

Exhibit 9.5: Computer Activities During Mathematics Lessons

Reported by Teachers

| Country | Computers Available for Students to Use in Mathematics Lessons | | | Percent of Students Whose Teachers Have Them Use Computers at Least Monthly | | |
|-----------------------|--|---------------------|-----------|---|-----------------------------------|----------------------------------|
| | Percent of Students | Average Achievement | | To Explore Mathematics Principles and Concepts | To Practice Skills and Procedures | To Look Up Ideas and Information |
| | Yes | Yes | No | | | |
| New Zealand | 89 (1.6) | 492 (2.6) | 481 (8.7) | 78 (2.3) | 86 (2.0) | 76 (2.3) |
| Denmark | 84 (2.9) | 537 (3.4) | 540 (5.7) | 52 (4.1) | 79 (3.1) | 45 (3.9) |
| Netherlands | r 76 (3.6) | 531 (2.1) | 527 (2.9) | r 48 (4.1) | r 73 (3.7) | r 49 (3.9) |
| Northern Ireland | r 71 (3.8) | 573 (4.1) | 572 (5.1) | r 58 (3.9) | r 68 (3.8) | r 58 (5.0) |
| Georgia | 70 (3.6) | 458 (4.3) | 477 (8.1) | 58 (4.6) | 65 (4.1) | 62 (4.4) |
| Sweden | 65 (3.9) | 522 (2.9) | 514 (6.4) | 33 (3.4) | 63 (4.1) | 33 (3.7) |
| Russian Federation | 62 (3.6) | 564 (4.8) | 564 (4.8) | 49 (4.1) | 60 (3.7) | 58 (4.0) |
| Australia | 60 (3.8) | 520 (3.5) | 517 (6.2) | 53 (3.8) | 57 (3.9) | 49 (3.8) |
| Norway (5) | 59 (3.9) | 551 (3.8) | 548 (3.8) | 44 (3.8) | 54 (3.7) | 40 (3.5) |
| England | 58 (3.6) | 551 (5.0) | 542 (5.5) | 49 (3.7) | 52 (3.6) | 45 (3.9) |
| Germany | 57 (3.7) | 518 (3.4) | 524 (2.6) | 23 (2.8) | 43 (4.0) | 29 (3.1) |
| Finland | 56 (3.1) | 536 (2.9) | 534 (2.4) | 32 (3.3) | 50 (3.5) | 30 (3.3) |
| Cyprus | 51 (3.0) | 523 (3.4) | 523 (3.3) | 42 (3.0) | 49 (2.9) | 38 (3.2) |
| Japan | 50 (3.8) | 590 (2.8) | 596 (2.6) | 10 (2.3) | 14 (2.6) | 12 (2.6) |
| United States | 46 (3.2) | 536 (3.8) | 540 (3.3) | 38 (3.0) | 43 (3.2) | 32 (2.5) |
| Canada | 46 (2.7) | 501 (4.1) | 518 (2.9) | 36 (2.6) | 41 (2.6) | 32 (2.5) |
| Hong Kong SAR | 45 (4.4) | 617 (4.5) | 612 (4.7) | 33 (4.9) | 35 (4.4) | 29 (4.4) |
| Chile | 43 (4.2) | 465 (5.2) | 456 (3.7) | 31 (3.8) | 36 (4.2) | 31 (4.1) |
| Kazakhstan | 40 (3.7) | 551 (7.2) | 541 (6.2) | 38 (3.9) | 39 (3.8) | 39 (3.8) |
| Ireland | 40 (4.2) | 548 (3.5) | 547 (3.0) | 31 (3.7) | 34 (3.8) | 27 (4.0) |
| Belgium (Flemish) | 37 (3.4) | 546 (3.4) | 546 (2.9) | 14 (2.2) | 32 (3.4) | 20 (2.9) |
| Singapore | 37 (2.4) | 621 (5.7) | 616 (5.3) | 30 (2.2) | 34 (2.2) | 28 (2.3) |
| Italy | 35 (3.1) | 506 (3.4) | 507 (3.5) | 25 (2.9) | 29 (3.3) | 25 (3.0) |
| Qatar | 35 (3.4) | 436 (8.4) | 441 (4.9) | 32 (3.5) | 34 (3.3) | 31 (3.3) |
| Spain | 34 (3.4) | 506 (4.1) | 504 (2.9) | 20 (3.0) | 28 (3.4) | 26 (3.2) |
| Poland | 31 (3.7) | 533 (3.6) | 535 (2.9) | 18 (3.2) | 28 (3.6) | 23 (3.7) |
| Jordan | 31 (3.5) | 405 (8.0) | 382 (4.1) | 25 (3.1) | 28 (3.3) | 27 (3.2) |
| Chinese Taipei | 30 (3.9) | 595 (3.3) | 598 (2.3) | 24 (3.3) | 25 (3.4) | 18 (3.2) |
| Lithuania | 30 (3.9) | 533 (6.2) | 537 (3.4) | 26 (3.7) | 27 (3.7) | 29 (3.9) |
| Turkey | 30 (2.8) | 503 (6.0) | 474 (4.2) | 25 (2.9) | 26 (3.0) | 27 (3.0) |
| Czech Republic | 28 (3.3) | 531 (4.4) | 527 (2.4) | 14 (2.4) | 27 (3.2) | 19 (2.8) |
| United Arab Emirates | 26 (1.5) | 483 (5.6) | 443 (3.5) | 23 (1.4) | 24 (1.5) | 23 (1.4) |
| Hungary | 25 (3.1) | 517 (8.6) | 532 (4.0) | 10 (2.3) | 20 (2.9) | 14 (2.8) |
| Bulgaria | 25 (3.6) | 530 (10.9) | 523 (4.8) | 11 (2.5) | 21 (3.6) | 23 (3.6) |
| Bahrain | 24 (1.1) | 461 (4.3) | 446 (2.3) | 19 (1.1) | 17 (1.0) | 20 (1.1) |
| Iran, Islamic Rep. of | 24 (3.0) | 444 (7.7) | 429 (3.9) | 17 (2.6) | 19 (2.9) | 17 (2.7) |
| Slovak Republic | 22 (2.9) | 502 (5.7) | 497 (3.0) | 19 (2.7) | 21 (2.9) | 21 (2.7) |
| Saudi Arabia | 21 (3.1) | 393 (10.3) | 379 (4.5) | 18 (2.9) | 19 (3.0) | 18 (2.9) |
| Portugal | 20 (2.7) | 540 (5.7) | 542 (2.6) | 13 (2.3) | 15 (2.4) | 17 (2.7) |
| France | 19 (3.1) | 506 (6.1) | 484 (3.1) | 3 (1.2) | 9 (2.3) | 6 (1.8) |
| Kuwait | 16 (2.1) | 353 (11.1) | 352 (5.6) | 12 (1.9) | 12 (2.0) | 13 (1.9) |
| Slovenia | 16 (2.6) | 517 (5.3) | 521 (2.0) | 9 (2.1) | 12 (2.5) | 12 (2.3) |
| Korea, Rep. of | 14 (3.1) | 611 (8.2) | 608 (2.3) | 7 (2.2) | 8 (2.4) | 8 (2.3) |
| Serbia | 13 (2.6) | 522 (7.4) | 518 (3.8) | 7 (1.6) | 11 (2.3) | 10 (2.3) |
| Oman | 11 (1.9) | 433 (9.7) | 424 (2.9) | 10 (1.8) | 11 (1.9) | 10 (1.9) |
| South Africa (5) | 10 (2.1) | 432 (15.7) | 371 (4.3) | 5 (1.6) | 5 (1.3) | 5 (1.4) |
| Indonesia | 6 (1.4) | 452 (14.9) | 395 (3.8) | 5 (1.3) | 5 (1.2) | 5 (1.1) |
| Morocco | 4 (1.1) | 403 (19.9) | 375 (3.8) | 2 (0.9) | 2 (0.9) | 2 (0.9) |
| Croatia | 3 (1.3) | 482 (10.3) | 503 (1.8) | 1 (0.7) | 2 (1.0) | 1 (0.8) |
| International Avg. | 37 (0.5) | 510 (1.0) | 504 (0.6) | 26 (0.4) | 33 (0.4) | 27 (0.4) |

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 9.5: Computer Activities During Mathematics Lessons (Continued)

| Country | Computers Available for Students to Use in Mathematics Lessons | | | Percent of Students Whose Teachers Have Them Use Computers at Least Monthly | | |
|----------------------------------|--|---------------------|-----------|---|-----------------------------------|----------------------------------|
| | Percent of Students | Average Achievement | | To Explore Mathematics Principles and Concepts | To Practice Skills and Procedures | To Look Up Ideas and Information |
| | | Yes | Yes | | | |
| Benchmarking Participants | | | | | | |
| Norway (4) | 55 (4.0) | 499 (3.6) | 491 (3.1) | 42 (4.3) | 54 (4.0) | 37 (4.3) |
| Ontario, Canada | 50 (3.9) | 512 (3.1) | 515 (3.6) | 38 (3.8) | 42 (3.9) | 34 (3.8) |
| Florida, US | r 47 (5.7) | 553 (7.6) | 542 (5.8) | r 39 (6.2) | r 44 (5.9) | r 39 (5.7) |
| Dubai, UAE | 44 (2.3) | 537 (4.1) | 497 (3.5) | 40 (2.3) | 42 (2.2) | 41 (2.2) |
| Quebec, Canada | 25 (4.7) | 537 (6.3) | 535 (4.8) | 17 (4.1) | 24 (4.3) | 18 (4.3) |
| Abu Dhabi, UAE | 22 (3.2) | 426 (12.2) | 418 (6.6) | 19 (3.0) | 20 (3.0) | 18 (2.9) |
| Buenos Aires, Argentina | x x | x x | x x | x x | x x | x x |

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