

Exhibit 9.9: Computer Activities During Science Lessons

Reported by Teachers

Country	Computers Available for Students to Use in Science Lessons			Percent of Students Whose Teachers Have Them Use Computers at Least Monthly			
	Percent of Students	Average Achievement		To Practice Skills and Procedures	To Look Up Ideas and Information	To Do Scientific Procedures or Experiments	To Study Natural Phenomena Through Simulations
	Yes	Yes	No				
New Zealand	91 (1.6)	508 (2.8)	477 (11.9)	46 (2.3)	87 (1.8)	52 (2.7)	55 (2.8)
Denmark	90 (2.5)	527 (2.5)	527 (5.7)	50 (4.3)	82 (3.3)	38 (3.9)	49 (4.0)
Georgia	82 (3.2)	449 (4.6)	459 (8.5)	79 (3.6)	80 (3.4)	62 (4.8)	74 (3.7)
Belgium (Flemish)	79 (3.1)	513 (2.7)	505 (5.3)	62 (3.7)	75 (3.5)	18 (2.6)	29 (3.2)
Northern Ireland	r 76 (3.9)	523 (2.8)	516 (5.7)	r 37 (4.5)	r 69 (4.2)	r 23 (4.5)	r 39 (4.8)
Sweden	73 (3.6)	544 (3.7)	531 (7.8)	24 (3.6)	61 (3.9)	22 (3.7)	29 (3.9)
England	r 71 (4.1)	536 (3.7)	543 (6.4)	r 43 (4.5)	r 69 (4.3)	r 42 (4.4)	r 54 (4.2)
Norway (5)	r 66 (4.1)	540 (3.3)	538 (4.1)	r 47 (3.8)	r 59 (4.2)	r 42 (3.9)	r 36 (4.1)
Russian Federation	66 (3.6)	569 (4.5)	564 (4.4)	59 (4.2)	62 (3.6)	45 (3.5)	39 (3.4)
Japan	65 (3.9)	568 (2.4)	572 (2.9)	13 (2.4)	29 (3.7)	12 (2.4)	35 (4.0)
Finland	64 (3.4)	554 (3.0)	553 (3.0)	48 (4.0)	61 (3.3)	25 (3.1)	22 (2.8)
Canada	63 (3.0)	524 (3.6)	525 (3.4)	42 (2.9)	59 (2.9)	36 (2.7)	40 (3.0)
Australia	63 (3.3)	528 (3.3)	524 (4.2)	39 (3.2)	60 (3.4)	37 (3.3)	46 (3.5)
Netherlands	r 63 (4.1)	515 (3.8)	521 (3.4)	r 37 (4.9)	r 55 (4.8)	r 22 (4.1)	r 20 (3.6)
Germany	54 (4.0)	530 (3.2)	527 (3.6)	22 (2.8)	47 (3.8)	10 (1.7)	14 (2.3)
Cyprus	51 (4.8)	484 (3.2)	478 (4.4)	35 (4.4)	46 (4.7)	32 (4.2)	46 (4.8)
Kazakhstan	50 (3.9)	557 (6.9)	543 (7.2)	48 (3.8)	48 (3.8)	48 (3.9)	46 (3.6)
Chile	49 (3.9)	484 (5.1)	473 (4.2)	38 (4.3)	43 (4.0)	30 (4.0)	34 (4.2)
Singapore	49 (2.4)	594 (5.4)	587 (5.3)	36 (2.7)	43 (2.6)	35 (2.7)	31 (2.5)
Hong Kong SAR	47 (4.5)	564 (5.4)	549 (5.6)	29 (4.5)	37 (4.5)	33 (4.3)	27 (4.1)
United States	r 47 (2.9)	547 (3.9)	543 (3.4)	r 30 (2.4)	r 40 (2.7)	r 28 (2.6)	r 27 (2.4)
Chinese Taipei	47 (4.5)	557 (3.0)	554 (2.9)	31 (4.0)	36 (4.0)	31 (3.9)	31 (3.8)
Italy	44 (3.9)	522 (3.7)	513 (3.6)	34 (3.5)	41 (3.8)	33 (3.6)	34 (3.6)
Poland	43 (3.9)	547 (3.3)	547 (3.4)	36 (3.9)	35 (3.7)	29 (3.2)	31 (3.5)
Qatar	43 (3.8)	427 (6.9)	444 (6.2)	37 (3.9)	41 (3.8)	33 (3.8)	33 (3.6)
Ireland	42 (4.1)	532 (3.6)	527 (3.4)	22 (3.4)	36 (4.1)	14 (3.1)	22 (3.6)
Lithuania	41 (3.9)	525 (4.6)	530 (3.8)	37 (4.0)	41 (3.9)	26 (3.5)	18 (3.2)
Spain	40 (4.2)	516 (4.1)	521 (2.9)	27 (3.1)	36 (4.3)	19 (2.9)	21 (2.9)
Saudi Arabia	40 (3.4)	399 (7.4)	384 (7.2)	32 (3.5)	34 (3.5)	31 (3.4)	33 (3.5)
Bahrain	37 (1.3)	468 (3.8)	454 (3.5)	28 (1.3)	34 (1.3)	29 (1.3)	29 (1.3)
Kuwait	37 (4.2)	332 (11.8)	342 (7.6)	31 (4.3)	33 (4.3)	31 (4.2)	32 (4.1)
Slovak Republic	35 (2.8)	526 (5.4)	517 (3.2)	33 (2.8)	35 (2.8)	22 (2.6)	26 (2.9)
Czech Republic	35 (3.2)	535 (3.7)	534 (2.8)	26 (3.2)	30 (3.2)	18 (2.7)	20 (3.0)
United Arab Emirates	34 (2.0)	482 (5.7)	442 (4.2)	29 (2.1)	33 (2.0)	27 (2.0)	28 (2.1)
Hungary	33 (3.7)	529 (7.7)	548 (3.8)	26 (3.5)	27 (3.6)	19 (3.3)	20 (3.2)
Turkey	33 (2.9)	505 (4.9)	473 (4.5)	31 (3.0)	32 (3.0)	31 (3.0)	25 (2.7)
France	33 (3.9)	495 (3.9)	485 (3.4)	7 (1.8)	21 (3.3)	7 (1.6)	15 (2.9)
Bulgaria	31 (3.8)	538 (11.5)	533 (6.5)	25 (3.7)	31 (3.8)	13 (2.8)	16 (3.1)
Iran, Islamic Rep. of	28 (3.1)	450 (6.8)	413 (5.1)	18 (2.7)	22 (2.8)	21 (2.7)	20 (2.9)
Portugal	23 (2.8)	507 (3.7)	509 (2.4)	18 (2.5)	22 (2.8)	13 (2.3)	13 (2.5)
Slovenia	22 (2.9)	536 (6.0)	545 (2.4)	15 (2.6)	20 (2.8)	11 (2.3)	17 (2.6)
Korea, Rep. of	22 (3.7)	589 (4.5)	589 (2.3)	14 (3.2)	19 (3.5)	18 (3.4)	16 (3.2)
Serbia	21 (3.3)	526 (5.1)	524 (4.3)	18 (3.1)	18 (3.0)	9 (2.1)	8 (1.8)
Oman	15 (2.4)	422 (10.4)	432 (3.5)	14 (2.4)	14 (2.4)	13 (2.1)	12 (2.2)
Croatia	10 (2.1)	537 (4.8)	533 (2.2)	9 (1.9)	10 (1.9)	7 (1.6)	6 (1.4)
Morocco	10 (1.9)	368 (14.2)	350 (5.4)	5 (1.5)	8 (1.8)	7 (1.8)	8 (1.9)
Indonesia	7 (1.4)	410 (17.7)	396 (5.4)	4 (0.8)	4 (0.8)	4 (0.7)	4 (1.0)
International Avg.	46 (0.5)	509 (0.9)	504 (0.7)	31 (0.5)	41 (0.5)	26 (0.5)	28 (0.5)

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

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

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

Exhibit 9.9: Computer Activities During Science Lessons (Continued)

Country	Computers Available for Students to Use in Science Lessons			Percent of Students Whose Teachers Have Them Use Computers at Least Monthly				
	Percent of Students	Average Achievement		To Practice Skills and Procedures	To Look Up Ideas and Information	To Do Scientific Procedures or Experiments	To Study Natural Phenomena Through Simulations	
	Yes	Yes	No					
Benchmarking Participants								
Ontario, Canada	62 (4.5)	535 (3.5)	524 (4.7)	42 (4.5)	59 (4.5)	35 (4.2)	43 (4.2)	
Norway (4)	r 61 (4.6)	497 (2.6)	488 (4.6)	r 41 (4.4)	r 50 (4.9)	r 23 (3.9)	r 28 (4.4)	
Florida, US	r 56 (6.2)	560 (7.6)	540 (6.7)	r 37 (5.2)	r 53 (6.5)	r 40 (4.7)	r 42 (5.3)	
Quebec, Canada	55 (6.0)	524 (5.3)	523 (6.2)	35 (5.7)	48 (6.1)	27 (5.6)	23 (4.3)	
Dubai, UAE	53 (2.0)	545 (3.5)	506 (4.1)	46 (2.2)	53 (2.1)	44 (2.0)	46 (2.2)	
Abu Dhabi, UAE	30 (4.3)	413 (13.1)	417 (8.5)	23 (4.1)	28 (4.2)	21 (4.0)	22 (4.2)	
Buenos Aires, Argentina	x x	x x	x x	x x	x x	x x	x x	

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