 (5.9)	11 (0.7)	455 (7.0)
Egypt	38 (1.1)	407 (6.0)	9 (0.6)	388 (8.0)	9 (0.6)	382 (7.9)	10 (0.4)	385 (7.4)	34 (1.3)	383 (6.8)
Finland	33 (0.8)	558 (3.7)	32 (0.8)	550 (3.6)	22 (0.6)	537 (3.3)	9 (0.4)	520 (5.5)	4 (0.4)	492 (8.5)
Hungary	32 (0.9)	548 (3.5)	36 (0.9)	536 (3.3)	22 (0.7)	518 (3.5)	7 (0.6)	495 (6.5)	3 (0.4)	427 (10.1)
Saudi Arabia	27 (1.0)	449 (3.9)	14 (0.5)	443 (4.2)	20 (0.7)	439 (4.9)	18 (0.6)	434 (4.1)	22 (0.8)	397 (3.6)
Georgia	25 (1.1)	464 (5.4)	17 (0.8)	463 (5.2)	26 (1.0)	449 (4.4)	16 (0.8)	444 (5.8)	16 (0.9)	405 (5.9)
International Average	55 (0.2)	504 (0.6)	16 (0.1)	497 (0.8)	14 (0.1)	479 (0.9)	7 (0.1)	457 (1.2)	8 (0.1)	413 (1.4)
Benchmarking Participants										
Gauteng, RSA (9)	62 (1.0)	436 (3.9)	12 (0.5)	446 (6.0)	11 (0.5)	402 (6.5)	3 (0.3)	399 (11.8)	11 (0.5)	352 (4.6)
Western Cape, RSA (9)	60 (1.0)	450 (5.6)	12 (0.5)	480 (7.1)	11 (0.5)	433 (7.0)	5 (0.4)	435 (9.7)	12 (0.6)	359 (5.4)
Quebec, Canada	60 (1.3)	540 (4.0)	18 (0.9)	544 (4.3)	13 (0.7)	535 (4.7)	6 (0.6)	517 (6.1)	4 (0.5)	495 (10.6)
Dubai, UAE	55 (1.0)	561 (2.3)	19 (0.6)	563 (3.7)	13 (0.5)	539 (3.9)	7 (0.5)	498 (6.5)	6 (0.5)	455 (9.0)
Abu Dhabi, UAE	45 (0.8)	465 (4.1)	17 (0.6)	449 (5.1)	15 (0.5)	404 (5.4)	10 (0.4)	357 (7.4)	13 (0.6)	319 (6.1)
Moscow City, Russian Fed.	44 (1.1)	570 (3.3)	17 (0.7)	576 (3.6)	21 (0.7)	565 (3.9)	11 (0.6)	561 (5.6)	7 (0.5)	537 (7.2)
Ontario, Canada	39 (1.3)	530 (3.5)	24 (0.9)	527 (4.6)	21 (0.8)	524 (4.5)	12 (0.8)	502 (5.6)	4 (0.4)	471 (10.4)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
A tilde (~) indicates insufficient data to report achievement.

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019
Downloaded from <http://timss2019.org/download>

Students Feel Tired or Hungry

Exhibits 10.5, 10.6, 10.7, and 10.8 contain students' reports about the frequency with which they arrive at school feeling tired or hungry, along with average achievement by frequency. Lack of adequate sleep or nutrition can have serious implications for a student's ability to focus on learning and also may be indicative of other challenges that students face.

On average across countries, just over one-third (35%) of fourth grade students and 45 percent of eighth grade students reported that they arrive at school feeling tired "every day or almost every day." Only 19 percent of fourth grade students and 8 percent of eighth grade students reported "never" arriving at school feeling tired, and nearly half (47%) of students in both grades reported "sometimes" arriving feeling tired. On average, achievement was lowest for fourth grade students who reported feeling tired "every day or almost every day," though it was highest for students "sometimes" arriving at school feeling tired compared with "never" doing so. In eighth grade, average mathematics achievement was 488 for "never" arriving at school feeling tired and 487 for doing so "every day or almost every day," while it was 493 for "sometimes" arriving at school feeling tired (Exhibit 10.7). Average science achievement was lowest for the 8 percent of eighth grade students reporting they "never" arrived at school feeling tired (Exhibit 10.8).

More than one-quarter (28%) of fourth grade students reported that they arrived at school hungry "every day or almost every day," and 41 percent said they "sometimes" did. Just under one-third (31%) reported that they "never" arrived at school hungry. Frequent hunger was a somewhat bigger problem in eighth grade, with 33 percent of students reporting that they arrived at school hungry "every day or almost every day" and another 42 percent of reporting that they did so "sometimes." Only 25 percent said they "never" arrived at school hungry. There was a direct relationship between the frequency of arriving at school hungry and average achievement in both grades and subjects. For example, in fourth grade science (Exhibit 10.6), students arriving at school hungry "every day or almost every day" had an average score of 478, compared with 497 for students who did so "sometimes" and 504 for students who "never" did.

Exhibit 10.5: Students Report Arriving at School Feeling Tired or Hungry
Students' Reports

Country	Students Feel Tired						Students Feel Hungry					
	Never		Sometimes		Every Day or Almost Every Day		Never		Sometimes		Every Day or Almost Every Day	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Albania	41 (1.9)	500 (3.5)	46 (1.6)	502 (4.1)	13 (1.0)	467 (7.3)	44 (2.0)	504 (3.9)	34 (2.0)	504 (4.3)	22 (1.4)	479 (4.8)
Armenia	38 (1.4)	505 (3.1)	37 (1.1)	509 (3.2)	26 (1.1)	486 (3.5)	r 41 (1.2)	512 (2.6)	32 (1.1)	503 (3.6)	27 (1.0)	489 (3.6)
Australia	13 (0.7)	519 (5.3)	53 (1.0)	528 (3.3)	34 (1.1)	499 (3.1)	30 (1.1)	541 (4.2)	43 (0.9)	522 (3.0)	28 (1.0)	486 (3.5)
Austria	9 (0.5)	534 (4.9)	47 (1.0)	546 (2.2)	44 (1.1)	534 (2.6)	30 (0.9)	552 (2.9)	43 (0.8)	541 (2.4)	26 (0.9)	528 (2.8)
Azerbaijan	29 (1.2)	529 (3.5)	49 (1.1)	524 (2.7)	22 (0.9)	516 (4.3)	42 (1.4)	531 (2.8)	44 (1.2)	525 (3.3)	13 (0.8)	504 (5.5)
Bahrain	24 (0.8)	481 (4.1)	41 (0.8)	487 (3.2)	35 (1.0)	474 (3.6)	27 (0.9)	490 (3.5)	36 (0.9)	480 (2.8)	37 (0.9)	477 (3.4)
Belgium (Flemish)	12 (0.5)	537 (4.2)	57 (0.8)	536 (2.1)	31 (0.8)	525 (2.5)	34 (1.2)	544 (2.5)	41 (1.0)	533 (2.4)	25 (1.0)	519 (2.6)
Bosnia and Herzegovina	17 (0.8)	452 (3.9)	51 (1.0)	461 (2.4)	32 (1.1)	444 (3.4)	29 (1.0)	464 (3.5)	41 (0.7)	457 (2.6)	30 (1.0)	447 (3.1)
Bulgaria	17 (1.3)	504 (9.5)	44 (1.6)	525 (4.6)	38 (2.0)	513 (5.5)	36 (2.1)	530 (5.1)	34 (1.3)	523 (3.8)	30 (2.0)	501 (7.5)
Canada	10 (0.3)	514 (5.0)	47 (0.6)	523 (2.0)	43 (0.7)	500 (2.2)	25 (0.7)	526 (3.9)	42 (0.6)	516 (2.2)	33 (1.0)	499 (2.6)
Chile	17 (0.8)	439 (4.2)	36 (0.7)	457 (2.9)	47 (1.0)	434 (3.4)	20 (0.8)	458 (3.9)	36 (0.9)	444 (3.5)	44 (0.9)	440 (3.2)
Chinese Taipei	17 (0.7)	588 (4.0)	59 (0.9)	605 (2.1)	24 (0.8)	596 (2.8)	17 (0.7)	599 (3.9)	56 (0.8)	603 (2.1)	27 (0.9)	593 (2.9)
Croatia	13 (0.9)	518 (5.4)	57 (1.5)	512 (2.7)	30 (1.2)	504 (2.7)	20 (1.2)	521 (5.0)	53 (1.2)	511 (2.8)	28 (1.2)	501 (3.0)
Cyprus	23 (0.8)	537 (3.5)	40 (0.9)	542 (2.8)	37 (1.1)	521 (4.0)	44 (1.1)	547 (3.3)	32 (0.8)	532 (3.5)	24 (0.9)	512 (3.9)
Czech Republic	7 (0.5)	534 (6.6)	42 (1.1)	546 (2.9)	51 (1.1)	523 (3.0)	25 (1.1)	551 (3.2)	45 (1.1)	536 (2.7)	30 (0.8)	520 (4.2)
Denmark	7 (0.5)	525 (5.6)	51 (1.1)	531 (2.6)	42 (1.1)	518 (2.4)	27 (1.1)	541 (3.4)	46 (1.1)	524 (2.6)	27 (1.1)	514 (3.0)
England	9 (0.6)	554 (6.8)	48 (1.3)	568 (4.6)	43 (1.5)	545 (3.3)	27 (1.2)	575 (5.3)	42 (1.1)	565 (4.0)	30 (1.2)	531 (3.7)
Finland	8 (0.5)	531 (5.2)	59 (0.9)	540 (2.3)	33 (0.9)	519 (3.3)	29 (1.0)	540 (3.3)	52 (0.9)	537 (2.5)	20 (0.7)	511 (4.0)
France	16 (0.7)	481 (4.7)	50 (1.0)	493 (3.3)	34 (1.1)	478 (4.1)	32 (1.2)	503 (3.0)	37 (1.0)	487 (3.8)	31 (1.3)	469 (4.1)
Georgia	27 (1.3)	497 (4.3)	46 (1.6)	482 (4.2)	27 (1.3)	467 (5.6)	41 (1.6)	486 (4.5)	39 (1.4)	489 (4.6)	21 (1.3)	472 (5.6)
Germany	r 8 (0.6)	519 (6.4)	40 (1.1)	536 (3.1)	52 (1.0)	517 (2.4)	r 29 (1.0)	537 (3.4)	43 (0.9)	531 (2.6)	28 (1.0)	507 (3.4)
Hong Kong SAR	16 (0.8)	610 (5.2)	51 (1.2)	607 (3.4)	33 (1.3)	589 (4.2)	26 (0.8)	612 (4.8)	46 (1.1)	606 (3.2)	28 (1.2)	586 (4.6)
Hungary	6 (0.5)	515 (7.3)	41 (1.0)	528 (3.1)	53 (1.1)	522 (2.8)	29 (0.8)	536 (3.6)	47 (0.8)	525 (2.9)	24 (0.8)	515 (4.3)
Iran, Islamic Rep. of	39 (1.4)	442 (4.5)	41 (1.3)	453 (4.4)	20 (0.9)	434 (6.0)	38 (1.0)	458 (4.6)	41 (1.2)	447 (4.5)	21 (0.8)	427 (4.8)
Ireland	11 (0.8)	544 (5.3)	55 (1.1)	558 (2.8)	34 (1.0)	537 (3.1)	36 (1.0)	567 (3.2)	44 (1.0)	549 (3.1)	20 (0.9)	529 (4.3)
Italy	13 (0.8)	514 (4.6)	43 (1.1)	523 (2.9)	45 (1.3)	508 (2.7)	28 (1.0)	529 (3.2)	36 (0.9)	519 (2.7)	36 (0.9)	504 (2.9)
Japan	26 (1.0)	601 (2.5)	51 (0.9)	596 (2.2)	23 (0.9)	579 (3.1)	44 (1.1)	607 (2.3)	37 (0.7)	593 (2.4)	19 (0.7)	568 (2.8)
Kazakhstan	32 (1.4)	515 (3.5)	47 (1.2)	516 (2.7)	21 (1.0)	502 (3.9)	36 (1.5)	521 (3.4)	47 (1.2)	512 (2.8)	17 (0.8)	508 (5.2)
Korea, Rep. of	15 (0.8)	610 (4.6)	49 (1.2)	605 (2.4)	36 (1.2)	590 (3.3)	21 (0.8)	613 (3.3)	46 (1.1)	602 (2.6)	34 (1.2)	591 (3.0)
Kosovo	38 (1.3)	452 (3.3)	46 (1.1)	453 (3.0)	17 (0.9)	423 (5.2)	35 (1.3)	459 (3.9)	40 (1.2)	452 (3.4)	25 (1.0)	433 (4.0)
Kuwait	25 (1.3)	390 (5.8)	40 (1.2)	404 (5.2)	35 (1.5)	373 (6.0)	24 (1.1)	407 (6.5)	39 (1.1)	404 (4.9)	37 (1.2)	377 (6.1)
Latvia	7 (0.4)	546 (5.8)	49 (1.0)	555 (2.6)	44 (1.1)	538 (3.4)	22 (1.0)	555 (3.4)	44 (1.0)	552 (3.1)	34 (1.1)	537 (3.1)
Lithuania	25 (1.2)	543 (4.3)	54 (1.0)	545 (3.0)	21 (0.9)	537 (4.8)	49 (1.3)	545 (3.3)	39 (1.0)	546 (3.3)	12 (0.8)	530 (5.6)
Malta	15 (0.6)	504 (4.3)	42 (0.7)	517 (2.2)	43 (0.8)	505 (2.2)	22 (0.6)	521 (3.5)	36 (0.8)	517 (2.0)	42 (0.8)	498 (2.4)
Montenegro	26 (0.8)	458 (2.8)	50 (0.8)	461 (2.6)	24 (0.6)	441 (3.1)	37 (1.0)	467 (2.4)	36 (0.8)	459 (2.7)	27 (0.9)	438 (2.8)
Morocco	39 (1.5)	388 (4.2)	40 (1.5)	395 (5.7)	21 (1.1)	362 (6.6)	31 (1.2)	393 (5.1)	39 (1.2)	392 (5.0)	30 (1.4)	377 (7.7)
Netherlands	8 (0.5)	533 (4.5)	50 (1.5)	543 (2.4)	42 (1.5)	534 (2.7)	32 (0.9)	548 (2.4)	45 (1.0)	540 (3.0)	23 (1.1)	523 (3.4)
New Zealand	11 (0.6)	484 (5.6)	50 (0.9)	501 (3.1)	39 (0.9)	475 (2.9)	29 (0.9)	510 (3.7)	42 (1.0)	497 (3.4)	29 (0.9)	462 (3.1)
North Macedonia	28 (1.5)	475 (7.2)	46 (1.4)	491 (5.6)	26 (1.2)	451 (7.7)	29 (1.3)	484 (5.9)	40 (1.9)	488 (6.0)	31 (2.0)	465 (6.9)
Northern Ireland	7 (0.5)	567 (8.1)	49 (1.2)	581 (3.4)	43 (1.2)	552 (3.6)	33 (0.9)	586 (4.1)	41 (0.8)	566 (3.5)	26 (1.0)	550 (4.6)
Norway (5)	8 (0.7)	537 (6.3)	47 (1.2)	551 (2.9)	46 (1.3)	539 (3.0)	27 (1.0)	557 (3.6)	51 (0.8)	547 (2.7)	22 (1.0)	527 (3.5)
Oman	24 (1.2)	433 (5.2)	46 (1.1)	446 (4.8)	30 (1.2)	418 (4.5)	25 (1.2)	446 (5.0)	38 (0.8)	437 (4.6)	37 (1.3)	428 (4.5)
Pakistan	43 (3.4)	329 (15.0)	31 (2.5)	348 (15.8)	25 (2.8)	309 (10.2)	r 33 (2.6)	322 (13.6)	29 (2.6)	349 (14.5)	38 (2.4)	334 (12.9)
Philippines	24 (1.1)	306 (6.8)	42 (1.4)	337 (6.5)	33 (1.5)	259 (6.3)	27 (1.4)	313 (7.4)	44 (1.4)	327 (5.8)	29 (1.1)	273 (8.1)
Poland	17 (0.7)	528 (4.4)	46 (1.1)	529 (2.8)	37 (1.3)	510 (3.4)	45 (1.1)	536 (3.0)	38 (0.9)	520 (3.0)	18 (0.7)	500 (4.2)
Portugal	23 (0.7)	532 (3.8)	46 (0.8)	532 (2.8)	31 (0.8)	513 (3.2)	47 (1.0)	538 (3.4)	32 (0.7)	530 (3.3)	22 (0.9)	503 (3.7)
Qatar	17 (0.8)	452 (4.9)	40 (0.9)	462 (4.1)	43 (1.1)	445 (4.1)	20 (0.8)	468 (5.4)	37 (0.9)	460 (4.4)	43 (0.9)	442 (3.7)
Russian Federation	20 (1.1)	571 (5.9)	51 (0.9)	573 (3.4)	29 (1.3)	556 (4.0)	42 (1.3)	572 (4.8)	39 (1.0)	569 (3.6)	19 (0.9)	560 (3.7)
Saudi Arabia	26 (0.9)	409 (5.0)	45 (1.0)	412 (4.1)	29 (1.0)	379 (4.5)	24 (1.1)	417 (5.3)	39 (1.1)	412 (4.4)	36 (1.2)	393 (3.6)
Serbia	13 (0.9)	507 (5.2)	56 (1.1)	516 (3.8)	31 (1.1)	497 (4.4)	29 (1.5)	519 (3.8)	41 (1.2)	519 (3.8)	30 (1.5)	489 (5.3)
Singapore	12 (0.5)	633 (5.1)	45 (0.7)	637 (3.9)	44 (0.8)	612 (4.4)	34 (0.8)	647 (3.6)	40 (0.7)	628 (4.3)	26 (0.8)	596 (4.3)
Slovak Republic	8 (0.6)	508 (6.8)	38 (1.0)	518 (5.0)	54 (1.2)	506 (2.8)	30 (1.0)	523 (3.9)	43 (1.2)	513 (4.3)	27 (1.2)	496 (3.9)
South Africa (5)	27 (1.0)	378 (4.6)	45 (0.9)	393 (3.6)	28 (1.0)	352 (4.5)	31 (1.0)	391 (4.5)	38 (0.7)	388 (3.8)	31 (1.0)	358 (4.8)
Spain	17 (0.8)	503 (5.5)	47 (1.1)	513 (2.1)	36 (1.1)	492 (2.8)	40 (1.0)	515 (2.6)	36 (0.8)	509 (3.1)	24 (1.0)	482 (3.1)
Sweden	7 (0.6)	511 (7.1)	51 (1.2)	528 (3.3)	42 (1.3)	517 (3.0)	33 (1.3)	534 (3.9)	44 (1.3)	523 (2.8)	24 (1.3)	506 (4.1)
Turkey (5)	17 (0.7)	523 (5.7)	51 (1.0)	533 (4.7)	32 (1.0)	513 (5.6)	15 (0.7)	528 (5.2)	44 (1.0)	532 (5.3)	40 (1.1)	521 (5.0)
United Arab Emirates	23 (0.5)	489 (2.5)	42 (0.4)	491 (2.1)	34 (0.5)	471 (2.1)	26 (0.5)	498 (2.2)	40 (0.4)	490 (1.8)	34 (0.5)	469 (2.2)
United States	8 (0.4)	539 (5.7)	36 (0.7)	554 (2.6)	56 (0.8)	528 (2.7)	23 (0.7)	556 (3.5)	40 (0.5)	545 (2.6)	38 (0.8)	523 (2.9)
International Average	19 (0.1)	503 (0.7)	47 (0.1)	511 (0.5)	35 (0.2)	490 (0.6)	31 (0.2)	515 (0.6)	41 (0.1)	507 (0.5)	28 (0.1)	488 (0.6)
Benchmarking Participants												
Ontario, Canada	10 (0.6)	517 (8.2)	46 (1.2)	525 (3.3)	44 (1.2)	500 (3.8)	27 (1.3)	528 (6.5)	41 (1.1)	518 (3.9)	32 (1.9)	496 (4.7)
Quebec, Canada	r 9 (0.7)	527 (5.6)	53 (1.2)	537 (2.8)	38 (1.4)	525 (2.6)	r 19 (1.0)	548 (3.6)	44 (1.2)	534 (3.1)	37 (1.1)	523 (3.0)
Moscow City, Russian Fed.	16 (0.9)	603 (3.4)	48 (1.0)	599 (2.5)	36 (1.1)	582 (3.1)	33 (1.3)	602 (2.6)	40 (1.0)	595 (2.7)	26 (1.0)	581 (3.1)
Madrid, Spain	14 (0.7)	515 (4.2)	48 (0.9)	525 (2.3)	37 (0.9)	512 (2.6)	42 (1.1)	528 (2.3)	37 (1.0)	520 (2.7)	21 (0.9)	500 (3.8)
Abu Dhabi, UAE	18 (0.7)	438 (4.7)	41 (0.7)	450 (2.7)	42 (0.7)	437 (3.2)	21 (0.7)	454 (4.2)	39 (0.8)	452 (2.8)	39 (0.8)	432 (2.6)
Dubai, UAE	23 (0.6)	543 (2.8)	45 (0.8)	551 (2.1)	32 (0.7)	536 (2.5)	30 (0.7)	549 (2.7)	40 (0.7)	549 (1.9)	30 (0.6)	533 (3.2)

() 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.

Exhibit 10.6: Students Report Arriving at School Feeling Tired or Hungry
Students' Reports

Country	Students Feel Tired						Students Feel Hungry					
	Never		Sometimes		Every Day or Almost Every Day		Never		Sometimes		Every Day or Almost Every Day	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Albania	41 (1.9)	495 (3.6)	46 (1.6)	496 (4.3)	13 (1.0)	469 (7.1)	44 (2.0)	498 (4.5)	34 (2.0)	500 (4.1)	22 (1.4)	476 (4.8)
Armenia	38 (1.4)	473 (4.0)	37 (1.1)	481 (3.9)	26 (1.1)	453 (4.5)	r 41 (1.2)	480 (3.5)	32 (1.1)	476 (4.3)	27 (1.0)	455 (5.4)
Australia	13 (0.7)	527 (5.7)	53 (1.0)	542 (3.0)	34 (1.1)	522 (2.9)	30 (1.1)	551 (3.6)	43 (0.9)	539 (2.6)	28 (1.0)	508 (3.3)
Austria	9 (0.5)	518 (5.9)	47 (1.0)	528 (3.0)	44 (1.1)	518 (3.3)	30 (0.9)	539 (3.2)	43 (0.8)	523 (3.4)	26 (0.9)	507 (3.2)
Azerbaijan	29 (1.2)	437 (4.2)	49 (1.1)	439 (3.3)	22 (0.9)	429 (5.2)	42 (1.4)	441 (3.4)	44 (1.2)	440 (3.6)	13 (0.8)	415 (7.0)
Bahrain	24 (0.8)	500 (3.8)	41 (0.8)	504 (3.9)	35 (1.0)	481 (4.4)	27 (0.9)	513 (4.1)	36 (0.9)	495 (3.7)	37 (0.9)	486 (4.0)
Belgium (Flemish)	12 (0.5)	497 (4.4)	57 (0.8)	505 (2.3)	31 (0.8)	497 (2.7)	34 (1.2)	512 (2.8)	41 (1.0)	502 (2.8)	25 (1.0)	487 (3.5)
Bosnia and Herzegovina	17 (0.8)	461 (4.8)	51 (1.0)	468 (2.9)	32 (1.1)	450 (3.6)	29 (1.0)	468 (3.9)	41 (0.7)	465 (3.1)	30 (1.0)	454 (3.4)
Bulgaria	17 (1.3)	498 (11.7)	44 (1.6)	535 (5.7)	38 (2.0)	521 (6.4)	36 (2.1)	539 (6.7)	34 (1.3)	528 (4.6)	30 (2.0)	508 (8.4)
Canada	10 (0.3)	522 (4.6)	47 (0.6)	531 (2.4)	43 (0.7)	518 (2.2)	25 (0.7)	536 (3.4)	42 (0.6)	529 (2.2)	33 (1.0)	512 (2.3)
Chile	17 (0.8)	462 (4.0)	36 (0.7)	484 (3.1)	47 (1.0)	464 (3.2)	20 (0.8)	486 (4.0)	36 (0.9)	470 (3.0)	44 (0.9)	469 (2.9)
Chinese Taipei	17 (0.7)	544 (3.5)	59 (0.9)	565 (2.2)	24 (0.8)	555 (2.6)	17 (0.7)	561 (3.9)	56 (0.8)	561 (2.1)	27 (0.9)	552 (2.8)
Croatia	13 (0.9)	527 (4.1)	57 (1.5)	526 (2.6)	30 (1.2)	520 (2.9)	20 (1.2)	534 (4.6)	53 (1.2)	526 (2.6)	28 (1.2)	515 (3.3)
Cyprus	23 (0.8)	518 (4.3)	40 (0.9)	520 (3.0)	37 (1.1)	500 (3.7)	44 (1.1)	525 (3.8)	32 (0.8)	512 (3.4)	24 (0.9)	493 (3.9)
Czech Republic	7 (0.5)	537 (6.0)	42 (1.1)	542 (3.0)	51 (1.1)	527 (2.8)	25 (1.1)	550 (3.4)	45 (1.1)	537 (2.8)	30 (0.8)	520 (3.7)
Denmark	7 (0.5)	518 (6.1)	51 (1.1)	524 (2.7)	42 (1.1)	521 (2.9)	27 (1.1)	535 (3.2)	46 (1.1)	521 (3.2)	27 (1.1)	515 (3.1)
England	9 (0.6)	527 (6.6)	48 (1.3)	548 (3.8)	43 (1.5)	530 (3.2)	27 (1.2)	552 (4.7)	42 (1.1)	543 (3.6)	30 (1.2)	520 (3.7)
Finland	8 (0.5)	547 (5.3)	59 (0.9)	562 (2.8)	33 (0.9)	544 (3.4)	29 (1.0)	564 (3.0)	52 (0.9)	556 (3.1)	20 (0.7)	540 (4.0)
France	16 (0.7)	478 (4.3)	50 (1.0)	495 (3.1)	34 (1.1)	484 (4.1)	32 (1.2)	503 (3.3)	37 (1.0)	490 (3.9)	31 (1.3)	473 (4.1)
Georgia	27 (1.3)	464 (4.8)	46 (1.6)	458 (4.4)	27 (1.3)	438 (5.6)	41 (1.6)	456 (5.2)	39 (1.4)	463 (4.9)	21 (1.3)	445 (6.0)
Germany	r 8 (0.6)	501 (7.8)	40 (1.1)	531 (3.0)	52 (1.0)	519 (2.6)	r 29 (1.0)	532 (3.6)	43 (0.9)	531 (3.1)	28 (1.0)	507 (3.7)
Hong Kong SAR	16 (0.8)	532 (4.6)	51 (1.2)	538 (3.3)	33 (1.3)	520 (4.7)	26 (0.8)	544 (3.9)	46 (1.1)	535 (3.8)	28 (1.2)	515 (5.2)
Hungary	6 (0.5)	514 (7.2)	41 (1.0)	534 (3.6)	53 (1.1)	529 (3.0)	29 (0.8)	539 (3.7)	47 (0.8)	533 (3.0)	24 (0.8)	521 (3.4)
Iran, Islamic Rep. of	39 (1.4)	441 (5.3)	41 (1.3)	449 (4.8)	20 (0.9)	433 (5.5)	38 (1.0)	456 (5.0)	41 (1.2)	446 (4.5)	21 (0.8)	423 (4.9)
Ireland	11 (0.8)	519 (5.6)	55 (1.1)	537 (3.3)	34 (1.0)	518 (4.1)	36 (1.0)	546 (3.5)	44 (1.0)	528 (3.8)	20 (0.9)	508 (4.7)
Italy	13 (0.8)	508 (3.7)	43 (1.1)	514 (3.2)	45 (1.3)	507 (3.8)	28 (1.0)	521 (3.2)	36 (0.9)	515 (3.6)	36 (0.9)	499 (3.3)
Japan	26 (1.0)	565 (2.6)	51 (0.9)	565 (2.3)	23 (0.9)	553 (3.2)	44 (1.1)	573 (2.4)	37 (0.7)	561 (2.4)	19 (0.7)	542 (3.0)
Kazakhstan	32 (1.4)	495 (4.6)	47 (1.2)	500 (3.4)	21 (1.0)	484 (4.4)	36 (1.5)	504 (4.9)	47 (1.2)	492 (3.3)	17 (0.8)	496 (6.2)
Korea, Rep. of	15 (0.8)	591 (4.7)	49 (1.2)	593 (2.1)	36 (1.2)	581 (3.1)	21 (0.8)	596 (3.1)	46 (1.1)	591 (2.3)	34 (1.2)	580 (3.2)
Kosovo	38 (1.3)	424 (3.9)	46 (1.1)	423 (4.0)	17 (0.9)	383 (5.2)	35 (1.3)	432 (4.2)	40 (1.2)	423 (4.8)	25 (1.0)	394 (4.6)
Kuwait	25 (1.3)	409 (7.4)	40 (1.2)	412 (6.7)	35 (1.5)	377 (6.6)	24 (1.1)	425 (8.4)	39 (1.1)	414 (6.1)	37 (1.2)	382 (6.9)
Latvia	7 (0.4)	540 (5.2)	49 (1.0)	550 (2.4)	44 (1.1)	535 (3.4)	22 (1.0)	552 (3.3)	44 (1.0)	546 (2.7)	34 (1.1)	534 (2.8)
Lithuania	25 (1.2)	541 (4.0)	54 (1.0)	540 (2.7)	21 (0.9)	531 (4.5)	49 (1.3)	542 (3.0)	39 (1.0)	543 (2.9)	12 (0.8)	520 (5.4)
Malta	15 (0.6)	479 (4.6)	42 (0.7)	503 (2.6)	43 (0.8)	496 (2.7)	22 (0.6)	504 (3.6)	36 (0.8)	504 (2.4)	42 (0.8)	486 (2.4)
Montenegro	26 (0.8)	453 (3.5)	50 (0.8)	465 (2.8)	24 (0.6)	442 (3.4)	37 (1.0)	468 (2.7)	36 (0.8)	460 (3.0)	27 (0.9)	439 (3.8)
Morocco	39 (1.5)	381 (5.6)	40 (1.5)	388 (6.6)	21 (1.1)	348 (10.2)	31 (1.2)	387 (6.4)	39 (1.2)	380 (6.4)	30 (1.4)	369 (10.8)
Netherlands	8 (0.5)	505 (4.8)	50 (1.5)	524 (3.5)	42 (1.5)	516 (4.0)	32 (0.9)	530 (3.3)	45 (1.0)	520 (3.5)	23 (1.1)	507 (4.3)
New Zealand	11 (0.6)	495 (6.0)	50 (0.9)	514 (2.8)	39 (0.9)	495 (2.3)	29 (0.9)	523 (3.1)	42 (1.0)	513 (2.9)	29 (0.9)	475 (2.9)
North Macedonia	28 (1.5)	437 (8.4)	46 (1.4)	441 (6.7)	26 (1.2)	406 (8.0)	29 (1.3)	441 (7.2)	40 (1.9)	444 (6.4)	31 (2.0)	416 (8.9)
Northern Ireland	7 (0.5)	519 (6.4)	49 (1.2)	528 (2.4)	43 (1.2)	510 (3.1)	33 (0.9)	535 (3.4)	41 (0.8)	518 (2.9)	26 (1.0)	507 (3.8)
Norway (5)	8 (0.7)	523 (7.2)	47 (1.2)	546 (2.8)	46 (1.3)	537 (3.2)	27 (1.0)	550 (3.4)	51 (0.8)	544 (2.9)	22 (1.0)	525 (3.7)
Oman	24 (1.2)	436 (5.8)	46 (1.1)	453 (4.7)	30 (1.2)	422 (5.2)	25 (1.2)	450 (6.0)	38 (0.8)	443 (4.6)	37 (1.3)	435 (5.4)
Pakistan	43 (3.4)	297 (16.3)	31 (2.5)	309 (17.7)	25 (2.8)	264 (13.2)	r 33 (2.6)	285 (16.6)	29 (2.6)	317 (14.9)	38 (2.4)	294 (15.6)
Philippines	24 (1.1)	255 (8.3)	42 (1.4)	292 (8.6)	33 (1.5)	212 (7.0)	27 (1.4)	264 (8.5)	44 (1.4)	280 (7.5)	29 (1.1)	225 (10.2)
Poland	17 (0.7)	536 (4.7)	46 (1.1)	537 (2.8)	37 (1.3)	525 (3.1)	45 (1.1)	544 (3.3)	38 (0.9)	532 (2.9)	18 (0.7)	512 (4.0)
Portugal	23 (0.7)	508 (3.5)	46 (0.8)	509 (3.1)	31 (0.8)	496 (2.7)	47 (1.0)	515 (3.3)	32 (0.7)	507 (2.7)	22 (0.9)	486 (3.8)
Qatar	17 (0.8)	454 (6.1)	40 (0.9)	469 (4.7)	43 (1.1)	439 (4.4)	20 (0.8)	469 (6.2)	37 (0.9)	462 (4.5)	43 (0.9)	442 (4.7)
Russian Federation	20 (1.1)	569 (5.6)	51 (0.9)	571 (3.0)	29 (1.3)	561 (3.5)	42 (1.3)	571 (4.4)	39 (1.0)	569 (3.2)	19 (0.9)	563 (3.4)
Saudi Arabia	26 (0.9)	418 (4.8)	45 (1.0)	417 (4.3)	29 (1.0)	379 (5.7)	24 (1.1)	429 (5.4)	39 (1.1)	417 (4.5)	36 (1.2)	396 (5.0)
Serbia	13 (0.9)	520 (5.5)	56 (1.1)	524 (3.8)	31 (1.1)	505 (4.8)	29 (1.5)	533 (4.0)	41 (1.2)	524 (3.9)	30 (1.5)	498 (5.1)
Singapore	12 (0.5)	600 (4.8)	45 (0.7)	604 (3.4)	44 (0.8)	584 (3.9)	34 (0.8)	615 (3.2)	40 (0.7)	596 (3.8)	26 (0.8)	568 (3.8)
Slovak Republic	8 (0.6)	512 (7.9)	38 (1.0)	526 (5.3)	54 (1.2)	520 (3.2)	30 (1.0)	533 (4.3)	43 (1.2)	524 (4.2)	27 (1.2)	508 (5.0)
South Africa (5)	27 (1.0)	330 (6.3)	45 (0.9)	349 (5.1)	28 (1.0)	296 (6.4)	31 (1.0)	353 (6.0)	38 (0.7)	340 (5.2)	31 (1.0)	301 (6.4)
Spain	17 (0.8)	511 (3.7)	47 (1.1)	521 (1.9)	36 (1.1)	502 (3.0)	40 (1.0)	525 (2.5)	36 (0.8)	515 (2.5)	24 (1.0)	490 (3.5)
Sweden	7 (0.6)	512 (7.2)	51 (1.2)	542 (3.5)	42 (1.3)	537 (3.7)	33 (1.3)	547 (4.5)	44 (1.3)	540 (3.1)	24 (1.3)	523 (4.7)
Turkey (5)	17 (0.7)	525 (5.3)	51 (1.0)	535 (4.4)	32 (1.0)	519 (5.5)	15 (0.7)	532 (5.2)	44 (1.0)	534 (4.9)	40 (1.1)	526 (5.1)
United Arab Emirates	23 (0.5)	483 (3.2)	42 (0.4)	484 (2.3)	34 (0.5)	460 (2.6)	26 (0.5)	493 (2.9)	40 (0.4)	484 (2.3)	34 (0.5)	458 (2.5)
United States	8 (0.4)	538 (5.7)	36 (0.7)	553 (2.7)	56 (0.8)	534 (3.1)	23 (0.7)	561 (3.8)	40 (0.5)	549 (2.6)	38 (0.8)	525 (3.2)
International Average	19 (0.1)	490 (0.8)	47 (0.1)	501 (0.6)	35 (0.2)	481 (0.6)	31 (0.2)	504 (0.6)	41 (0.1)	497 (0.6)	28 (0.1)	478 (0.7)
Benchmarking Participants												
Ontario, Canada	10 (0.6)	522 (7.2)	46 (1.2)	534 (3.7)	44 (1.2)	518 (3.5)	27 (1.3)	537 (5.4)	41 (1.1)	532 (3.3)	32 (1.9)	510 (4.1)
Quebec, Canada	r 9 (0.7)	515 (5.3)	53 (1.2)	526 (3.1)	38 (1.4)	518 (3.0)	r 19 (1.0)	535 (4.2)	44 (1.2)	524 (3.3)	37 (1.1)	514 (3.4)
Moscow City, Russian Fed.	16 (0.9)	605 (4.0)	48 (1.0)	597 (2.7)	36 (1.1)	589 (3.0)	33 (1.3)	602 (2.5)	40 (1.0)	597 (2.9)	26 (1.0)	586 (3.0)
Madrid, Spain	14 (0.7)	517 (3.8)	48 (0.9)	529 (2.2)	37 (0.9)	518 (2.6)	42 (1.1)	535 (2.3)	37 (1.0)	522 (2.4)	21 (0.9)	503 (3.6)
Abu Dhabi, UAE	18 (0.7)	416 (5.5)	41 (0.7)	429 (3.2)	42 (0.7)	415 (3.8)	21 (0.7)	436 (5.6)	39 (0.8)	431 (3.5)	39 (0.8)	409 (3.2)
Dubai, UAE	23 (0.6)	543 (2.8)	45 (0.8)	551 (1.9)	32 (0.7)	537 (3.0)	30 (0.7)	549 (2.6)	40 (0.7)	550 (1.9)	30 (0.6)	532 (3.6)

() 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.

Exhibit 10.7: Students Report Arriving at School Feeling Tired or Hungry
Students' Reports

Country	Students Feel Tired						Students Feel Hungry					
	Never		Sometimes		Every Day or Almost Every Day		Never		Sometimes		Every Day or Almost Every Day	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	4 (0.2)	523 (9.4)	47 (0.9)	526 (4.6)	49 (0.9)	510 (3.5)	28 (0.8)	540 (5.8)	45 (0.6)	521 (4.0)	27 (0.8)	493 (3.6)
Bahrain	8 (0.7)	489 (6.0)	39 (1.0)	493 (2.6)	53 (0.8)	472 (1.7)	21 (0.7)	497 (3.6)	36 (0.8)	485 (2.6)	43 (0.9)	472 (2.6)
Chile	6 (0.5)	434 (7.4)	46 (1.1)	442 (3.2)	48 (1.1)	442 (3.2)	14 (0.7)	459 (5.1)	34 (1.0)	443 (3.4)	53 (1.0)	437 (2.7)
Chinese Taipei	4 (0.3)	596 (10.2)	50 (1.0)	616 (3.3)	46 (1.0)	610 (3.1)	8 (0.4)	607 (6.2)	49 (0.9)	616 (3.0)	44 (1.0)	611 (3.6)
Cyprus	8 (0.6)	507 (7.5)	42 (0.9)	505 (2.2)	50 (1.0)	498 (2.5)	37 (1.0)	516 (3.1)	38 (1.0)	499 (2.8)	25 (0.9)	487 (3.3)
Egypt	15 (0.9)	424 (7.2)	58 (1.0)	420 (5.3)	27 (1.0)	403 (5.9)	20 (0.9)	427 (7.0)	41 (1.1)	418 (5.3)	39 (1.2)	415 (5.4)
England	4 (0.4)	510 (14.0)	39 (1.1)	525 (5.7)	57 (1.2)	513 (5.7)	30 (1.3)	533 (6.7)	45 (1.1)	521 (5.1)	26 (1.1)	497 (6.4)
Finland	2 (0.2)	~	52 (1.2)	518 (2.7)	46 (1.2)	500 (3.1)	19 (0.7)	534 (3.7)	50 (0.8)	511 (2.8)	31 (0.8)	493 (3.2)
France	4 (0.4)	479 (7.2)	41 (0.9)	488 (2.7)	54 (1.0)	480 (2.9)	18 (0.7)	499 (4.0)	33 (0.9)	486 (3.5)	49 (1.1)	476 (2.6)
Georgia	11 (0.9)	471 (7.4)	47 (1.2)	459 (4.5)	42 (1.4)	463 (5.3)	30 (1.4)	469 (5.2)	44 (1.4)	464 (5.3)	26 (1.4)	457 (4.9)
Hong Kong SAR	5 (0.5)	577 (9.1)	45 (1.1)	585 (4.2)	49 (1.1)	575 (4.6)	14 (1.1)	600 (8.3)	46 (1.3)	584 (4.5)	40 (1.0)	569 (4.7)
Hungary	2 (0.2)	~	33 (1.1)	513 (4.4)	65 (1.1)	518 (3.0)	28 (1.0)	535 (4.8)	43 (0.8)	516 (3.6)	29 (1.1)	502 (4.0)
Iran, Islamic Rep. of	21 (1.0)	445 (5.6)	60 (1.1)	450 (3.8)	19 (0.8)	439 (5.5)	42 (0.9)	458 (4.3)	42 (0.9)	446 (3.8)	17 (0.6)	429 (5.2)
Ireland	3 (0.3)	528 (8.8)	41 (1.0)	529 (3.3)	56 (1.0)	522 (2.7)	35 (1.0)	542 (3.5)	43 (0.9)	524 (3.0)	22 (0.9)	507 (3.8)
Israel	8 (0.4)	519 (9.3)	42 (1.1)	520 (5.3)	51 (1.1)	522 (4.4)	28 (0.9)	530 (5.9)	45 (0.9)	526 (4.8)	27 (1.0)	507 (4.7)
Italy	3 (0.3)	505 (7.9)	43 (1.2)	502 (3.4)	54 (1.3)	494 (3.0)	23 (1.0)	514 (4.0)	34 (0.9)	500 (3.3)	43 (1.1)	488 (3.0)
Japan	11 (0.6)	600 (4.6)	47 (0.9)	601 (3.4)	41 (1.2)	585 (3.3)	34 (1.1)	608 (3.1)	43 (0.9)	592 (3.3)	24 (0.7)	579 (3.7)
Jordan	14 (0.6)	439 (5.2)	51 (1.0)	423 (3.8)	35 (1.0)	416 (5.7)	23 (0.9)	443 (4.5)	39 (1.0)	419 (4.7)	38 (1.2)	419 (4.8)
Kazakhstan	14 (0.8)	485 (5.7)	66 (0.9)	488 (3.2)	19 (0.8)	492 (4.5)	31 (0.9)	488 (4.0)	53 (0.9)	488 (3.6)	17 (0.6)	490 (4.7)
Korea, Rep. of	5 (0.3)	626 (8.9)	35 (0.9)	619 (3.4)	60 (1.0)	599 (3.3)	12 (0.5)	623 (5.4)	38 (0.8)	611 (3.3)	51 (0.8)	602 (3.3)
Kuwait	10 (0.6)	412 (8.2)	51 (0.9)	408 (5.2)	38 (1.1)	398 (5.8)	26 (0.9)	420 (5.7)	43 (1.0)	408 (4.8)	30 (1.0)	392 (6.4)
Lebanon	13 (1.0)	420 (5.7)	52 (1.3)	429 (3.6)	35 (1.2)	437 (3.5)	25 (1.1)	435 (4.3)	38 (0.9)	431 (3.9)	37 (1.2)	429 (3.6)
Lithuania	9 (0.6)	515 (6.0)	53 (0.9)	517 (3.3)	38 (1.0)	529 (3.9)	46 (1.1)	524 (3.4)	40 (0.9)	522 (3.7)	14 (0.8)	517 (4.7)
Malaysia	8 (0.5)	452 (6.1)	55 (0.9)	459 (3.4)	37 (1.0)	467 (3.6)	9 (0.5)	460 (6.5)	45 (0.9)	460 (4.0)	47 (1.0)	463 (3.1)
Morocco	13 (0.6)	397 (4.7)	59 (0.9)	388 (2.5)	28 (0.9)	387 (3.2)	17 (0.6)	392 (3.9)	47 (0.7)	391 (2.7)	36 (1.0)	385 (2.8)
New Zealand	5 (0.4)	467 (10.0)	46 (1.1)	491 (4.1)	50 (1.2)	477 (3.4)	29 (0.7)	502 (3.7)	45 (0.8)	485 (3.4)	25 (0.9)	459 (5.2)
Norway (9)	4 (0.5)	492 (8.0)	39 (1.1)	510 (3.0)	57 (1.1)	501 (2.9)	31 (0.9)	517 (3.1)	45 (1.0)	505 (2.9)	24 (0.9)	487 (3.8)
Oman	12 (0.5)	424 (5.2)	55 (0.8)	416 (2.8)	33 (1.0)	404 (4.2)	23 (0.8)	433 (3.7)	45 (0.9)	415 (2.9)	32 (1.1)	400 (3.6)
Portugal	12 (0.6)	500 (5.4)	50 (1.1)	504 (3.3)	39 (1.2)	496 (4.1)	48 (1.2)	514 (3.4)	31 (0.9)	495 (3.8)	21 (1.1)	482 (5.2)
Qatar	7 (0.5)	445 (8.8)	41 (1.3)	452 (5.4)	52 (1.4)	438 (4.5)	20 (0.8)	475 (7.0)	38 (1.0)	451 (5.0)	42 (1.1)	427 (3.6)
Romania	4 (0.4)	475 (10.2)	47 (1.3)	477 (4.6)	49 (1.4)	484 (5.4)	14 (0.9)	502 (7.5)	33 (1.1)	487 (4.3)	53 (1.4)	473 (5.2)
Russian Federation	10 (0.7)	542 (7.3)	52 (1.1)	541 (5.5)	38 (1.2)	548 (3.8)	33 (1.1)	544 (4.9)	43 (0.9)	545 (5.1)	24 (0.9)	546 (5.0)
Saudi Arabia	14 (0.7)	400 (4.4)	53 (0.8)	397 (2.8)	32 (0.9)	390 (3.2)	30 (0.9)	403 (2.8)	43 (0.7)	396 (3.0)	28 (0.8)	394 (3.2)
Singapore	3 (0.3)	619 (9.5)	34 (0.8)	620 (4.6)	63 (0.8)	614 (4.2)	20 (0.7)	647 (4.1)	43 (0.8)	620 (4.3)	36 (0.8)	593 (4.7)
South Africa (9)	20 (0.6)	380 (3.1)	59 (0.7)	390 (2.2)	21 (0.5)	402 (3.4)	22 (0.4)	404 (3.3)	46 (0.5)	389 (2.3)	33 (0.7)	387 (2.6)
Sweden	2 (0.3)	~	39 (1.1)	508 (3.3)	59 (1.2)	502 (2.7)	24 (1.0)	522 (4.1)	43 (1.0)	505 (3.0)	33 (1.0)	489 (3.5)
Turkey	6 (0.5)	468 (9.9)	56 (1.1)	497 (4.4)	37 (1.1)	502 (4.8)	11 (0.7)	484 (8.2)	42 (1.1)	494 (5.8)	46 (1.2)	507 (4.2)
United Arab Emirates	11 (0.4)	493 (4.6)	43 (0.6)	485 (2.2)	46 (0.5)	463 (2.0)	23 (0.6)	505 (2.8)	39 (0.5)	483 (2.3)	38 (0.6)	455 (2.3)
United States	3 (0.3)	503 (12.6)	34 (0.8)	526 (5.3)	62 (0.8)	514 (4.6)	26 (0.8)	538 (6.8)	41 (0.7)	524 (4.5)	33 (0.8)	495 (4.5)
International Average	8 (0.1)	488 (1.3)	47 (0.2)	493 (0.6)	45 (0.2)	487 (0.6)	25 (0.1)	504 (0.8)	42 (0.1)	492 (0.6)	33 (0.2)	480 (0.7)
Benchmarking Participants												
Ontario, Canada	3 (0.4)	542 (10.1)	41 (1.0)	536 (4.4)	56 (1.1)	526 (4.7)	31 (0.9)	545 (5.7)	45 (0.9)	531 (4.8)	24 (0.8)	515 (4.7)
Quebec, Canada	3 (0.4)	538 (11.2)	45 (1.3)	548 (3.9)	52 (1.4)	540 (4.4)	24 (1.2)	563 (4.5)	42 (1.0)	546 (4.0)	34 (1.1)	528 (4.2)
Moscow City, Russian Fed.	5 (0.4)	589 (9.3)	41 (1.2)	577 (4.7)	54 (1.2)	574 (4.2)	26 (1.0)	585 (6.2)	42 (0.9)	575 (4.5)	32 (1.1)	570 (4.2)
Gauteng, RSA (9)	15 (0.6)	406 (4.0)	58 (0.9)	419 (2.9)	27 (1.0)	438 (4.4)	21 (0.7)	441 (5.0)	42 (0.8)	421 (3.2)	37 (0.9)	413 (3.1)
Western Cape, RSA (9)	12 (0.6)	410 (4.0)	59 (0.9)	435 (4.3)	29 (1.0)	472 (6.2)	23 (0.9)	468 (6.7)	44 (0.8)	442 (4.4)	33 (1.1)	426 (4.3)
Abu Dhabi, UAE	9 (0.4)	446 (6.6)	40 (0.9)	450 (3.4)	52 (0.9)	432 (3.5)	20 (0.7)	470 (4.5)	38 (0.7)	450 (3.4)	43 (0.8)	421 (3.9)
Dubai, UAE	11 (0.9)	558 (6.0)	45 (1.1)	542 (2.6)	44 (0.9)	526 (2.7)	27 (1.0)	564 (3.4)	39 (0.9)	539 (3.0)	34 (1.2)	512 (3.0)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
A tilde (~) indicates insufficient data to report achievement.

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019
Downloaded from <http://timss2019.org/download>

Exhibit 10.8: Students Report Arriving at School Feeling Tired or Hungry

Students' Reports

Country	Students Feel Tired						Students Feel Hungry					
	Never		Sometimes		Every Day or Almost Every Day		Never		Sometimes		Every Day or Almost Every Day	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	4 (0.2)	526 (9.3)	47 (0.9)	536 (3.8)	49 (0.9)	523 (3.1)	28 (0.8)	553 (5.1)	45 (0.6)	532 (3.2)	27 (0.8)	502 (3.4)
Bahrain	8 (0.7)	502 (7.2)	39 (1.0)	501 (2.6)	53 (0.8)	476 (2.7)	21 (0.7)	510 (3.4)	36 (0.8)	498 (2.8)	43 (0.9)	470 (2.8)
Chile	6 (0.5)	455 (8.5)	46 (1.1)	466 (3.2)	48 (1.1)	463 (3.8)	14 (0.7)	483 (4.9)	34 (1.0)	467 (3.7)	53 (1.0)	458 (2.9)
Chinese Taipei	4 (0.3)	551 (9.2)	50 (1.0)	576 (2.4)	46 (1.0)	575 (2.2)	8 (0.4)	571 (5.3)	49 (0.9)	577 (2.4)	44 (1.0)	573 (2.5)
Cyprus	8 (0.6)	492 (7.6)	42 (0.9)	488 (2.6)	50 (1.0)	480 (2.7)	37 (1.0)	501 (3.2)	38 (1.0)	482 (3.3)	25 (0.9)	466 (3.3)
Egypt	15 (0.9)	410 (8.0)	58 (1.0)	399 (5.3)	27 (1.0)	373 (6.5)	20 (0.9)	412 (7.1)	41 (1.1)	397 (5.3)	39 (1.2)	389 (5.6)
England	4 (0.4)	505 (15.5)	39 (1.1)	527 (5.3)	57 (1.2)	515 (5.4)	30 (1.3)	536 (6.4)	45 (1.1)	520 (5.0)	26 (1.1)	501 (5.9)
Finland	2 (0.2)	~	52 (1.2)	552 (3.2)	46 (1.2)	534 (3.6)	19 (0.7)	571 (4.5)	50 (0.8)	546 (3.6)	31 (0.8)	525 (4.1)
France	4 (0.4)	482 (8.3)	41 (0.9)	494 (3.4)	54 (1.0)	485 (2.9)	18 (0.7)	509 (4.6)	33 (0.9)	489 (3.7)	49 (1.1)	483 (2.9)
Georgia	11 (0.9)	450 (6.7)	47 (1.2)	450 (4.3)	42 (1.4)	444 (4.7)	30 (1.4)	456 (4.7)	44 (1.4)	446 (4.5)	26 (1.4)	447 (5.9)
Hong Kong SAR	5 (0.5)	501 (9.7)	45 (1.1)	510 (5.5)	49 (1.1)	500 (5.6)	14 (1.1)	534 (10.4)	46 (1.3)	506 (5.4)	40 (1.0)	493 (5.5)
Hungary	2 (0.2)	~	33 (1.1)	528 (4.0)	65 (1.1)	530 (2.6)	28 (1.0)	550 (4.2)	43 (0.8)	529 (3.1)	29 (1.1)	515 (4.0)
Iran, Islamic Rep. of	21 (1.0)	446 (5.4)	60 (1.1)	453 (3.8)	19 (0.8)	443 (5.2)	42 (0.9)	460 (4.1)	42 (0.9)	450 (3.7)	17 (0.6)	432 (5.0)
Ireland	3 (0.3)	522 (10.1)	41 (1.0)	526 (3.5)	56 (1.0)	523 (3.1)	35 (1.0)	544 (3.7)	43 (0.9)	521 (3.4)	22 (0.9)	504 (4.2)
Israel	8 (0.4)	516 (7.9)	42 (1.1)	517 (5.0)	51 (1.1)	515 (4.4)	28 (0.9)	524 (5.7)	45 (0.9)	520 (4.6)	27 (1.0)	504 (5.0)
Italy	3 (0.3)	504 (8.2)	43 (1.2)	503 (3.2)	54 (1.3)	499 (2.9)	23 (1.0)	521 (3.7)	34 (0.9)	501 (3.5)	43 (1.1)	491 (3.0)
Japan	11 (0.6)	580 (4.1)	47 (0.9)	574 (2.5)	41 (1.2)	561 (2.7)	34 (1.1)	585 (2.6)	43 (0.9)	569 (2.7)	24 (0.7)	551 (3.0)
Jordan	14 (0.6)	476 (5.4)	51 (1.0)	457 (4.6)	35 (1.0)	444 (6.0)	23 (0.9)	477 (5.1)	39 (1.0)	453 (5.2)	38 (1.2)	452 (4.7)
Kazakhstan	14 (0.8)	473 (5.7)	66 (0.9)	478 (3.1)	19 (0.8)	486 (5.0)	31 (0.9)	479 (3.7)	53 (0.9)	477 (3.4)	17 (0.6)	485 (5.3)
Korea, Rep. of	5 (0.3)	575 (8.5)	35 (0.9)	569 (3.2)	60 (1.0)	555 (2.6)	12 (0.5)	579 (5.0)	38 (0.8)	565 (2.8)	51 (0.8)	555 (2.7)
Kuwait	10 (0.6)	449 (10.2)	51 (0.9)	453 (5.6)	38 (1.1)	438 (6.1)	26 (0.9)	466 (6.9)	43 (1.0)	451 (5.3)	30 (1.0)	432 (7.2)
Lebanon	13 (1.0)	356 (9.0)	52 (1.3)	377 (5.2)	35 (1.2)	389 (5.9)	25 (1.1)	380 (6.3)	38 (0.9)	380 (6.4)	37 (1.2)	380 (5.0)
Lithuania	9 (0.6)	528 (5.2)	53 (0.9)	532 (3.3)	38 (1.0)	540 (4.0)	46 (1.1)	539 (3.4)	40 (0.9)	534 (3.7)	14 (0.8)	529 (4.7)
Malaysia	8 (0.5)	453 (6.3)	55 (0.9)	461 (3.7)	37 (1.0)	463 (4.0)	9 (0.5)	452 (7.5)	45 (0.9)	463 (4.1)	47 (1.0)	462 (3.7)
Morocco	13 (0.6)	409 (6.0)	59 (0.9)	395 (2.9)	28 (0.9)	388 (3.4)	17 (0.6)	402 (4.7)	47 (0.7)	399 (3.0)	36 (1.0)	387 (3.1)
New Zealand	5 (0.4)	471 (9.3)	46 (1.1)	506 (4.1)	50 (1.2)	498 (3.6)	29 (0.7)	523 (3.5)	45 (0.8)	500 (3.6)	25 (0.9)	474 (5.0)
Norway (9)	4 (0.5)	457 (12.1)	39 (1.1)	502 (3.7)	57 (1.1)	495 (3.4)	31 (0.9)	509 (4.5)	45 (1.0)	497 (3.4)	24 (0.9)	480 (5.1)
Oman	12 (0.5)	471 (5.3)	55 (0.8)	463 (2.9)	33 (1.0)	450 (4.5)	23 (0.8)	480 (3.8)	45 (0.9)	464 (2.8)	32 (1.1)	446 (4.0)
Portugal	12 (0.6)	515 (4.9)	50 (1.1)	522 (2.9)	39 (1.2)	516 (3.9)	48 (1.2)	532 (2.9)	31 (0.9)	515 (3.7)	21 (1.1)	499 (4.7)
Qatar	7 (0.5)	476 (10.0)	41 (1.3)	485 (5.8)	52 (1.4)	468 (4.7)	20 (0.8)	506 (7.1)	38 (1.0)	481 (5.8)	42 (1.1)	461 (4.4)
Romania	4 (0.4)	475 (8.8)	47 (1.3)	470 (4.4)	49 (1.4)	473 (5.1)	14 (0.9)	491 (6.9)	33 (1.1)	476 (4.9)	53 (1.4)	465 (4.8)
Russian Federation	10 (0.7)	541 (6.2)	52 (1.1)	540 (5.2)	38 (1.2)	548 (3.7)	33 (1.1)	545 (4.5)	43 (0.9)	543 (4.7)	24 (0.9)	544 (5.0)
Saudi Arabia	14 (0.7)	438 (5.2)	53 (0.8)	434 (2.8)	32 (0.9)	429 (3.9)	30 (0.9)	444 (3.6)	43 (0.7)	433 (3.5)	28 (0.8)	433 (3.3)
Singapore	3 (0.3)	615 (9.1)	34 (0.8)	609 (4.4)	63 (0.8)	607 (4.1)	20 (0.7)	641 (3.5)	43 (0.8)	611 (4.2)	36 (0.8)	585 (4.7)
South Africa (9)	20 (0.6)	359 (3.8)	59 (0.7)	370 (3.3)	21 (0.5)	388 (4.5)	22 (0.4)	389 (4.0)	46 (0.5)	368 (3.4)	33 (0.7)	370 (3.2)
Sweden	2 (0.3)	~	39 (1.1)	524 (4.4)	59 (1.2)	524 (3.3)	24 (1.0)	547 (5.3)	43 (1.0)	524 (3.9)	33 (1.0)	507 (3.7)
Turkey	6 (0.5)	476 (8.5)	56 (1.1)	518 (3.8)	37 (1.1)	522 (4.2)	11 (0.7)	506 (6.6)	42 (1.1)	513 (5.2)	46 (1.2)	526 (3.8)
United Arab Emirates	11 (0.4)	497 (5.3)	43 (0.6)	489 (2.8)	46 (0.5)	461 (2.3)	23 (0.6)	513 (3.4)	39 (0.5)	485 (2.6)	38 (0.6)	450 (2.8)
United States	3 (0.3)	499 (14.4)	34 (0.8)	528 (5.1)	62 (0.8)	524 (4.4)	26 (0.8)	542 (6.4)	41 (0.7)	530 (4.2)	33 (0.8)	506 (4.9)
International Average	8 (0.1)	485 (1.4)	47 (0.2)	494 (0.6)	45 (0.2)	488 (0.7)	25 (0.1)	507 (0.8)	42 (0.1)	493 (0.6)	33 (0.2)	480 (0.7)
Benchmarking Participants												
Ontario, Canada	3 (0.4)	529 (10.0)	41 (1.0)	525 (3.6)	56 (1.1)	520 (3.3)	31 (0.9)	539 (4.5)	45 (0.9)	520 (3.4)	24 (0.8)	508 (3.9)
Quebec, Canada	3 (0.4)	530 (10.9)	45 (1.3)	540 (3.7)	52 (1.4)	534 (4.4)	24 (1.2)	560 (4.7)	42 (1.0)	538 (4.2)	34 (1.1)	520 (4.0)
Moscow City, Russian Fed.	5 (0.4)	573 (7.7)	41 (1.2)	567 (3.7)	54 (1.2)	566 (2.9)	26 (1.0)	575 (4.3)	42 (0.9)	566 (3.3)	32 (1.1)	562 (3.2)
Gauteng, RSA (9)	15 (0.6)	405 (5.4)	58 (0.9)	419 (4.1)	27 (1.0)	445 (5.6)	21 (0.7)	449 (6.0)	42 (0.8)	420 (4.2)	37 (0.9)	414 (4.0)
Western Cape, RSA (9)	12 (0.6)	399 (4.8)	59 (0.9)	431 (5.0)	29 (1.0)	481 (7.1)	23 (0.9)	475 (7.7)	44 (0.8)	438 (5.5)	33 (1.1)	422 (5.1)
Abu Dhabi, UAE	9 (0.4)	435 (8.2)	40 (0.9)	439 (4.4)	52 (0.9)	415 (4.3)	20 (0.7)	467 (5.8)	38 (0.7)	440 (4.2)	43 (0.8)	399 (4.9)
Dubai, UAE	11 (0.9)	571 (6.3)	45 (1.1)	555 (3.0)	44 (0.9)	535 (2.7)	27 (1.0)	576 (3.5)	39 (0.9)	551 (3.2)	34 (1.2)	522 (3.7)

() Standard errors appear in parentheses. Because of rounding some results may appear inconsistent.
A tilde (~) indicates insufficient data to report achievement.

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019
Downloaded from <http://timss2019.org/download>

Classroom Teaching Limited by Students Not Ready for Instruction

Exhibits 10.10, 10.11, 10.12, and 10.13 present teachers' reports about the extent to which their fourth and eighth grade classroom teaching is limited by students not ready to learn (i.e., lacking prerequisite knowledge or skills, lacking basic nutrition, being sleep deprived, absent, disruptive, or uninterested, or having learning impairments or difficulties understanding the language of instruction), along with student achievement. The results are summarized on the *Classroom Teaching Limited by Students Not Ready for Instruction* scale described in Exhibit 10.9 (see About the Scale), with three categories that describe how much classroom teaching is limited: "very little," "some," and "a lot." A higher score on the scale indicates that classroom instruction was limited less by these student attributes or behavior, and a lower score indicates it was limited more. Countries are sorted by the percentage "very little."

On average, across countries, just over one-third of the fourth grade students (36% for mathematics and 37% for science) had classroom teachers who reported that their teaching was limited "very little" by students not ready for instruction. Most of the rest of the students (59% in mathematics and 58% in science) had teachers who reported that instruction was limited "some." Unfortunately, 6 percent of students were in classrooms where teachers reported instruction was limited "a lot." The picture was even less positive in eighth grade, where only about one-quarter of students (24% in mathematics and 26% in science) had teachers who reported that classroom instruction was limited "very little," and about two-thirds (67% for mathematics and 66% for science) had teachers who reported that classroom instruction was limited "some" by students not ready for instruction. The remaining 8–9 percent of students (9% in mathematics and 8% in science) had teachers reporting instruction was limited "a lot."

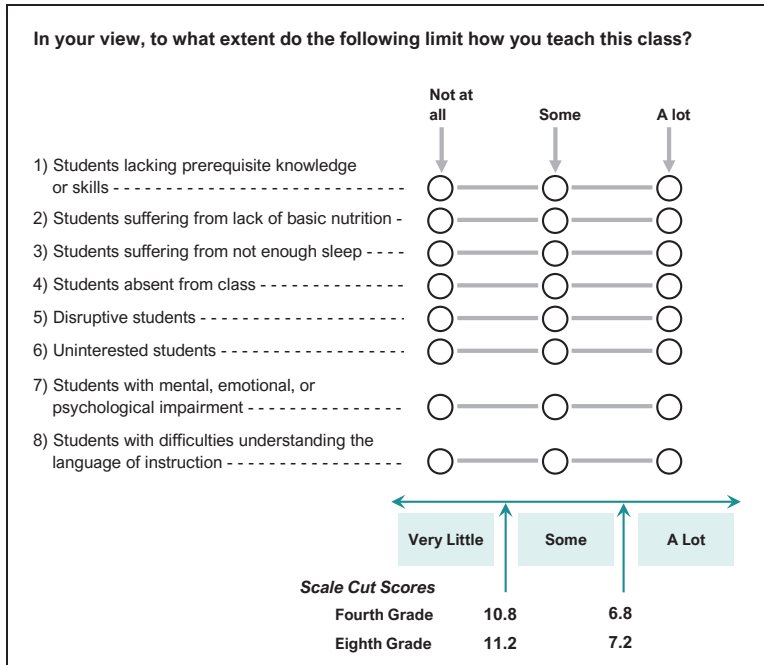
In both subjects and both grades, there was a direct relationship between the degree that instruction was limited by students not ready for instruction and students' average achievement, with successively lower achievement for each category of increased impact on teaching. For example, in eighth grade science (Exhibit 10.13), average achievement was 515 for students where instruction was limited "very little," 484 for students where instruction was limited "some," and 457 for students where instruction was limited "a lot."

Exhibit 10.9: Classroom Teaching Limited by Students Not Ready for Instruction – Teachers’ Reports

Students’ Results based on Teachers’ Reports

About the Scale

Students were scored according to their teachers’ reports regarding eight student attributes on the *Classroom Teaching Limited by Students Not Ready for Instruction* scale. Cut scores divide the scale into three categories. Students with teachers who felt their teaching was limited **Very Little** had a score at or above the cut score corresponding to their teachers reporting they were “not at all” limited by four of the eight student attributes and were limited “some” by the other four, on average. Students with teachers who felt their teaching was limited **A Lot** had a score at or below the cut score corresponding to their teachers reporting they were limited “a lot” by four of the eight student attributes and were limited “some” by the other four, on average. All other students had teachers who felt their teaching was limited **Some**.



SOURCE: IEA’s Trends in International Mathematics and Science Study TIMSS 2019
Downloaded from <http://timss2019.org/download>

Exhibit 10.10: Classroom Teaching Limited by Students Not Ready for Instruction – Teachers’ Reports

Students’ Results based on Teachers’ Reports

Country	Very Little		Some		A Lot		Average Scale Score	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement		
Japan	79 (3.0)	593 (2.1)	20 (2.9)	591 (3.4)	1 (0.6)	~ ~	12.1 (0.14)	
Albania	71 (3.8)	499 (4.0)	24 (3.3)	490 (8.7)	4 (2.2)	441 (14.9)	11.3 (0.17)	
Kosovo	63 (3.8)	448 (3.7)	37 (3.8)	438 (5.0)	0 (0.0)	~ ~	11.1 (0.12)	
Czech Republic	61 (3.6)	543 (2.8)	39 (3.6)	517 (4.5)	0 (0.0)	~ ~	11.0 (0.12)	
North Macedonia	60 (3.9)	482 (5.5)	40 (3.9)	456 (9.7)	0 (0.0)	~ ~	11.1 (0.12)	
Azerbaijan	53 (3.8)	516 (4.0)	45 (3.8)	515 (4.1)	3 (1.1)	500 (17.2)	10.6 (0.11)	
Singapore	52 (2.8)	656 (3.9)	45 (2.9)	591 (5.0)	3 (0.9)	613 (23.1)	10.8 (0.11)	
Serbia	49 (4.1)	508 (3.9)	47 (4.1)	507 (5.6)	4 (1.6)	517 (8.1)	10.6 (0.15)	
Croatia	49 (3.4)	507 (3.1)	50 (3.5)	511 (3.4)	2 (0.8)	~ ~	10.8 (0.14)	
Latvia	49 (3.9)	553 (3.3)	49 (3.9)	541 (4.0)	2 (1.1)	~ ~	10.6 (0.14)	
Slovak Republic	48 (3.5)	521 (3.5)	45 (3.4)	503 (5.8)	7 (1.9)	472 (12.7)	10.4 (0.16)	
Hong Kong SAR	47 (3.8)	614 (5.6)	53 (3.8)	590 (4.1)	0 (0.0)	~ ~	10.7 (0.13)	
Netherlands	47 (4.2)	546 (3.6)	51 (4.3)	529 (2.8)	2 (1.2)	~ ~	10.6 (0.14)	
Austria	46 (3.2)	552 (2.7)	51 (3.3)	530 (3.1)	2 (0.9)	~ ~	10.5 (0.09)	
Montenegro	46 (2.7)	458 (2.5)	51 (2.6)	450 (3.1)	3 (1.0)	410 (9.0)	10.4 (0.10)	
Spain	46 (3.7)	514 (3.6)	50 (3.9)	492 (3.7)	4 (1.3)	479 (9.7)	10.4 (0.12)	
Bosnia and Herzegovina	45 (3.2)	454 (4.2)	49 (3.2)	451 (3.1)	6 (1.7)	443 (10.6)	10.4 (0.14)	
Bulgaria	44 (3.8)	540 (4.2)	52 (3.7)	495 (6.4)	3 (1.2)	497 (37.0)	10.4 (0.14)	
Georgia	42 (3.8)	482 (5.8)	57 (3.9)	482 (4.4)	1 (0.7)	~ ~	10.4 (0.12)	
Russian Federation	41 (3.1)	569 (4.9)	47 (3.7)	562 (4.6)	12 (2.2)	574 (8.4)	10.1 (0.16)	
Germany	40 (3.8)	538 (3.1)	55 (3.8)	514 (3.0)	4 (1.3)	450 (17.2)	10.0 (0.13)	
Finland	40 (2.9)	542 (3.2)	58 (3.1)	527 (3.0)	1 (0.5)	~ ~	10.4 (0.09)	
Ireland	40 (3.7)	557 (4.6)	59 (3.7)	542 (2.9)	1 (0.4)	~ ~	10.3 (0.14)	
Poland	39 (3.6)	533 (4.5)	59 (3.7)	513 (3.1)	2 (0.9)	~ ~	10.4 (0.12)	
United Arab Emirates	39 (1.9)	515 (3.1)	57 (2.0)	464 (2.7)	4 (0.5)	415 (7.9)	10.1 (0.05)	
Sweden	37 (3.8)	530 (5.1)	61 (3.8)	517 (3.6)	2 (1.0)	~ ~	10.3 (0.13)	
Belgium (Flemish)	37 (3.4)	546 (2.3)	59 (3.5)	527 (2.4)	4 (1.1)	521 (11.7)	10.2 (0.11)	
Italy	36 (4.1)	518 (3.9)	57 (4.0)	513 (3.2)	7 (2.0)	514 (7.3)	9.9 (0.16)	
France	35 (3.2)	506 (4.1)	58 (3.2)	476 (3.8)	7 (1.4)	456 (10.3)	9.8 (0.11)	
Portugal	33 (3.3)	540 (3.8)	56 (3.4)	519 (3.7)	11 (2.1)	516 (8.1)	9.6 (0.16)	
Denmark	33 (4.4)	531 (4.7)	63 (4.5)	522 (2.3)	4 (1.6)	506 (10.2)	9.9 (0.14)	
Hungary	33 (3.4)	543 (3.8)	63 (3.6)	516 (4.3)	4 (1.4)	507 (18.7)	10.1 (0.14)	
Armenia	32 (3.8)	505 (4.7)	63 (3.9)	494 (3.1)	5 (1.5)	507 (11.5)	9.7 (0.13)	
Korea, Rep. of	32 (3.8)	608 (4.6)	52 (3.7)	597 (3.1)	16 (2.9)	590 (6.3)	9.5 (0.20)	
Qatar	30 (3.5)	464 (7.5)	66 (3.4)	443 (5.2)	4 (1.5)	465 (23.1)	9.8 (0.15)	
Kazakhstan	30 (3.3)	517 (4.2)	49 (3.8)	512 (4.7)	21 (2.9)	507 (6.9)	9.3 (0.15)	
Bahrain	28 (3.3)	489 (4.3)	64 (3.1)	477 (3.1)	8 (2.1)	478 (9.2)	9.7 (0.13)	
Malta	28 (0.4)	532 (2.1)	63 (0.4)	499 (1.8)	10 (0.2)	507 (3.1)	9.4 (0.02)	
Chinese Taipei	26 (3.7)	602 (3.0)	64 (4.0)	599 (2.6)	10 (2.4)	595 (6.4)	9.5 (0.16)	
Northern Ireland	26 (3.9)	583 (6.6)	72 (4.1)	560 (3.7)	2 (1.3)	~ ~	9.9 (0.12)	
Norway (5)	25 (4.4)	560 (4.8)	70 (4.1)	541 (2.8)	5 (1.7)	518 (12.3)	9.7 (0.22)	
Australia	24 (3.8)	545 (6.9)	69 (4.0)	514 (3.4)	6 (1.7)	458 (11.0)	9.6 (0.13)	
New Zealand	24 (2.4)	515 (5.0)	71 (2.6)	481 (3.3)	5 (1.3)	446 (17.3)	9.6 (0.09)	
Oman	24 (2.9)	450 (7.5)	54 (3.5)	418 (4.6)	22 (2.9)	441 (11.5)	9.0 (0.14)	
Cyprus	23 (3.3)	547 (5.0)	68 (3.4)	533 (3.0)	9 (1.7)	507 (6.7)	9.4 (0.13)	
Iran, Islamic Rep. of	22 (2.9)	465 (9.2)	63 (3.4)	436 (4.9)	14 (2.7)	439 (8.5)	9.1 (0.15)	
Canada	22 (1.9)	537 (4.7)	71 (2.2)	507 (2.4)	6 (1.3)	484 (7.9)	9.4 (0.09)	
England	22 (3.9)	576 (12.2)	71 (4.5)	551 (5.2)	7 (2.9)	552 (5.4)	9.5 (0.17)	
Pakistan	19 (4.1)	353 (23.2)	79 (4.2)	324 (14.5)	2 (1.3)	~ ~	9.7 (0.13)	
Turkey (5)	19 (3.2)	568 (9.0)	67 (3.7)	520 (5.0)	14 (2.6)	478 (17.1)	9.0 (0.14)	
Philippines	18 (3.1)	326 (15.1)	79 (3.1)	290 (6.1)	3 (1.4)	259 (19.2)	9.3 (0.12)	
Kuwait	18 (3.2)	420 (12.2)	79 (3.5)	376 (5.3)	3 (1.3)	345 (28.8)	9.4 (0.12)	
Lithuania	18 (2.8)	565 (6.9)	63 (3.9)	536 (3.9)	19 (3.0)	534 (6.0)	8.9 (0.15)	
Saudi Arabia	18 (2.8)	419 (7.4)	76 (3.5)	393 (4.9)	6 (1.9)	385 (15.8)	9.3 (0.13)	
United States	15 (1.6)	568 (4.5)	77 (1.9)	533 (2.9)	7 (1.3)	491 (7.8)	9.1 (0.09)	
Morocco	13 (2.5)	418 (15.6)	79 (3.2)	378 (5.9)	8 (2.1)	375 (9.6)	8.8 (0.11)	
Chile	12 (2.5)	477 (9.9)	74 (4.0)	437 (3.2)	13 (3.2)	425 (8.8)	8.7 (0.15)	
South Africa (5)	12 (2.0)	409 (15.4)	81 (2.6)	369 (4.1)	7 (1.6)	370 (14.0)	9.0 (0.10)	
International Average	36 (0.4)	517 (0.9)	59 (0.5)	495 (0.6)	6 (0.2)	476 (2.2)		
Benchmarking Participants								
Dubai, UAE	r	57 (2.4)	563 (3.3)	41 (2.4)	525 (4.0)	1 (0.3)	~ ~	10.8 (0.07)
Madrid, Spain		51 (4.2)	524 (2.7)	46 (4.4)	512 (3.3)	4 (1.7)	495 (31.3)	10.6 (0.13)
Moscow City, Russian Fed.		46 (4.2)	599 (3.1)	46 (3.8)	587 (3.2)	8 (2.3)	590 (6.5)	10.3 (0.20)
Ontario, Canada	r	26 (3.7)	541 (8.7)	65 (4.1)	504 (4.3)	9 (2.5)	487 (9.9)	9.4 (0.16)
Abu Dhabi, UAE	r	26 (2.3)	487 (7.7)	66 (2.4)	431 (3.9)	8 (1.2)	394 (10.7)	9.5 (0.09)
Quebec, Canada		20 (2.9)	545 (4.2)	77 (3.2)	530 (2.6)	3 (1.2)	519 (12.8)	9.5 (0.11)

This TIMSS context questionnaire scale was established in 2015 based on the combined response distribution of all countries that participated in TIMSS 2015. 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.

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.

SOURCE: IEA's Trends in International Mathematics and Science Study TIMSS 2019
Downloaded from <http://timss2019.org/download>

Exhibit 10.11: Classroom Teaching Limited by Students Not Ready for Instruction – Teachers' Reports

Students' Results based on Teachers' Reports

Country	Very Little		Some		A Lot		Average Scale Score	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement		
Japan	78 (3.3)	561 (2.2)	22 (3.3)	562 (3.5)	0 (0.0)	~ ~	12.2 (0.16)	
Albania	71 (3.9)	494 (4.3)	25 (3.3)	484 (8.5)	4 (2.2)	444 (20.2)	11.3 (0.17)	
Kosovo	63 (3.8)	417 (4.6)	37 (3.8)	406 (5.8)	0 (0.0)	~ ~	11.1 (0.12)	
Czech Republic	61 (3.5)	542 (2.8)	39 (3.5)	520 (4.2)	0 (0.0)	~ ~	11.0 (0.10)	
North Macedonia	60 (3.9)	438 (6.1)	40 (3.9)	408 (11.4)	0 (0.0)	~ ~	11.1 (0.12)	
Slovak Republic	54 (3.5)	537 (3.2)	38 (3.4)	509 (7.0)	8 (2.0)	468 (15.3)	10.6 (0.17)	
Azerbaijan	52 (4.3)	427 (5.1)	46 (4.3)	425 (5.4)	2 (0.9)	~ ~	10.5 (0.12)	
Singapore	52 (3.2)	620 (3.7)	46 (3.1)	568 (4.6)	2 (0.7)	~ ~	10.8 (0.11)	
Latvia	51 (3.9)	544 (3.2)	47 (4.0)	538 (3.8)	2 (1.0)	~ ~	10.8 (0.14)	
Serbia	49 (4.1)	518 (4.1)	47 (4.1)	515 (6.0)	4 (1.6)	523 (10.1)	10.6 (0.15)	
Croatia	49 (3.4)	522 (2.9)	50 (3.5)	525 (3.0)	2 (0.8)	~ ~	10.8 (0.14)	
Netherlands	47 (4.2)	530 (4.6)	51 (4.3)	509 (3.5)	2 (1.2)	~ ~	10.6 (0.14)	
Austria	47 (3.4)	537 (3.5)	51 (3.4)	511 (4.0)	2 (0.9)	~ ~	10.5 (0.11)	
Montenegro	46 (2.7)	458 (2.8)	51 (2.6)	451 (3.8)	3 (1.0)	406 (10.4)	10.4 (0.10)	
Poland	46 (3.4)	539 (4.3)	52 (3.3)	526 (2.9)	2 (0.9)	~ ~	10.6 (0.12)	
Spain	46 (4.1)	520 (3.7)	51 (4.2)	503 (4.0)	3 (1.1)	486 (9.6)	10.4 (0.12)	
Hong Kong SAR	45 (3.7)	550 (4.7)	54 (3.8)	518 (4.7)	1 (0.7)	~ ~	10.7 (0.16)	
Georgia	45 (4.1)	457 (6.4)	55 (4.2)	452 (4.7)	0 (0.5)	~ ~	10.5 (0.12)	
Bosnia and Herzegovina	45 (3.2)	460 (4.6)	49 (3.2)	458 (3.7)	6 (1.7)	452 (9.8)	10.4 (0.14)	
Bulgaria	45 (3.7)	553 (5.5)	53 (3.6)	495 (7.6)	2 (1.0)	~ ~	10.4 (0.14)	
Germany	43 (3.9)	534 (3.3)	54 (4.0)	510 (3.4)	3 (1.0)	445 (20.1)	10.2 (0.14)	
Ireland	40 (3.7)	534 (6.7)	59 (3.7)	523 (3.2)	1 (0.4)	~ ~	10.3 (0.14)	
Russian Federation	40 (3.1)	570 (4.2)	49 (3.5)	564 (4.2)	11 (2.2)	571 (7.2)	10.1 (0.16)	
United Arab Emirates	40 (1.8)	510 (3.4)	55 (2.0)	452 (3.9)	5 (0.8)	427 (16.8)	10.2 (0.07)	
Finland	40 (2.9)	565 (3.3)	59 (3.1)	549 (3.1)	1 (0.5)	~ ~	10.3 (0.09)	
Chinese Taipei	39 (3.7)	561 (2.8)	54 (3.8)	557 (2.4)	7 (2.1)	548 (8.2)	10.0 (0.14)	
Denmark	38 (4.2)	528 (3.9)	60 (4.3)	519 (3.2)	2 (0.9)	~ ~	10.2 (0.12)	
Sweden	37 (4.0)	549 (4.1)	61 (4.1)	533 (4.3)	1 (1.0)	~ ~	10.2 (0.13)	
France	36 (3.4)	507 (4.3)	57 (3.3)	480 (3.9)	7 (1.5)	456 (8.7)	9.8 (0.12)	
Belgium (Flemish)	36 (3.3)	516 (2.5)	61 (3.4)	495 (2.5)	3 (1.1)	480 (11.2)	10.2 (0.11)	
Italy	36 (4.1)	513 (4.7)	57 (4.0)	508 (3.4)	7 (2.0)	508 (7.6)	9.9 (0.16)	
Armenia	35 (4.2)	470 (5.9)	60 (4.1)	464 (4.0)	5 (1.7)	479 (11.1)	10.0 (0.15)	
Hungary	35 (3.4)	544 (4.3)	61 (3.4)	523 (4.1)	4 (1.5)	507 (11.1)	10.1 (0.14)	
Portugal	33 (3.3)	515 (3.0)	56 (3.4)	499 (3.4)	11 (2.1)	498 (6.1)	9.6 (0.16)	
Qatar	31 (3.2)	467 (7.9)	65 (3.2)	441 (5.8)	4 (1.6)	462 (21.5)	9.9 (0.14)	
Kazakhstan	30 (3.2)	498 (5.6)	49 (4.0)	495 (6.0)	21 (2.9)	488 (9.1)	9.3 (0.15)	
Korea, Rep. of	30 (3.7)	599 (3.7)	57 (3.5)	584 (2.8)	13 (2.7)	577 (6.3)	9.4 (0.18)	
Bahrain	30 (2.6)	512 (5.9)	67 (2.8)	486 (4.5)	3 (1.0)	451 (15.3)	9.8 (0.10)	
Norway (5)	28 (4.6)	552 (4.8)	66 (4.5)	535 (3.4)	5 (1.8)	524 (14.6)	9.8 (0.21)	
Malta	27 (0.4)	523 (2.4)	63 (0.4)	484 (1.8)	10 (0.3)	497 (4.2)	9.4 (0.02)	
Kuwait	26 (4.2)	419 (13.9)	70 (4.5)	382 (7.4)	4 (1.5)	396 (19.4)	9.7 (0.15)	
New Zealand	26 (2.6)	528 (4.2)	69 (2.7)	496 (3.1)	5 (1.4)	468 (15.0)	9.7 (0.09)	
Northern Ireland	26 (3.9)	530 (4.7)	72 (4.1)	515 (3.0)	2 (1.3)	~ ~	9.9 (0.12)	
Australia	26 (3.8)	559 (5.0)	69 (4.0)	528 (3.1)	6 (1.6)	481 (10.4)	9.7 (0.13)	
Canada	24 (2.1)	543 (3.4)	70 (2.5)	521 (2.2)	6 (1.2)	499 (7.0)	9.5 (0.09)	
Pakistan	23 (6.4)	301 (35.9)	73 (6.5)	286 (15.7)	3 (1.9)	327 (48.1)	9.8 (0.16)	
Oman	23 (3.0)	456 (9.0)	55 (3.2)	425 (5.9)	23 (2.9)	441 (10.0)	9.0 (0.16)	
Iran, Islamic Rep. of	22 (2.9)	461 (9.2)	63 (3.4)	434 (5.1)	14 (2.7)	440 (7.7)	9.1 (0.15)	
England	22 (3.9)	557 (9.9)	71 (4.5)	531 (4.7)	7 (2.9)	534 (5.7)	9.5 (0.17)	
Turkey (5)	22 (2.9)	559 (7.9)	71 (3.3)	519 (5.4)	8 (1.9)	503 (12.6)	9.4 (0.14)	
Saudi Arabia	20 (3.0)	409 (9.7)	78 (3.2)	397 (5.0)	2 (1.2)	~ ~	9.5 (0.09)	
Cyprus	19 (3.7)	530 (5.5)	74 (4.0)	508 (3.2)	7 (2.5)	508 (14.5)	9.3 (0.17)	
Chile	18 (3.3)	498 (6.9)	69 (3.9)	463 (3.1)	13 (3.1)	450 (8.0)	8.9 (0.16)	
Lithuania	18 (2.8)	561 (6.6)	63 (4.0)	533 (3.5)	19 (3.0)	527 (5.7)	8.9 (0.15)	
Philippines	17 (2.7)	303 (16.9)	76 (3.0)	239 (8.0)	7 (2.2)	213 (27.4)	9.3 (0.13)	
Morocco	15 (2.6)	399 (15.0)	77 (3.3)	370 (6.9)	8 (2.2)	378 (26.3)	9.1 (0.11)	
United States	15 (1.9)	572 (4.9)	78 (2.0)	537 (3.1)	7 (1.2)	490 (8.4)	9.1 (0.10)	
South Africa (5)	12 (2.3)	360 (24.2)	78 (2.9)	319 (6.2)	9 (1.9)	322 (17.5)	8.9 (0.11)	
International Average	37 (0.5)	506 (1.1)	58 (0.5)	484 (0.7)	6 (0.2)	465 (2.5)		
Benchmarking Participants								
Dubai, UAE	r	60 (2.7)	565 (3.3)	38 (2.7)	526 (4.1)	2 (0.3)	~ ~	11.1 (0.09)
Madrid, Spain		48 (4.4)	531 (2.3)	49 (4.3)	517 (2.8)	3 (1.6)	473 (18.9)	10.7 (0.16)
Moscow City, Russian Fed.		46 (4.2)	602 (3.2)	46 (3.8)	589 (3.2)	8 (2.3)	592 (6.5)	10.3 (0.20)
Abu Dhabi, UAE	r	29 (2.5)	464 (6.9)	63 (2.6)	405 (5.5)	8 (1.7)	377 (22.2)	9.6 (0.12)
Ontario, Canada	r	27 (4.3)	545 (6.1)	65 (4.7)	523 (4.3)	8 (2.4)	498 (9.8)	9.6 (0.19)
Quebec, Canada		23 (3.5)	534 (4.1)	74 (3.9)	520 (2.8)	4 (1.6)	511 (10.9)	9.5 (0.12)

This TIMSS context questionnaire scale was established in 2015 based on the combined response distribution of all countries that participated in TIMSS 2015. 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.

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.

Exhibit 10.12: Classroom Teaching Limited by Students Not Ready for Instruction – Teachers’ Reports

Students’ Results based on Teachers’ Reports

Country	Very Little		Some		A Lot		Average Scale Score
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	
Japan	71 (3.5)	596 (3.6)	29 (3.5)	590 (5.0)	1 (0.4)	~ ~	12.3 (0.17)
Hungary	41 (3.2)	546 (5.8)	58 (3.3)	495 (4.9)	2 (0.9)	~ ~	10.6 (0.12)
Singapore	40 (2.8)	655 (4.9)	55 (2.8)	592 (5.7)	5 (1.2)	554 (20.3)	10.6 (0.10)
Kazakhstan	39 (3.8)	493 (6.3)	53 (4.1)	481 (5.4)	8 (2.2)	498 (17.4)	10.3 (0.15)
Italy	38 (3.7)	503 (4.6)	58 (3.8)	494 (3.6)	5 (1.3)	500 (10.3)	10.4 (0.15)
United Arab Emirates	r 38 (1.8)	520 (3.8)	56 (2.1)	453 (3.3)	6 (0.9)	401 (9.8)	10.4 (0.07)
Ireland	35 (2.6)	548 (4.7)	59 (2.7)	517 (3.5)	6 (1.1)	457 (11.1)	10.4 (0.09)
England	s 35 (5.0)	564 (11.8)	61 (5.0)	503 (9.8)	4 (2.3)	453 (37.6)	10.4 (0.19)
Hong Kong SAR	32 (3.7)	625 (7.3)	66 (3.9)	558 (6.2)	2 (1.1)	~ ~	10.5 (0.13)
Romania	31 (3.5)	520 (8.9)	66 (3.7)	461 (5.1)	3 (1.2)	481 (20.8)	10.3 (0.13)
Finland	30 (2.4)	529 (3.6)	66 (2.5)	503 (3.2)	4 (1.1)	465 (14.8)	10.3 (0.10)
New Zealand	29 (2.8)	532 (5.4)	63 (3.3)	470 (4.0)	8 (1.9)	438 (8.5)	10.0 (0.10)
Russian Federation	28 (2.9)	563 (6.9)	59 (3.0)	539 (5.4)	13 (2.8)	525 (16.1)	9.8 (0.17)
Australia	27 (2.8)	580 (8.5)	64 (2.9)	502 (3.2)	9 (2.1)	449 (9.0)	9.8 (0.12)
Chinese Taipei	26 (3.0)	636 (5.8)	63 (3.5)	604 (3.4)	10 (2.2)	605 (12.9)	9.6 (0.14)
Sweden	25 (3.0)	521 (6.0)	72 (3.3)	500 (3.0)	3 (1.3)	442 (9.6)	10.3 (0.12)
France	r 23 (3.7)	504 (6.5)	71 (3.6)	477 (3.1)	5 (1.5)	453 (9.9)	9.8 (0.14)
Turkey	21 (3.1)	554 (8.9)	63 (3.7)	483 (4.4)	15 (2.7)	470 (15.8)	9.3 (0.16)
United States	21 (2.0)	582 (7.9)	72 (2.2)	503 (4.9)	8 (1.4)	458 (9.9)	9.7 (0.09)
Norway (9)	s 21 (3.1)	522 (5.7)	73 (3.2)	503 (3.0)	6 (2.2)	476 (16.1)	9.9 (0.15)
Lithuania	20 (2.7)	548 (8.5)	59 (3.6)	519 (3.5)	20 (3.0)	501 (6.2)	9.3 (0.14)
Saudi Arabia	20 (3.2)	407 (6.9)	72 (3.6)	390 (3.1)	8 (2.0)	393 (7.9)	9.5 (0.13)
Cyprus	s 20 (3.8)	530 (8.7)	66 (4.3)	499 (3.8)	15 (2.5)	498 (5.6)	9.5 (0.15)
Qatar	20 (2.3)	480 (10.7)	75 (2.4)	434 (5.5)	6 (1.5)	445 (14.5)	9.8 (0.12)
Israel	18 (2.5)	582 (9.9)	57 (3.4)	517 (6.6)	25 (2.7)	481 (9.2)	9.0 (0.14)
Malaysia	18 (1.9)	524 (7.6)	68 (2.8)	453 (3.9)	14 (2.5)	420 (10.7)	9.3 (0.12)
Bahrain	17 (2.7)	485 (5.1)	79 (3.1)	480 (2.2)	4 (1.5)	488 (21.7)	9.9 (0.10)
Lebanon	17 (3.1)	442 (8.9)	78 (3.5)	426 (3.7)	6 (1.9)	421 (17.6)	9.5 (0.12)
Georgia	16 (2.8)	460 (8.8)	78 (3.5)	461 (5.2)	6 (2.2)	464 (15.1)	9.8 (0.12)
Kuwait	15 (2.5)	440 (10.0)	80 (3.0)	395 (5.0)	5 (1.8)	375 (20.6)	9.7 (0.11)
Portugal	14 (2.7)	526 (7.9)	78 (3.4)	497 (4.0)	8 (2.1)	485 (8.1)	9.5 (0.12)
Jordan	14 (3.0)	454 (9.7)	78 (3.8)	418 (4.3)	8 (2.2)	391 (13.9)	9.3 (0.11)
Oman	12 (2.1)	443 (9.8)	72 (3.2)	409 (3.7)	16 (2.8)	394 (7.9)	9.1 (0.12)
Korea, Rep. of	11 (2.0)	615 (6.9)	71 (3.2)	604 (3.3)	17 (2.9)	613 (9.1)	9.1 (0.14)
Iran, Islamic Rep. of	11 (2.3)	486 (22.3)	73 (3.1)	442 (3.7)	16 (2.7)	436 (9.9)	8.9 (0.13)
Chile	11 (2.2)	467 (14.1)	73 (3.7)	445 (3.5)	16 (3.1)	405 (8.9)	9.2 (0.13)
Egypt	9 (2.3)	418 (13.9)	82 (3.4)	416 (5.8)	9 (2.3)	383 (19.3)	9.4 (0.11)
Morocco	8 (1.9)	433 (14.3)	80 (2.6)	385 (2.3)	11 (2.1)	375 (7.6)	9.2 (0.11)
South Africa (9)	8 (1.6)	433 (16.4)	78 (2.3)	387 (2.5)	14 (2.0)	379 (6.6)	8.9 (0.09)
International Average	24 (0.5)	520 (1.5)	67 (0.5)	482 (0.7)	9 (0.3)	458 (2.4)	
Benchmarking Participants							
Dubai, UAE	48 (3.3)	570 (4.4)	50 (3.3)	507 (5.0)	3 (0.7)	520 (6.7)	11.0 (0.12)
Quebec, Canada	34 (3.8)	571 (6.2)	60 (3.9)	530 (4.9)	6 (1.8)	512 (17.2)	10.5 (0.15)
Moscow City, Russian Fed.	33 (3.8)	597 (7.2)	50 (3.9)	562 (5.6)	17 (3.2)	573 (9.0)	9.9 (0.21)
Abu Dhabi, UAE	r 26 (3.1)	493 (7.5)	64 (3.7)	422 (5.4)	10 (1.9)	371 (14.3)	9.8 (0.11)
Ontario, Canada	19 (4.3)	575 (12.0)	74 (4.8)	524 (3.5)	6 (2.2)	496 (12.2)	9.7 (0.16)
Western Cape, RSA (9)	9 (2.4)	538 (20.0)	77 (3.2)	440 (4.3)	14 (2.8)	385 (5.6)	8.9 (0.16)
Gauteng, RSA (9)	8 (1.9)	497 (10.5)	74 (3.5)	415 (3.7)	18 (3.4)	407 (10.0)	8.9 (0.13)

This TIMSS context questionnaire scale was established in 2015 based on the combined response distribution of all countries that participated in TIMSS 2015. 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.

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.

SOURCE: IEA’s Trends in International Mathematics and Science Study TIMSS 2019

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Exhibit 10.13: Classroom Teaching Limited by Students Not Ready for Instruction – Teachers' Reports

Students' Results based on Teachers' Reports

Country	Very Little		Some		A Lot		Average Scale Score	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement		
Japan	74 (3.3)	573 (2.6)	26 (3.3)	560 (3.6)	0 (0.0)	~ ~	12.4 (0.14)	
Singapore	48 (2.7)	631 (4.9)	50 (2.8)	587 (6.4)	2 (0.8)	~ ~	11.0 (0.10)	
Kazakhstan	39 (2.4)	479 (4.2)	54 (2.6)	474 (4.2)	7 (1.3)	501 (10.4)	10.4 (0.11)	
England	38 (4.6)	550 (10.9)	58 (4.8)	512 (7.6)	4 (2.5)	434 (51.6)	10.3 (0.19)	
Hungary	37 (2.2)	552 (3.7)	59 (2.3)	519 (3.4)	4 (0.9)	458 (13.4)	10.5 (0.08)	
Romania	37 (2.9)	491 (6.1)	59 (3.2)	459 (4.4)	4 (1.1)	460 (17.9)	10.4 (0.11)	
Russian Federation	37 (2.0)	554 (4.6)	52 (1.8)	538 (4.0)	11 (1.3)	529 (10.8)	10.2 (0.12)	
United Arab Emirates	37 (1.8)	532 (4.4)	58 (1.9)	446 (4.1)	5 (0.5)	384 (13.3)	10.4 (0.06)	
Sweden	35 (3.3)	539 (5.1)	65 (3.3)	512 (4.3)	1 (0.4)	~ ~	10.5 (0.12)	
Finland	34 (2.0)	565 (3.6)	64 (1.9)	533 (3.6)	3 (0.6)	495 (10.9)	10.5 (0.08)	
Hong Kong SAR	32 (4.3)	535 (11.9)	67 (4.2)	487 (6.7)	1 (0.8)	~ ~	10.4 (0.13)	
Italy	32 (3.6)	508 (4.2)	61 (3.8)	495 (3.4)	7 (1.7)	510 (10.6)	10.4 (0.16)	
France	30 (2.8)	510 (3.7)	66 (3.0)	479 (2.7)	5 (1.3)	472 (13.8)	10.0 (0.11)	
Portugal	29 (3.1)	543 (4.4)	62 (3.1)	510 (3.2)	9 (1.8)	512 (6.3)	9.9 (0.13)	
Ireland	27 (3.2)	546 (5.0)	64 (3.5)	527 (2.9)	9 (2.4)	479 (13.0)	10.1 (0.12)	
Chinese Taipei	27 (3.3)	586 (4.2)	61 (3.7)	569 (2.8)	13 (2.4)	574 (7.4)	9.8 (0.16)	
Cyprus	26 (2.5)	504 (5.6)	63 (2.5)	481 (3.4)	11 (0.9)	477 (5.1)	9.8 (0.08)	
Qatar	25 (3.8)	500 (8.8)	70 (4.1)	468 (5.7)	4 (1.9)	450 (15.0)	10.1 (0.15)	
New Zealand	25 (2.8)	542 (5.8)	70 (2.9)	493 (4.6)	5 (1.3)	422 (10.4)	9.9 (0.11)	
Malaysia	24 (2.8)	512 (8.3)	67 (3.5)	449 (4.6)	9 (2.1)	404 (16.8)	9.9 (0.13)	
Australia	23 (2.8)	579 (7.2)	72 (3.0)	521 (3.6)	5 (1.3)	481 (17.3)	10.0 (0.10)	
Norway (9)	23 (3.5)	520 (6.7)	75 (3.8)	492 (3.9)	2 (1.5)	~ ~	10.2 (0.13)	
Lithuania	23 (2.0)	552 (5.0)	62 (2.6)	528 (3.0)	15 (1.7)	525 (5.8)	9.5 (0.10)	
Georgia	22 (2.2)	462 (6.2)	76 (2.1)	444 (3.8)	2 (0.6)	~ ~	10.1 (0.07)	
Bahrain	22 (3.5)	526 (5.6)	71 (4.0)	478 (3.5)	8 (2.0)	471 (13.2)	10.0 (0.11)	
Israel	20 (3.0)	572 (8.8)	59 (3.9)	508 (6.4)	21 (3.2)	476 (11.2)	9.2 (0.16)	
Turkey	20 (2.7)	554 (9.1)	68 (3.3)	510 (5.2)	13 (2.5)	485 (15.0)	9.5 (0.15)	
Saudi Arabia	19 (2.8)	459 (6.0)	71 (3.6)	426 (3.5)	9 (2.5)	415 (9.1)	9.6 (0.14)	
Korea, Rep. of	19 (2.9)	569 (4.2)	70 (3.3)	561 (2.6)	11 (2.1)	546 (5.3)	9.5 (0.13)	
Chile	18 (2.7)	488 (8.2)	65 (3.5)	464 (4.1)	16 (3.1)	437 (6.6)	9.5 (0.17)	
Kuwait	18 (3.5)	454 (10.7)	80 (3.6)	442 (6.3)	2 (1.1)	~ ~	9.9 (0.12)	
Oman	17 (2.6)	468 (7.4)	64 (3.6)	459 (4.1)	18 (3.0)	442 (8.7)	9.3 (0.13)	
Lebanon	17 (2.0)	393 (12.7)	76 (2.1)	376 (5.4)	7 (1.4)	350 (16.1)	9.6 (0.11)	
Jordan	14 (2.9)	490 (11.4)	75 (3.3)	453 (5.3)	11 (2.0)	401 (18.6)	9.4 (0.13)	
Egypt	12 (2.9)	402 (16.6)	82 (3.5)	386 (5.7)	7 (1.9)	408 (20.2)	9.4 (0.11)	
Morocco	11 (1.4)	431 (8.5)	78 (1.9)	392 (3.1)	11 (1.4)	374 (6.2)	9.2 (0.07)	
Iran, Islamic Rep. of	11 (2.4)	459 (13.2)	76 (3.2)	449 (4.4)	13 (2.4)	443 (12.3)	9.1 (0.10)	
United States	11 (1.8)	545 (13.6)	78 (2.8)	533 (4.0)	11 (2.1)	462 (18.6)	9.3 (0.10)	
South Africa (9)	8 (1.3)	413 (12.0)	77 (2.6)	367 (3.6)	15 (2.3)	360 (5.9)	9.0 (0.08)	
International Average	26 (0.5)	515 (1.3)	66 (0.5)	484 (0.7)	8 (0.3)	457 (2.7)		
Benchmarking Participants								
Dubai, UAE	r	51 (3.0)	583 (4.7)	47 (3.1)	522 (5.4)	3 (0.6)	488 (13.9)	11.0 (0.08)
Moscow City, Russian Fed.		42 (2.5)	579 (3.3)	49 (2.3)	559 (3.7)	9 (1.4)	553 (4.7)	10.5 (0.13)
Abu Dhabi, UAE	r	26 (2.6)	502 (9.5)	67 (3.0)	391 (5.6)	7 (1.3)	349 (18.5)	9.9 (0.10)
Ontario, Canada	s	23 (5.2)	556 (10.4)	72 (5.5)	512 (4.5)	6 (2.5)	503 (7.0)	9.9 (0.23)
Western Cape, RSA (9)		13 (3.2)	506 (31.8)	62 (4.3)	447 (6.7)	25 (3.3)	389 (7.0)	8.8 (0.17)
Gauteng, RSA (9)		10 (2.3)	452 (19.9)	75 (3.5)	424 (5.0)	15 (2.9)	389 (10.7)	9.2 (0.11)
Quebec, Canada	y	- -	- -	- -	- -	- -	- -	- -

This TIMSS context questionnaire scale was established in 2015 based on the combined response distribution of all countries that participated in TIMSS 2015. 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. An "s" indicates data are available for at least 50% but less than 70% of the students.

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

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