

APPENDIX B

Percentiles and Standard Deviations of Reading Achievement

Exhibit B.1: Percentiles of Reading Achievement

Assessed Fourth Grade Students at the End of the School Year

☒ Assessed one year later than originally scheduled

☐ Delayed Assessment of Fourth Grade Cohort at the Beginning of Fifth Grade

Country	5 th Percentile	10 th Percentile	25 th Percentile	50 th Percentile	75 th Percentile	90 th Percentile	95 th Percentile
Albania	381 (7.1)	411 (4.6)	461 (4.2)	516 (4.0)	567 (4.1)	610 (3.3)	637 (5.1)
Australia ☒	393 (6.8)	432 (6.7)	492 (3.6)	546 (2.7)	596 (2.9)	639 (3.4)	663 (4.2)
Austria	407 (4.3)	438 (3.6)	486 (2.8)	534 (2.9)	578 (2.3)	614 (2.9)	636 (4.4)
Azerbaijan	288 (6.2)	321 (5.1)	378 (4.4)	444 (4.4)	506 (5.6)	554 (3.3)	579 (4.1)
Bahrain	267 (5.4)	310 (5.0)	385 (4.8)	466 (3.8)	534 (4.2)	594 (5.0)	628 (6.5)
Belgium (Flemish)	395 (4.5)	422 (3.6)	467 (2.6)	514 (2.1)	558 (2.7)	593 (3.4)	614 (3.1)
Belgium (French)	368 (6.5)	397 (5.2)	446 (3.9)	498 (3.4)	545 (2.5)	585 (3.6)	608 (4.5)
Brazil ☒	192 (10.1)	239 (10.4)	339 (9.7)	437 (5.4)	509 (4.9)	563 (4.4)	592 (5.5)
Bulgaria	379 (8.7)	422 (7.0)	486 (4.8)	548 (3.2)	601 (3.0)	645 (2.7)	672 (3.2)
Chinese Taipei	420 (4.1)	454 (3.9)	502 (3.0)	550 (2.4)	591 (2.2)	627 (1.9)	647 (2.6)
Croatia	435 (5.6)	466 (5.0)	513 (3.8)	561 (2.8)	605 (2.3)	641 (2.6)	662 (2.7)
Cyprus	378 (5.7)	410 (4.5)	461 (3.8)	514 (3.3)	566 (2.4)	608 (3.7)	633 (4.7)
Czech Republic	409 (5.8)	441 (5.1)	493 (3.0)	545 (2.7)	591 (2.3)	629 (2.8)	651 (3.7)
Denmark	409 (5.8)	440 (4.5)	493 (2.8)	545 (2.6)	590 (2.5)	628 (2.7)	649 (3.1)
Egypt	189 (8.6)	230 (8.3)	303 (7.4)	384 (6.4)	457 (5.2)	515 (5.8)	549 (6.9)
England ☒	424 (4.3)	458 (3.8)	511 (3.3)	562 (2.8)	609 (2.6)	651 (3.5)	676 (4.4)
Finland	417 (6.5)	451 (5.3)	504 (2.8)	556 (2.7)	601 (2.3)	638 (3.4)	660 (3.5)
France	391 (5.4)	420 (3.6)	469 (3.4)	518 (2.3)	563 (2.9)	601 (3.0)	623 (3.9)
Georgia	350 (4.3)	386 (4.2)	442 (3.6)	499 (3.2)	551 (3.0)	594 (2.6)	620 (3.0)
Germany	389 (4.9)	421 (3.3)	474 (2.9)	529 (2.3)	578 (2.9)	619 (2.5)	641 (3.6)
Hong Kong SAR	454 (8.4)	488 (6.1)	536 (3.8)	579 (2.6)	617 (2.4)	651 (2.8)	670 (3.9)
Hungary	392 (8.6)	428 (7.0)	489 (5.2)	549 (3.2)	597 (3.4)	636 (2.6)	658 (3.0)
Iran, Islamic Rep. of ☒	235 (12.7)	277 (11.7)	350 (6.4)	422 (4.3)	485 (3.9)	533 (4.3)	561 (3.7)
Ireland	442 (6.4)	480 (4.7)	532 (2.5)	582 (2.6)	629 (2.8)	671 (2.5)	693 (5.0)
Israel ☒	352 (5.8)	389 (4.9)	452 (3.7)	517 (2.9)	574 (2.3)	617 (3.2)	642 (3.8)
Italy	421 (4.5)	449 (3.3)	495 (2.9)	541 (2.4)	583 (2.8)	619 (2.6)	640 (3.0)
Jordan	181 (10.2)	223 (8.8)	301 (7.5)	390 (6.8)	464 (5.7)	522 (5.5)	554 (5.3)
Kazakhstan	371 (4.4)	404 (4.0)	456 (3.8)	509 (3.0)	555 (2.5)	596 (3.1)	619 (3.4)
Kosovo	271 (7.1)	307 (5.2)	367 (4.1)	426 (3.7)	479 (3.0)	523 (4.2)	549 (4.9)
Latvia	395 (4.5)	428 (5.5)	482 (3.7)	533 (3.3)	580 (2.6)	619 (2.9)	641 (3.4)
Lithuania	426 (4.5)	458 (5.0)	509 (2.7)	558 (2.3)	601 (2.5)	638 (3.2)	659 (4.1)
Macao SAR	409 (5.4)	443 (2.9)	494 (2.0)	541 (1.0)	584 (2.2)	620 (2.8)	641 (2.4)
Malta	364 (7.0)	401 (5.3)	460 (4.3)	521 (2.9)	575 (2.8)	616 (2.1)	641 (3.4)
Montenegro	352 (4.7)	385 (3.5)	439 (2.5)	492 (2.2)	541 (2.0)	581 (3.6)	605 (4.0)
Morocco	197 (6.9)	233 (6.9)	297 (5.0)	374 (4.3)	446 (5.6)	510 (7.4)	548 (10.5)
Netherlands	412 (5.2)	441 (3.9)	484 (3.5)	530 (2.6)	572 (2.8)	610 (3.0)	633 (4.1)
New Zealand	361 (5.2)	399 (4.6)	464 (3.2)	530 (3.0)	586 (2.7)	630 (2.9)	654 (3.4)
North Macedonia	283 (10.9)	321 (8.2)	385 (7.5)	448 (5.9)	507 (5.7)	552 (4.8)	579 (5.0)
Northern Ireland	424 (7.2)	461 (5.1)	516 (3.4)	571 (2.8)	621 (3.5)	665 (3.9)	690 (4.8)
Norway (5)	408 (5.7)	439 (4.0)	492 (3.3)	545 (2.3)	590 (2.3)	628 (2.3)	651 (3.1)
Oman	241 (5.8)	284 (6.2)	358 (4.6)	435 (5.0)	507 (5.2)	566 (5.2)	599 (5.6)
Poland	425 (6.4)	456 (4.5)	504 (3.3)	552 (2.4)	599 (2.4)	637 (2.6)	660 (3.3)
Portugal	393 (5.7)	425 (4.2)	475 (2.5)	525 (2.6)	570 (2.2)	607 (2.4)	630 (3.8)
Qatar	310 (5.0)	350 (6.9)	421 (4.8)	493 (4.4)	555 (4.5)	605 (4.2)	633 (4.8)
Russian Federation	441 (7.2)	471 (7.0)	522 (4.9)	573 (3.7)	616 (3.1)	654 (3.4)	676 (3.5)
Saudi Arabia	292 (7.2)	326 (5.3)	387 (5.4)	455 (4.3)	513 (4.0)	560 (3.4)	587 (5.0)
Serbia	381 (6.6)	416 (7.1)	470 (4.2)	519 (3.5)	565 (2.5)	602 (2.8)	625 (2.9)
Singapore	426 (8.1)	473 (6.1)	539 (4.5)	597 (3.4)	646 (2.9)	686 (2.1)	710 (3.6)
Slovak Republic	386 (10.1)	427 (6.9)	488 (3.6)	538 (2.6)	581 (3.0)	618 (3.1)	639 (3.3)
Slovenia	395 (3.9)	425 (3.2)	475 (2.7)	525 (2.3)	568 (2.4)	605 (2.5)	626 (2.8)
South Africa (6) ☒	87 (5.9)	126 (5.3)	194 (4.9)	281 (5.5)	373 (6.0)	462 (8.1)	517 (9.3)
Spain	402 (5.8)	430 (3.9)	477 (3.1)	525 (2.4)	570 (2.4)	607 (2.8)	628 (3.3)
Sweden	402 (6.3)	436 (4.0)	494 (2.9)	549 (3.1)	600 (2.2)	641 (3.7)	663 (4.3)
Turkiye	342 (7.5)	380 (5.6)	440 (4.9)	503 (3.6)	559 (2.5)	602 (3.1)	627 (3.7)
United Arab Emirates	249 (3.7)	299 (3.5)	400 (3.4)	500 (2.5)	577 (1.7)	634 (1.9)	665 (2.2)
United States	395 (17.8)	435 (14.1)	495 (8.7)	555 (7.0)	606 (5.5)	652 (6.1)	680 (10.3)
Uzbekistan	292 (5.9)	327 (5.5)	387 (4.1)	443 (3.3)	494 (2.8)	537 (3.4)	559 (4.1)
Benchmarking Participants							
Alberta, Canada	399 (10.2)	433 (5.7)	492 (5.4)	546 (4.2)	593 (3.3)	630 (4.8)	656 (4.1)
British Columbia, Canada	394 (7.6)	430 (6.3)	487 (5.1)	541 (3.7)	589 (3.9)	630 (3.4)	654 (5.3)
Newfoundland & Labrador, Canada	382 (8.9)	416 (6.1)	473 (4.8)	531 (3.7)	579 (3.7)	618 (4.0)	641 (5.4)
Quebec, Canada	440 (5.8)	468 (3.6)	509 (3.5)	554 (2.8)	595 (3.2)	630 (4.0)	651 (4.6)
Moscow City, Russian Federation	488 (4.6)	516 (2.7)	560 (2.6)	602 (2.1)	641 (2.5)	674 (2.6)	693 (2.3)
South Africa (6) ☒	185 (6.4)	221 (6.7)	289 (5.2)	379 (5.0)	474 (6.2)	558 (6.8)	603 (8.3)
Abu Dhabi, UAE	205 (3.7)	242 (5.1)	324 (5.5)	453 (5.9)	553 (4.0)	617 (3.7)	651 (4.1)
Dubai, UAE	364 (5.0)	416 (4.3)	495 (3.2)	565 (2.7)	621 (2.1)	668 (2.4)	694 (2.9)

Percentiles are defined in terms of percentages of students at or below a point on the scale.

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

Exhibit B.2: Standard Deviations of Reading Achievement

Assessed Fourth Grade Students at the End of the School Year

☒ Assessed one year later than originally scheduled

☐ Delayed Assessment of Fourth Grade Cohort at the Beginning of Fifth Grade

Country	Overall		Girls		Boys	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Albania	513 (3.1)	78 (1.4)	523 (3.5)	77 (1.9)	503 (3.4)	78 (1.8)
Australia ☒	540 (2.2)	82 (1.4)	549 (2.5)	79 (2.0)	532 (2.8)	84 (1.9)
Austria	530 (2.2)	69 (1.1)	537 (2.6)	69 (1.5)	523 (2.6)	67 (1.3)
Azerbaijan	440 (3.6)	89 (1.6)	450 (4.1)	88 (2.0)	432 (4.0)	90 (2.0)
Bahrain	458 (2.9)	109 (2.0)	483 (3.9)	99 (2.0)	434 (3.2)	113 (2.7)
Belgium (Flemish)	511 (2.3)	67 (1.1)	515 (2.6)	65 (1.3)	507 (2.8)	68 (1.6)
Belgium (French)	494 (2.7)	73 (1.2)	499 (3.2)	72 (1.6)	489 (2.9)	73 (1.6)
Brazil ☒	419 (5.3)	123 (3.0)	431 (6.0)	119 (4.1)	408 (6.1)	125 (3.0)
Bulgaria	540 (3.0)	88 (2.5)	548 (3.0)	87 (2.4)	533 (4.0)	89 (3.3)
Chinese Taipei	544 (2.2)	69 (1.3)	551 (2.5)	68 (1.8)	537 (2.4)	69 (1.5)
Croatia	557 (2.5)	69 (1.1)	562 (3.0)	69 (1.7)	551 (3.0)	68 (1.9)
Cyprus	511 (2.9)	78 (1.3)	515 (3.2)	78 (1.7)	506 (3.1)	78 (1.6)
Czech Republic	540 (2.3)	73 (1.3)	541 (2.8)	71 (1.7)	538 (2.7)	75 (1.5)
Denmark	539 (2.2)	73 (1.4)	545 (2.5)	72 (1.3)	533 (2.8)	74 (2.0)
Egypt	378 (5.4)	110 (2.5)	386 (5.7)	106 (3.0)	370 (6.4)	113 (2.8)
England ☒	558 (2.5)	76 (1.3)	562 (3.1)	75 (1.6)	553 (3.1)	77 (1.8)
Finland	549 (2.4)	74 (1.5)	558 (2.7)	72 (1.5)	541 (2.7)	75 (1.8)
France	514 (2.5)	71 (1.4)	521 (3.0)	69 (1.7)	507 (2.7)	72 (2.0)
Georgia	494 (2.6)	82 (1.7)	506 (2.8)	78 (1.9)	483 (3.1)	84 (1.9)
Germany	524 (2.1)	77 (1.1)	532 (2.5)	76 (1.5)	516 (2.5)	77 (1.6)
Hong Kong SAR	573 (2.7)	67 (2.1)	577 (2.8)	64 (2.4)	569 (3.3)	69 (2.4)
Hungary	539 (3.4)	81 (2.3)	547 (3.7)	78 (2.5)	532 (4.0)	84 (2.7)
Iran, Islamic Rep. of ☒	413 (4.9)	100 (3.5)	422 (7.5)	99 (4.6)	405 (5.9)	100 (4.0)
Ireland	577 (2.5)	77 (1.4)	583 (3.3)	78 (2.0)	572 (2.8)	75 (1.5)
Israel ☒	510 (2.2)	88 (1.6)	512 (2.8)	87 (1.8)	508 (2.6)	90 (2.0)
Italy	537 (2.2)	66 (1.0)	541 (2.4)	66 (1.1)	534 (2.4)	67 (1.4)
Jordan	381 (5.4)	114 (2.9)	398 (6.8)	107 (3.5)	362 (7.9)	118 (3.8)
Kazakhstan	504 (2.7)	75 (1.1)	512 (2.8)	71 (1.4)	495 (3.3)	79 (1.5)
Kosovo	421 (3.1)	84 (1.6)	431 (3.1)	80 (2.3)	410 (3.8)	86 (2.0)
Latvia	528 (2.6)	75 (2.0)	542 (2.6)	72 (2.4)	514 (3.3)	75 (2.4)
Lithuania	552 (2.3)	71 (1.3)	563 (2.5)	68 (1.4)	542 (2.7)	73 (1.8)
Macao SAR	536 (1.3)	71 (0.8)	540 (1.5)	69 (1.2)	531 (1.9)	72 (1.3)
Malta	515 (2.7)	84 (1.9)	518 (3.6)	83 (2.3)	512 (3.2)	85 (2.3)
Montenegro	487 (1.6)	77 (1.0)	497 (2.0)	75 (1.4)	478 (2.2)	79 (1.5)
Morocco	372 (4.5)	106 (2.9)	390 (4.5)	103 (3.1)	356 (5.2)	106 (3.6)
Netherlands	527 (2.5)	67 (1.5)	534 (2.9)	66 (2.0)	521 (2.8)	67 (1.6)
New Zealand	521 (2.3)	89 (1.3)	531 (2.9)	87 (1.7)	512 (2.7)	90 (1.6)
North Macedonia	442 (5.3)	90 (2.2)	454 (5.8)	89 (2.9)	429 (6.0)	90 (2.9)
Northern Ireland	566 (2.5)	81 (1.4)	578 (2.9)	77 (1.9)	553 (3.1)	84 (1.8)
Norway (5)	539 (2.0)	74 (1.2)	547 (2.3)	71 (1.6)	531 (2.4)	75 (1.6)
Oman	429 (3.7)	109 (1.9)	447 (4.2)	102 (2.3)	412 (4.1)	113 (2.5)
Poland	549 (2.2)	72 (1.5)	560 (2.5)	70 (1.7)	540 (2.7)	72 (2.1)
Portugal	520 (2.3)	72 (1.3)	523 (2.3)	68 (1.3)	517 (2.7)	75 (1.8)
Qatar	485 (3.7)	98 (1.4)	493 (4.2)	93 (1.8)	476 (4.8)	101 (2.3)
Russian Federation	567 (3.6)	71 (1.8)	574 (3.4)	70 (2.0)	561 (4.5)	72 (2.3)
Saudi Arabia	449 (3.6)	90 (1.8)	464 (5.0)	88 (2.6)	428 (4.9)	89 (2.2)
Serbia	514 (2.8)	74 (1.6)	518 (3.4)	72 (2.5)	509 (3.2)	74 (2.1)
Singapore	587 (3.1)	86 (2.1)	596 (3.0)	81 (1.8)	578 (3.7)	89 (2.5)
Slovak Republic	529 (2.7)	77 (2.2)	533 (2.9)	76 (2.3)	525 (3.2)	78 (2.4)
Slovenia	520 (1.9)	70 (1.1)	529 (2.1)	65 (1.2)	511 (2.3)	73 (1.6)
South Africa (6) ☒	288 (4.4)	129 (2.8)	317 (4.4)	122 (2.9)	260 (5.0)	130 (3.2)
Spain	521 (2.2)	69 (1.3)	522 (2.6)	68 (1.8)	520 (2.5)	69 (1.6)
Sweden	544 (2.1)	79 (1.5)	551 (2.5)	77 (2.1)	536 (2.3)	81 (1.5)
Turkiye	496 (3.4)	88 (1.7)	505 (3.8)	85 (2.2)	488 (3.6)	89 (1.8)
United Arab Emirates	483 (1.8)	127 (1.4)	497 (2.7)	118 (1.6)	468 (3.6)	134 (1.9)
United States	548 (6.8)	87 (4.4)	551 (7.2)	87 (4.9)	544 (7.1)	87 (4.8)
Uzbekistan	437 (2.9)	81 (1.4)	449 (3.1)	77 (1.6)	425 (3.5)	83 (1.7)
Benchmarking Participants						
Alberta, Canada	539 (3.6)	77 (1.9)	546 (4.1)	76 (2.5)	531 (4.2)	78 (2.4)
British Columbia, Canada	535 (3.5)	78 (2.0)	542 (3.5)	77 (2.4)	529 (4.3)	79 (2.4)
Newfoundland & Labrador, Canada	523 (3.2)	79 (1.6)	530 (3.1)	76 (2.2)	516 (4.3)	81 (2.2)
Quebec, Canada	551 (2.7)	64 (1.4)	556 (3.3)	63 (1.7)	546 (2.9)	64 (1.9)
Moscow City, Russian Federation	598 (2.1)	63 (1.0)	604 (2.2)	60 (1.2)	593 (2.5)	64 (1.3)
South Africa (6) ☒	384 (4.5)	128 (2.8)	408 (4.5)	122 (3.1)	359 (5.2)	130 (3.2)
Abu Dhabi, UAE	440 (3.5)	142 (1.9)	457 (3.9)	133 (2.4)	422 (5.3)	148 (2.7)
Dubai, UAE	552 (1.5)	100 (1.5)	557 (2.7)	97 (1.7)	547 (2.5)	103 (2.3)

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