

### Exhibit 14.5: Teachers Do Computer Activities to Support Learning in Mathematics Lessons

Students' Results based on Teachers' Reports

Country	Every or Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Almost Never	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Albania	1 (0.6)	~ ~	1 (0.7)	~ ~	7 (2.5)	532 (21.0)	91 (2.6)	491 (3.5)
Armenia	1 (0.9)	~ ~	5 (2.0)	494 (14.1)	5 (1.7)	519 (7.9)	89 (2.6)	497 (2.7)
Australia	14 (2.2)	528 (8.0)	37 (3.3)	518 (5.3)	11 (2.4)	531 (13.5)	38 (3.8)	511 (5.5)
Austria	1 (0.8)	~ ~	10 (2.0)	549 (6.2)	10 (1.8)	552 (5.1)	78 (2.6)	536 (2.4)
Azerbaijan	2 (0.8)	~ ~	10 (2.5)	515 (8.1)	3 (1.3)	485 (18.9)	85 (2.8)	517 (3.0)
Bahrain	7 (1.7)	498 (8.2)	8 (1.7)	495 (8.4)	13 (2.1)	486 (6.3)	71 (2.7)	475 (3.0)
Belgium (Flemish)	3 (1.3)	536 (23.2)	10 (2.1)	535 (5.2)	17 (3.0)	527 (4.3)	71 (3.8)	535 (2.2)
Bosnia and Herzegovina	1 (0.5)	~ ~	2 (0.8)	~ ~	9 (2.0)	484 (6.7)	88 (2.1)	448 (2.5)
Bulgaria	3 (1.5)	528 (14.1)	5 (1.6)	520 (18.5)	8 (2.6)	514 (15.3)	83 (2.7)	514 (5.1)
Canada	6 (1.0)	503 (6.2)	24 (2.0)	503 (3.9)	19 (2.5)	511 (6.1)	52 (3.0)	519 (4.0)
Chile	0 (0.0)	~ ~	7 (2.3)	446 (14.0)	18 (3.1)	429 (7.3)	76 (3.6)	443 (3.3)
Chinese Taipei	5 (1.5)	611 (8.5)	10 (2.4)	604 (5.8)	7 (2.0)	588 (8.3)	78 (3.3)	599 (2.1)
Croatia	0 (0.0)	~ ~	1 (0.7)	~ ~	5 (1.8)	501 (14.3)	94 (2.0)	509 (2.3)
Cyprus	12 (1.8)	540 (5.7)	10 (2.1)	536 (7.4)	7 (1.5)	539 (9.0)	71 (2.5)	532 (3.2)
Czech Republic	2 (1.3)	~ ~	9 (2.0)	543 (9.1)	16 (2.4)	540 (7.0)	73 (3.3)	531 (2.9)
Denmark	26 (3.6)	522 (4.5)	39 (4.0)	522 (3.7)	21 (3.3)	528 (6.0)	14 (3.2)	532 (6.5)
Finland	3 (0.8)	529 (10.2)	19 (2.5)	523 (5.4)	36 (3.4)	536 (3.6)	43 (3.8)	534 (3.7)
France	1 (0.4)	~ ~	5 (2.1)	488 (8.2)	3 (1.2)	437 (15.4)	91 (2.4)	487 (3.2)
Georgia	7 (1.6)	491 (33.1)	44 (4.3)	475 (6.5)	46 (4.3)	485 (4.7)	3 (1.2)	466 (23.2)
Germany	1 (0.7)	~ ~	7 (2.1)	508 (7.2)	17 (2.6)	518 (6.6)	75 (3.3)	524 (2.9)
Hong Kong SAR	12 (3.2)	587 (10.5)	15 (3.3)	597 (10.6)	42 (4.2)	609 (4.6)	30 (4.8)	600 (8.5)
Hungary	7 (1.7)	524 (8.8)	10 (2.1)	517 (9.1)	10 (2.6)	520 (8.8)	72 (3.4)	526 (3.9)
Iran, Islamic Rep. of	6 (1.8)	486 (18.1)	9 (2.2)	440 (16.6)	7 (1.8)	460 (11.0)	78 (2.9)	438 (4.5)
Ireland	3 (1.2)	519 (18.3)	15 (3.1)	543 (7.4)	15 (2.9)	559 (6.9)	66 (3.5)	548 (2.6)
Italy	7 (1.8)	504 (6.5)	8 (2.0)	519 (9.1)	8 (2.0)	519 (9.4)	78 (3.2)	515 (2.7)
Japan	10 (2.4)	582 (5.9)	9 (2.0)	593 (4.3)	10 (2.1)	589 (4.4)	71 (3.4)	595 (2.1)
Kazakhstan	9 (2.1)	508 (7.3)	23 (3.3)	508 (5.1)	13 (2.6)	504 (5.5)	55 (4.0)	516 (4.2)
Korea, Rep. of	0 (0.0)	~ ~	0 (0.4)	~ ~	10 (2.5)	590 (7.0)	90 (2.6)	600 (2.4)
Kosovo	0 (0.0)	~ ~	5 (2.2)	438 (15.5)	7 (3.3)	455 (8.1)	88 (3.8)	443 (4.6)
Kuwait	6 (1.6)	401 (24.2)	9 (2.5)	377 (20.5)	7 (1.9)	402 (20.5)	78 (3.5)	381 (5.5)
Latvia	1 (0.8)	~ ~	4 (1.6)	535 (14.1)	16 (2.8)	543 (5.4)	78 (3.3)	548 (3.1)
Lithuania	3 (1.2)	543 (14.4)	20 (3.2)	546 (9.6)	26 (3.6)	536 (5.8)	52 (3.8)	542 (3.6)
Malta	20 (0.3)	500 (2.1)	43 (0.4)	509 (1.8)	21 (0.4)	515 (3.0)	16 (0.3)	515 (3.3)
Montenegro	1 (0.0)	~ ~	2 (0.1)	~ ~	7 (1.1)	466 (6.4)	90 (1.1)	453 (2.2)
Morocco	1 (0.8)	~ ~	1 (0.6)	~ ~	3 (1.5)	408 (40.1)	95 (1.8)	379 (4.8)
Netherlands	43 (5.0)	536 (3.9)	19 (4.2)	533 (4.7)	2 (1.0)	~ ~	37 (4.4)	539 (4.4)
New Zealand	32 (3.5)	481 (5.5)	40 (3.2)	492 (5.2)	10 (1.9)	489 (7.9)	18 (2.3)	486 (5.9)
North Macedonia	1 (0.6)	~ ~	24 (3.9)	468 (10.9)	21 (3.8)	476 (11.2)	53 (4.5)	471 (7.2)
Northern Ireland	12 (2.9)	566 (11.9)	19 (3.0)	565 (6.7)	31 (3.8)	563 (6.0)	38 (3.9)	567 (5.2)
Norway (5)	9 (2.8)	548 (8.9)	40 (4.5)	545 (3.0)	23 (4.1)	550 (6.2)	29 (4.2)	538 (5.2)
Oman	2 (0.7)	~ ~	9 (2.0)	441 (12.3)	5 (1.5)	459 (20.1)	85 (2.4)	430 (4.5)
Pakistan	1 (0.9)	~ ~	2 (1.5)	~ ~	1 (0.5)	~ ~	96 (1.0)	329 (12.7)
Philippines	3 (1.4)	321 (32.5)	9 (1.9)	284 (20.8)	11 (2.6)	341 (16.3)	77 (3.3)	290 (6.9)
Poland	1 (0.8)	~ ~	5 (1.5)	513 (12.0)	17 (2.7)	511 (5.9)	76 (3.2)	523 (3.0)
Portugal	1 (0.5)	~ ~	5 (1.0)	527 (10.9)	4 (1.3)	523 (12.3)	90 (1.6)	526 (2.8)
Qatar	7 (2.1)	457 (16.6)	12 (2.3)	455 (8.6)	14 (2.4)	431 (13.9)	66 (3.5)	451 (4.7)
Russian Federation	3 (1.5)	545 (16.3)	12 (2.2)	574 (10.3)	24 (3.1)	567 (4.9)	61 (3.5)	567 (3.9)
Saudi Arabia	14 (3.0)	409 (8.9)	11 (2.0)	420 (11.3)	5 (1.6)	398 (23.3)	70 (3.3)	393 (4.7)
Serbia	4 (1.6)	522 (12.2)	4 (1.6)	517 (20.3)	4 (1.5)	496 (9.8)	88 (2.4)	507 (3.4)
Singapore	0 (0.3)	~ ~	11 (1.7)	626 (10.8)	30 (2.4)	629 (7.2)	59 (2.6)	623 (4.4)
Slovak Republic	3 (1.3)	534 (20.6)	5 (1.3)	518 (12.9)	5 (1.4)	524 (11.6)	87 (1.9)	507 (3.6)
South Africa (5)	0 (0.0)	~ ~	4 (1.0)	449 (26.5)	2 (0.6)	~ ~	95 (1.1)	370 (3.6)
Spain	3 (0.7)	504 (12.6)	13 (2.6)	502 (6.3)	13 (2.2)	500 (7.3)	71 (2.9)	502 (3.2)
Sweden	6 (1.9)	515 (10.5)	45 (4.5)	521 (3.8)	27 (3.9)	522 (6.6)	22 (3.0)	522 (8.5)
Turkey (5)	5 (2.0)	531 (17.9)	6 (1.9)	516 (15.9)	2 (1.1)	~ ~	86 (2.8)	521 (4.9)
United Arab Emirates	15 (1.1)	509 (5.2)	24 (1.7)	508 (4.1)	6 (0.7)	531 (8.1)	55 (1.8)	458 (3.0)
United States	36 (2.5)	537 (4.4)	27 (2.4)	531 (4.7)	9 (1.3)	537 (7.6)	28 (2.6)	536 (5.3)
England	5 (1.5)	587 (10.0)	10 (3.4)	578 (17.0)	13 (4.0)	557 (6.0)	72 (4.3)	553 (6.2)
<b>International Average</b>	<b>7 (0.2)</b>	<b>515 (2.4)</b>	<b>14 (0.3)</b>	<b>509 (1.6)</b>	<b>13 (0.3)</b>	<b>510 (1.6)</b>	<b>67 (0.4)</b>	<b>500 (0.7)</b>
<b>Benchmarking Participants</b>								
Ontario, Canada	6 (1.8)	509 (8.6)	23 (3.5)	505 (6.7)	25 (5.1)	514 (9.5)	47 (5.7)	516 (9.6)
Quebec, Canada	3 (1.3)	526 (13.0)	15 (3.2)	531 (4.3)	14 (3.4)	525 (6.6)	68 (4.1)	535 (2.8)
Moscow City, Russian Fed.	1 (1.3)	~ ~	21 (3.1)	605 (5.1)	26 (4.1)	597 (4.1)	52 (4.5)	585 (2.8)
Madrid, Spain	7 (2.0)	518 (6.2)	9 (2.4)	511 (6.6)	17 (3.3)	518 (8.4)	68 (4.2)	520 (2.5)
Abu Dhabi, UAE	13 (2.0)	490 (11.5)	14 (1.9)	468 (9.6)	5 (1.3)	468 (20.0)	68 (2.4)	426 (3.9)
Dubai, UAE	23 (2.2)	542 (6.5)	38 (2.4)	561 (3.1)	15 (2.3)	561 (6.8)	24 (1.5)	516 (5.1)

( ) 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.

An "x" indicates data are available for at least 40% but less than 50% of the students—interpret with caution.

## Exhibit 14.6: Teachers Do Computer Activities to Support Learning in Science Lessons

Students' Results based on Teachers' Reports

Country	Every or Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Almost Never	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Albania	1 (0.6)	--	3 (1.2)	491 (13.8)	6 (2.1)	522 (20.5)	91 (2.4)	486 (3.9)
Armenia	4 (1.8)	468 (26.8)	8 (2.3)	488 (9.6)	10 (2.2)	465 (10.6)	78 (3.2)	465 (3.9)
Australia	7 (1.4)	547 (6.5)	28 (3.9)	532 (5.5)	30 (3.9)	531 (5.5)	35 (3.1)	534 (5.0)
Austria	1 (0.4)	--	11 (2.0)	527 (7.1)	22 (2.4)	523 (5.3)	66 (3.1)	521 (3.3)
Azerbaijan	2 (0.9)	--	9 (1.9)	420 (9.2)	5 (1.3)	454 (8.4)	84 (2.2)	425 (3.8)
Bahrain	17 (2.5)	511 (10.1)	8 (1.9)	511 (11.4)	11 (2.0)	514 (9.0)	64 (2.9)	481 (4.5)
Belgium (Flemish)	4 (1.7)	501 (14.8)	12 (2.8)	511 (5.2)	50 (3.3)	500 (3.2)	33 (3.9)	501 (3.5)
Bosnia and Herzegovina	2 (1.0)	--	3 (1.0)	479 (12.9)	12 (2.2)	471 (8.0)	84 (2.6)	456 (2.9)
Bulgaria	5 (1.7)	546 (15.1)	4 (1.6)	554 (32.6)	14 (3.1)	495 (15.4)	78 (3.3)	523 (6.0)
Canada	r 5 (1.2)	526 (9.8)	18 (2.1)	521 (3.8)	32 (2.4)	524 (3.3)	45 (2.6)	526 (2.9)
Chile	r 4 (1.7)	477 (15.8)	7 (2.5)	451 (6.2)	24 (3.0)	464 (5.8)	65 (3.2)	471 (3.9)
Chinese Taipei	15 (2.8)	555 (4.4)	20 (3.2)	552 (4.3)	12 (2.2)	565 (6.3)	53 (4.0)	560 (2.3)
Croatia	2 (1.1)	--	2 (1.1)	--	6 (1.5)	518 (11.6)	90 (2.4)	524 (2.2)
Cyprus	11 (2.5)	511 (7.5)	9 (2.5)	516 (11.2)	18 (3.9)	519 (7.6)	62 (4.5)	510 (3.8)
Czech Republic	2 (1.0)	--	4 (1.2)	514 (9.6)	21 (2.8)	544 (5.5)	73 (2.9)	532 (3.0)
Denmark	r 28 (3.8)	510 (4.5)	31 (3.9)	521 (3.8)	30 (4.1)	534 (4.4)	10 (2.3)	522 (5.7)
Finland	4 (1.2)	544 (8.7)	19 (2.7)	554 (4.3)	51 (3.3)	557 (3.2)	25 (2.8)	552 (5.0)
France	0 (0.3)	--	0 (0.3)	--	9 (2.8)	490 (8.2)	90 (2.8)	488 (3.2)
Georgia	r 6 (2.0)	458 (23.8)	35 (4.5)	449 (7.1)	56 (4.9)	453 (4.8)	4 (2.0)	437 (15.5)
Germany	1 (0.5)	--	7 (1.9)	522 (8.1)	33 (3.5)	522 (4.7)	60 (3.7)	516 (3.4)
Hong Kong SAR	10 (2.6)	534 (11.3)	16 (3.3)	540 (8.7)	39 (4.0)	529 (4.5)	36 (4.1)	532 (6.5)
Hungary	5 (1.6)	516 (17.6)	15 (2.4)	522 (7.3)	10 (2.2)	520 (10.5)	70 (3.1)	533 (3.5)
Iran, Islamic Rep. of	5 (1.7)	484 (13.7)	13 (2.5)	452 (16.2)	9 (1.7)	455 (6.9)	72 (3.1)	434 (4.9)
Ireland	1 (0.8)	--	8 (2.0)	510 (12.8)	21 (3.0)	532 (7.4)	69 (3.5)	530 (3.0)
Italy	6 (1.9)	511 (9.8)	11 (2.1)	503 (6.5)	11 (2.3)	500 (6.1)	73 (3.6)	512 (3.4)
Japan	8 (2.1)	548 (5.2)	10 (2.6)	564 (6.2)	29 (3.7)	562 (3.3)	53 (4.2)	563 (2.5)
Kazakhstan	8 (1.7)	507 (15.4)	25 (3.3)	486 (8.8)	16 (2.8)	481 (7.6)	51 (4.3)	496 (5.3)
Korea, Rep. of	2 (1.1)	--	3 (1.5)	568 (16.7)	28 (3.6)	586 (4.2)	66 (3.3)	589 (2.2)
Kosovo	s 1 (0.8)	--	14 (5.2)	411 (10.5)	5 (1.9)	424 (14.3)	80 (5.5)	413 (5.8)
Kuwait	18 (2.9)	390 (14.3)	12 (2.8)	418 (19.9)	12 (2.8)	390 (17.6)	59 (4.0)	389 (8.3)
Latvia	4 (1.8)	517 (19.3)	7 (2.2)	540 (11.3)	25 (3.1)	536 (6.1)	64 (3.1)	546 (2.4)
Lithuania	6 (1.9)	535 (7.9)	19 (2.8)	538 (8.0)	21 (3.3)	540 (6.5)	53 (3.6)	536 (3.9)
Malta	11 (0.2)	490 (3.2)	30 (0.4)	489 (2.5)	29 (0.4)	496 (2.5)	29 (0.4)	503 (2.4)
Montenegro	1 (0.6)	--	3 (1.1)	431 (18.4)	11 (1.0)	432 (10.1)	84 (1.1)	456 (2.6)
Morocco	1 (0.8)	--	1 (0.5)	--	5 (1.9)	427 (29.4)	93 (2.0)	370 (6.6)
Netherlands	r 9 (2.2)	513 (11.1)	19 (2.7)	521 (8.3)	28 (5.1)	517 (6.9)	44 (5.1)	518 (3.3)
New Zealand	13 (2.4)	502 (8.0)	27 (2.6)	502 (6.4)	34 (2.9)	504 (4.7)	27 (2.9)	501 (4.5)
North Macedonia	4 (1.6)	415 (15.6)	25 (4.1)	405 (14.4)	33 (4.1)	442 (9.4)	37 (4.4)	427 (9.7)
Northern Ireland	5 (1.6)	514 (13.3)	14 (3.1)	529 (7.9)	42 (3.9)	520 (3.6)	40 (4.4)	513 (4.1)
Norway (5)	s 9 (2.9)	534 (10.6)	23 (3.7)	546 (5.0)	36 (4.6)	528 (4.8)	32 (4.6)	548 (4.3)
Oman	3 (0.7)	461 (20.4)	12 (2.3)	445 (14.6)	8 (1.8)	429 (15.1)	77 (2.8)	430 (4.6)
Pakistan	r 0 (0.3)	--	5 (1.9)	310 (33.7)	1 (1.0)	--	94 (2.2)	292 (17.0)
Poland	2 (1.0)	--	5 (1.8)	527 (8.0)	6 (1.6)	510 (7.8)	86 (2.4)	533 (2.8)
Portugal	2 (0.8)	--	7 (1.4)	503 (6.3)	9 (1.9)	512 (6.8)	82 (2.2)	503 (2.8)
Qatar	12 (2.2)	438 (15.9)	16 (2.6)	444 (8.9)	16 (2.2)	436 (11.4)	55 (3.9)	458 (6.7)
Russian Federation	2 (0.9)	--	13 (2.9)	584 (8.2)	27 (3.7)	563 (4.3)	59 (3.8)	567 (3.7)
Saudi Arabia	16 (2.9)	417 (11.5)	13 (2.5)	420 (10.6)	6 (1.9)	390 (30.3)	65 (3.4)	394 (5.9)
Serbia	4 (1.5)	533 (14.0)	8 (2.0)	523 (10.8)	7 (2.2)	509 (11.4)	81 (3.1)	516 (3.9)
Singapore	1 (0.5)	--	9 (1.3)	592 (13.0)	40 (2.8)	595 (5.8)	50 (2.7)	595 (4.1)
Slovak Republic	1 (0.6)	--	8 (1.9)	526 (12.2)	20 (2.9)	528 (8.9)	70 (3.3)	518 (4.0)
South Africa (5)	0 (0.2)	--	2 (0.7)	--	2 (1.2)	--	95 (1.3)	320 (5.2)
Spain	3 (1.1)	498 (17.7)	18 (2.3)	510 (4.6)	21 (2.9)	514 (4.4)	58 (3.0)	510 (3.0)
Sweden	7 (2.4)	512 (15.2)	33 (4.5)	540 (5.0)	37 (4.6)	543 (4.8)	23 (3.9)	540 (7.1)
Turkey (5)	12 (2.6)	544 (7.4)	5 (1.6)	526 (10.8)	3 (1.4)	539 (18.9)	80 (3.2)	523 (5.4)
United Arab Emirates	r 18 (1.2)	508 (6.4)	24 (1.6)	508 (5.0)	5 (0.6)	504 (12.4)	54 (1.9)	446 (3.9)
United States	14 (1.5)	532 (6.8)	30 (2.2)	546 (4.3)	24 (2.4)	543 (5.4)	33 (2.6)	533 (4.8)
England	x 5 (1.9)	566 (13.5)	10 (3.0)	556 (17.5)	18 (4.5)	543 (11.2)	68 (4.8)	533 (5.7)
Philippines	x 12 (3.8)	253 (34.6)	28 (5.8)	253 (20.2)	19 (4.7)	256 (25.7)	41 (6.2)	251 (14.9)
<b>International Average</b>	<b>6 (0.2)</b>	<b>498 (2.3)</b>	<b>13 (0.3)</b>	<b>498 (1.6)</b>	<b>20 (0.4)</b>	<b>500 (1.5)</b>	<b>60 (0.4)</b>	<b>490 (0.7)</b>
<b>Benchmarking Participants</b>								
Ontario, Canada	r 6 (2.3)	529 (15.9)	28 (4.4)	522 (5.0)	33 (4.3)	524 (5.7)	32 (4.3)	535 (7.4)
Quebec, Canada	2 (0.5)	--	4 (1.5)	504 (11.2)	22 (3.7)	522 (4.9)	72 (3.9)	524 (2.7)
Moscow City, Russian Fed.	2 (1.5)	--	10 (2.6)	602 (7.3)	42 (4.4)	600 (3.4)	45 (4.4)	588 (3.0)
Madrid, Spain	6 (1.7)	518 (7.8)	11 (2.9)	518 (5.5)	23 (3.3)	527 (3.4)	60 (4.5)	522 (3.0)
Abu Dhabi, UAE	r 14 (2.3)	461 (15.3)	18 (2.5)	442 (9.9)	6 (0.8)	444 (18.6)	62 (2.4)	398 (6.0)
Dubai, UAE	r 30 (2.3)	549 (6.5)	41 (2.3)	555 (3.5)	8 (1.4)	576 (8.0)	22 (1.1)	531 (5.3)

( ) 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.

An "x" indicates data are available for at least 40% but less than 50% of the students—interpret with caution.

## Exhibit 14.7: Teachers Do Computer Activities to Support Learning in Mathematics Lessons

Students' Results based on Teachers' Reports

Country	Every or Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Almost Never	
	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	25 (3.1)	520 (7.2)	27 (3.8)	525 (8.1)	18 (2.6)	535 (10.2)	30 (3.2)	502 (8.7)
Bahrain	13 (1.8)	488 (6.4)	10 (1.9)	484 (7.8)	9 (1.1)	473 (5.3)	68 (2.8)	481 (2.5)
Chile	1 (0.7)	~ ~	5 (1.8)	444 (13.7)	23 (3.6)	441 (6.6)	71 (3.9)	441 (4.2)
Chinese Taipei	5 (1.6)	583 (8.3)	3 (1.0)	603 (17.1)	15 (2.6)	600 (8.5)	77 (3.0)	617 (2.8)
Cyprus	3 (1.0)	487 (9.5)	3 (0.7)	556 (7.2)	1 (0.1)	~ ~	93 (1.3)	504 (2.5)
Egypt	2 (1.0)	~ ~	19 (3.5)	433 (10.8)	16 (3.4)	416 (14.5)	62 (4.3)	407 (6.6)
England	6 (2.9)	555 (22.7)	7 (2.9)	509 (26.3)	7 (2.5)	490 (31.5)	80 (4.7)	523 (9.5)
Finland	2 (1.0)	~ ~	9 (1.8)	513 (7.3)	33 (2.8)	506 (4.4)	55 (3.1)	510 (3.0)
France	0 (0.0)	~ ~	3 (1.6)	457 (24.9)	12 (3.1)	490 (9.8)	85 (3.2)	482 (3.0)
Hong Kong SAR	4 (1.4)	646 (23.6)	5 (2.1)	610 (16.5)	21 (3.5)	574 (11.7)	70 (3.9)	571 (5.8)
Hungary	1 (0.5)	~ ~	13 (2.7)	530 (11.9)	21 (2.6)	507 (8.3)	65 (3.4)	513 (4.7)
Iran, Islamic Rep. of	6 (2.0)	490 (15.0)	7 (1.9)	444 (11.4)	10 (2.2)	472 (15.9)	77 (3.1)	440 (3.9)
Ireland	4 (1.5)	516 (6.4)	5 (1.3)	514 (18.7)	12 (1.8)	530 (7.0)	79 (2.6)	525 (3.0)
Israel	0 (0.2)	~ ~	6 (1.5)	464 (26.9)	20 (2.6)	519 (11.9)	74 (2.9)	525 (5.3)
Italy	3 (1.3)	471 (10.6)	9 (2.3)	486 (7.3)	12 (2.6)	489 (10.0)	76 (3.7)	500 (3.3)
Japan	5 (1.6)	565 (8.5)	4 (1.5)	602 (9.0)	8 (2.2)	600 (11.0)	83 (2.8)	595 (2.9)
Jordan	3 (1.4)	461 (36.6)	6 (1.8)	448 (16.3)	30 (3.7)	428 (8.3)	61 (3.8)	412 (5.7)
Kazakhstan	6 (1.8)	486 (12.2)	22 (3.0)	482 (8.6)	16 (2.9)	478 (11.3)	56 (3.8)	491 (5.2)
Korea, Rep. of	3 (1.4)	594 (8.7)	3 (1.2)	596 (13.8)	10 (2.2)	614 (11.2)	84 (2.7)	607 (3.0)
Kuwait	7 (2.0)	392 (12.3)	12 (3.7)	452 (15.5)	7 (2.2)	418 (21.0)	74 (3.7)	392 (4.9)
Lebanon	1 (0.7)	~ ~	5 (1.8)	438 (26.5)	7 (2.4)	457 (13.3)	88 (3.0)	426 (3.1)
Lithuania	0 (0.2)	~ ~	8 (1.9)	503 (7.4)	23 (3.4)	510 (6.9)	69 (3.6)	527 (4.2)
Malaysia	1 (0.6)	~ ~	2 (1.0)	~ ~	7 (1.6)	494 (11.9)	90 (2.1)	456 (3.7)
Morocco	0 (0.4)	~ ~	1 (0.8)	~ ~	2 (1.2)	~ ~	96 (1.4)	386 (2.4)
New Zealand	21 (4.3)	500 (8.6)	41 (3.9)	481 (5.7)	16 (2.3)	495 (5.5)	22 (3.7)	461 (10.7)
Norway (9)	5 (1.5)	513 (11.7)	30 (3.9)	515 (5.2)	38 (3.9)	495 (4.9)	26 (4.2)	506 (4.5)
Oman	2 (1.1)	~ ~	2 (0.7)	~ ~	6 (1.9)	404 (11.4)	90 (2.3)	408 (3.1)
Portugal	2 (1.1)	~ ~	2 (1.2)	~ ~	4 (1.7)	473 (17.6)	93 (2.4)	500 (3.3)
Qatar	6 (1.9)	480 (27.6)	7 (1.5)	445 (15.2)	22 (3.4)	424 (12.2)	65 (3.4)	446 (4.5)
Romania	1 (0.7)	~ ~	3 (1.2)	557 (42.3)	21 (3.4)	490 (10.1)	75 (3.3)	478 (5.1)
Russian Federation	1 (0.8)	~ ~	6 (1.8)	563 (11.8)	16 (3.1)	548 (9.1)	77 (3.5)	541 (5.5)
Saudi Arabia	8 (2.3)	413 (9.0)	11 (2.2)	408 (7.3)	6 (2.0)	374 (11.1)	75 (3.4)	390 (2.9)
Singapore	0 (0.0)	~ ~	7 (1.0)	604 (18.3)	21 (2.3)	616 (9.9)	72 (2.3)	617 (4.7)
South Africa (9)	1 (0.4)	~ ~	2 (0.5)	~ ~	2 (0.5)	~ ~	96 (0.8)	388 (2.6)
Sweden	7 (2.4)	481 (10.2)	17 (3.0)	507 (6.7)	43 (4.2)	507 (4.8)	33 (3.8)	503 (4.2)
Turkey	5 (1.8)	522 (18.4)	7 (2.0)	496 (18.0)	2 (1.2)	~ ~	86 (2.8)	493 (4.9)
United Arab Emirates	23 (1.0)	440 (5.6)	25 (1.6)	501 (4.8)	7 (0.9)	538 (7.4)	45 (1.7)	468 (4.3)
United States	19 (2.2)	505 (9.0)	30 (2.6)	511 (6.5)	17 (2.0)	514 (8.0)	33 (2.7)	529 (8.7)
Georgia	0 (0.4)	~ ~	18 (4.5)	486 (17.9)	64 (5.6)	463 (9.0)	17 (3.6)	450 (15.7)
<b>International Average</b>	<b>5 (0.3)</b>	<b>505 (3.2)</b>	<b>10 (0.4)</b>	<b>505 (2.8)</b>	<b>16 (0.4)</b>	<b>497 (2.0)</b>	<b>68 (0.5)</b>	<b>487 (0.9)</b>
<b>Benchmarking Participants</b>								
Ontario, Canada	12 (3.8)	559 (23.1)	26 (3.8)	518 (6.2)	20 (4.1)	545 (7.2)	42 (4.5)	527 (5.4)
Quebec, Canada	2 (1.1)	~ ~	10 (2.9)	574 (13.7)	12 (2.9)	560 (9.8)	76 (3.6)	535 (4.6)
Moscow City, Russian Fed.	2 (1.3)	~ ~	5 (1.9)	582 (15.4)	13 (2.7)	584 (12.0)	80 (3.5)	573 (4.5)
Gauteng, RSA (9)	1 (0.7)	~ ~	4 (1.6)	467 (34.1)	2 (1.3)	~ ~	93 (2.2)	417 (3.6)
Western Cape, RSA (9)	2 (1.0)	~ ~	5 (2.9)	409 (29.5)	7 (2.2)	459 (22.4)	86 (2.9)	438 (5.4)
Abu Dhabi, UAE	41 (2.0)	399 (7.9)	14 (1.8)	460 (11.9)	4 (1.1)	483 (10.2)	42 (1.9)	456 (4.6)
Dubai, UAE	17 (1.8)	533 (9.8)	42 (2.7)	550 (4.7)	15 (1.7)	562 (6.9)	26 (2.3)	507 (6.8)

( ) 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.

An "x" indicates data are available for at least 40% but less than 50% of the students—interpret with caution.

## Exhibit 14.8: Teachers Do Computer Activities to Support Learning in Science Lessons

Students' Results based on Teachers' Reports

Country		Every or Almost Every Day		Once or Twice a Week		Once or Twice a Month		Never or Almost Never	
		Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement	Percent of Students	Average Achievement
Australia	r	30 (2.9)	547 (6.1)	40 (2.9)	540 (4.9)	17 (2.7)	511 (9.4)	14 (1.6)	507 (10.9)
Bahrain		17 (2.3)	479 (6.9)	11 (1.9)	455 (7.4)	12 (2.5)	503 (14.6)	60 (2.6)	489 (3.5)
Chile		1 (0.4)	~ ~	6 (1.9)	448 (16.7)	42 (3.8)	466 (4.9)	51 (3.9)	462 (4.6)
Chinese Taipei		12 (2.2)	565 (7.8)	13 (2.2)	579 (6.1)	20 (3.2)	576 (4.4)	55 (3.6)	574 (3.2)
Cyprus	s	2 (0.4)	~ ~	1 (0.3)	~ ~	4 (0.8)	505 (10.9)	93 (1.0)	486 (2.5)
Egypt		3 (1.3)	363 (17.9)	20 (3.4)	409 (13.4)	30 (3.7)	397 (11.3)	47 (3.7)	380 (7.3)
England	s	3 (2.3)	560 (16.9)	3 (2.0)	532 (52.2)	18 (4.7)	515 (24.8)	75 (4.0)	523 (7.8)
Finland		11 (1.7)	545 (7.6)	15 (1.6)	539 (6.9)	45 (2.5)	542 (3.8)	29 (2.1)	545 (4.0)
France	r	1 (0.5)	~ ~	2 (1.0)	~ ~	17 (2.6)	489 (5.6)	80 (3.0)	488 (3.2)
Georgia	s	4 (1.2)	477 (11.2)	17 (2.1)	450 (8.7)	62 (3.1)	441 (4.8)	16 (2.3)	440 (6.8)
Hong Kong SAR		9 (2.1)	536 (12.8)	11 (3.1)	477 (23.4)	31 (4.2)	519 (12.9)	49 (4.1)	497 (8.3)
Hungary		9 (1.5)	528 (7.9)	12 (1.5)	531 (5.6)	18 (1.7)	528 (5.3)	61 (2.5)	529 (3.7)
Iran, Islamic Rep. of		6 (2.0)	474 (12.0)	10 (2.3)	483 (14.3)	33 (3.6)	460 (6.7)	51 (3.7)	433 (5.6)
Ireland		5 (1.3)	529 (8.9)	10 (2.1)	525 (10.5)	20 (2.6)	528 (4.9)	65 (3.4)	528 (3.7)
Israel		4 (1.6)	498 (30.2)	18 (2.8)	490 (9.9)	33 (3.7)	524 (7.2)	45 (4.2)	518 (6.4)
Italy		7 (2.2)	497 (11.3)	8 (1.8)	481 (12.9)	17 (2.9)	495 (5.8)	68 (3.7)	506 (3.1)
Japan		10 (2.5)	565 (4.4)	8 (2.0)	570 (5.4)	21 (3.6)	565 (5.4)	61 (4.2)	572 (3.1)
Jordan		3 (1.2)	521 (24.6)	14 (2.5)	471 (9.9)	32 (3.1)	464 (6.9)	51 (3.4)	435 (7.4)
Kazakhstan		8 (1.5)	481 (9.1)	33 (2.4)	467 (6.0)	20 (2.2)	490 (6.3)	39 (2.9)	480 (5.2)
Korea, Rep. of		12 (2.5)	570 (8.0)	10 (2.1)	564 (8.1)	16 (2.5)	550 (4.5)	62 (3.8)	561 (2.3)
Kuwait		23 (3.4)	453 (10.1)	16 (4.5)	453 (14.1)	8 (2.5)	479 (16.6)	53 (4.6)	432 (6.9)
Lebanon		2 (1.3)	~ ~	5 (1.4)	389 (29.9)	11 (2.0)	417 (14.4)	83 (2.6)	369 (5.1)
Lithuania		6 (1.1)	535 (8.7)	6 (0.9)	525 (8.6)	30 (2.2)	526 (3.6)	58 (2.2)	537 (2.9)
Malaysia		2 (0.9)	~ ~	4 (1.7)	409 (22.1)	12 (2.6)	457 (12.2)	82 (3.2)	462 (4.3)
Morocco		5 (1.1)	416 (13.6)	4 (1.2)	411 (15.2)	5 (1.1)	400 (14.7)	86 (1.9)	391 (3.2)
New Zealand		26 (3.3)	516 (7.4)	41 (3.8)	505 (5.5)	20 (3.5)	492 (12.8)	13 (3.0)	475 (18.4)
Norway (9)	s	12 (3.3)	493 (9.6)	28 (4.3)	499 (5.5)	41 (4.2)	497 (5.5)	19 (3.6)	499 (6.4)
Oman		3 (1.1)	496 (25.9)	8 (1.5)	468 (14.8)	6 (1.8)	471 (11.3)	84 (2.2)	453 (3.2)
Portugal		3 (1.1)	530 (11.9)	3 (1.1)	530 (11.5)	8 (1.9)	541 (7.3)	86 (2.8)	517 (2.8)
Qatar		13 (2.8)	508 (15.0)	11 (2.2)	454 (10.0)	23 (2.9)	471 (7.9)	53 (4.2)	473 (7.3)
Romania		3 (0.6)	483 (10.8)	8 (1.4)	501 (11.2)	32 (3.4)	477 (6.2)	57 (3.4)	470 (5.1)
Russian Federation		1 (0.3)	~ ~	10 (1.3)	544 (6.4)	27 (2.2)	548 (4.6)	63 (2.6)	540 (5.3)
Saudi Arabia		11 (2.6)	460 (9.6)	12 (2.6)	428 (12.2)	5 (1.8)	428 (12.8)	71 (3.8)	428 (3.4)
Singapore		3 (0.7)	618 (16.7)	7 (1.1)	618 (14.8)	32 (2.2)	606 (7.7)	58 (2.1)	606 (5.1)
South Africa (9)		1 (0.5)	~ ~	1 (0.4)	~ ~	4 (1.1)	418 (28.1)	94 (1.2)	366 (3.3)
Sweden		29 (3.2)	517 (5.8)	28 (3.2)	517 (5.5)	30 (3.2)	527 (5.8)	13 (2.5)	525 (11.9)
Turkey		9 (2.5)	544 (17.7)	7 (2.1)	523 (18.2)	1 (0.7)	~ ~	82 (3.2)	511 (4.8)
United Arab Emirates	r	28 (1.0)	460 (5.2)	24 (1.3)	493 (6.7)	7 (1.1)	537 (10.4)	41 (1.4)	463 (4.2)
United States	r	25 (2.7)	526 (7.2)	41 (3.2)	530 (6.3)	14 (1.8)	539 (10.5)	20 (2.4)	509 (13.8)
<b>International Average</b>		<b>9 (0.3)</b>	<b>509 (2.4)</b>	<b>13 (0.4)</b>	<b>495 (2.5)</b>	<b>21 (0.4)</b>	<b>497 (1.7)</b>	<b>56 (0.5)</b>	<b>487 (1.0)</b>
<b>Benchmarking Participants</b>									
Ontario, Canada	s	17 (4.7)	543 (15.5)	33 (4.7)	511 (8.1)	32 (5.3)	521 (6.0)	18 (4.4)	519 (6.5)
Moscow City, Russian Fed.		2 (0.7)	~ ~	6 (1.3)	563 (6.8)	19 (1.9)	574 (5.1)	73 (2.2)	565 (3.1)
Gauteng, RSA (9)		2 (1.2)	~ ~	0 (0.5)	~ ~	3 (1.1)	537 (37.1)	94 (1.7)	417 (4.6)
Western Cape, RSA (9)		1 (0.9)	~ ~	6 (2.0)	514 (37.7)	8 (2.3)	475 (30.6)	84 (3.1)	430 (6.2)
Abu Dhabi, UAE	r	38 (2.2)	371 (8.0)	18 (1.8)	422 (13.5)	5 (1.1)	501 (19.9)	39 (2.5)	451 (7.7)
Dubai, UAE	r	32 (1.5)	585 (4.1)	37 (2.2)	547 (4.8)	11 (1.2)	565 (4.5)	19 (1.4)	497 (7.9)
Quebec, Canada	y	- -	- -	- -	- -	- -	- -	- -	- -

( ) 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.