

Chapter 4

Students' Reading Attitudes, Self-Concept, and Out-of-School Activities

Positive student attitudes toward reading and a healthy reading self-concept are major objectives of the reading curriculum in most countries. Students who enjoy reading and who perceive themselves to be good readers usually read more frequently and more widely, which in turn broadens their reading experience and improves their comprehension skills. This chapter examines trends in students' attitudes toward reading and in their self-concept as readers, as well as the frequency with which they read stories, novels, and informational texts outside of school.

What Are Students' Attitudes Toward Reading?

The PIRLS Index of Students' Attitudes Toward Reading summarizes students' views on reading for enjoyment and appreciating books. The index was based on students' agreement with the following statements related to reading:

- ▶ I read only if I have to (reverse coded).
- ▶ I like talking about books with other people.
- ▶ I would be happy if someone gave me a book as a present.
- ▶ I think reading is boring (reverse coded).
- ▶ I enjoy reading.



Students were asked to indicate their degree of agreement with each statement on a 4-point scale, as follows: *agree a lot*, *agree a little*, *disagree a little*, and *disagree a lot*. Responses to each statement were averaged for each student. Students who, on average, agreed a lot or agreed a little with the statements were assigned to the high category of the index. Students in the low category disagreed a lot or disagreed a little, on average, with the statements. Students in the medium category had other combinations of responses.

Exhibit 4.1 presents, for each country, the percentage of students in 2006 at each level of the index, together with their average reading achievement. To measure change in student attitudes since the previous PIRLS, the exhibit shows the difference from 2001 in the percentage of students at each level of the index, together with an indication of its statistical significance.

As was the case in 2001, fourth-grade students in 2006 generally had positive attitudes toward reading. On average internationally, almost half the students were at the high level of the index and more than 90 percent were at either the high or medium level. Only 8 percent of students, on average, had unfavorable attitudes toward reading (i.e., they were at the low level of the index). Countries with the greatest percentages of students with favorable attitudes toward reading (60% or more at the high level of the index) included Iran, Italy, Macedonia, and Romania. Countries with increased percentages of students at the high level of the index in comparison with 2001 included Iran, Italy, Germany, and Hong Kong SAR, each of which also had increased average student achievement over that period (although the difference for Iran was not statistically significant). It may be a matter for concern that a greater number of participants had decreased percentages of students at the high level, including Moldova, Slovenia, Singapore, Sweden, Iceland, Scotland, England, the Netherlands, Latvia, and the Canadian province of Ontario.

On average internationally, and in every country, students at the high level of the index of positive attitudes toward reading had substantially higher average reading achievement than those at the medium or low levels.

Exhibit 4.1 Index of Students' Attitudes Toward Reading (SATR) with Trends

PIRLS 2006
4th Grade

Countries	High SATR			Medium SATR			Low SATR		
	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001
Iran, Islamic Rep. of	77 (1.3)	437 (3.0)	6 (2.3) ▲	21 (1.2)	382 (5.6)	-6 (2.2) ▼	2 (0.3)	~ ~	-1 (0.4)
Italy	64 (1.4)	565 (3.0)	8 (1.9) ▲	31 (1.2)	531 (3.4)	-7 (1.7) ▼	5 (0.5)	520 (6.1)	-1 (0.7)
Macedonia, Rep. of	63 (1.5)	471 (4.1)	1 (2.1)	35 (1.5)	407 (5.0)	-2 (2.1)	2 (0.2)	~ ~	1 (0.3)
Romania	60 (1.3)	513 (5.0)	0 (2.1)	36 (1.3)	462 (6.2)	-2 (2.1)	4 (0.4)	466 (9.2)	3 (0.5) ▲
Canada, Quebec	58 (1.5)	553 (2.8)	1 (2.0)	36 (1.2)	512 (2.6)	0 (1.8)	6 (0.6)	503 (6.7)	-1 (0.9)
Germany	58 (1.1)	569 (2.5)	8 (1.4) ▲	35 (1.0)	533 (2.5)	-6 (1.2) ▼	8 (0.4)	516 (4.1)	-2 (0.6) ▼
Moldova, Rep. of	58 (1.6)	514 (3.3)	-8 (2.5) ▼	41 (1.6)	484 (4.2)	7 (2.5) ▲	2 (0.3)	~ ~	0 (0.4)
France	57 (0.9)	542 (2.3)	0 (1.5)	38 (0.8)	498 (2.2)	0 (1.4)	4 (0.4)	485 (5.9)	1 (0.5)
Bulgaria	57 (1.4)	567 (4.3)	-3 (2.1)	37 (1.2)	527 (5.2)	1 (1.9)	6 (0.6)	509 (9.4)	2 (0.8) ▲
Spain	56 (1.1)	528 (2.1)	0 0	40 (1.0)	497 (3.1)	0 0	4 (0.4)	492 (6.7)	0 0
Hong Kong SAR	55 (1.1)	579 (2.3)	6 (1.6) ▲	41 (1.0)	546 (2.9)	-6 (1.5) ▼	4 (0.3)	539 (5.0)	0 (0.4)
Trinidad and Tobago	54 (1.3)	466 (5.0)	0 0	41 (1.2)	400 (5.4)	0 0	4 (0.4)	426 (9.7)	0 0
Morocco	53 (2.0)	351 (5.8)	5 (3.0)	45 (1.9)	298 (9.3)	-4 (2.9)	2 (0.3)	~ ~	-1 (1.0)
Slovenia	52 (1.1)	542 (2.0)	-7 (1.8) ▼	40 (0.9)	501 (2.7)	5 (1.6) ▲	8 (0.5)	493 (4.4)	1 (0.8)
Chinese Taipei	52 (1.1)	553 (2.1)	0 0	44 (1.0)	518 (2.5)	0 0	4 (0.4)	520 (6.0)	0 0
Belgium (French)	52 (1.0)	521 (2.9)	0 0	42 (0.9)	479 (2.9)	0 0	6 (0.4)	475 (5.1)	0 0
Russian Federation	50 (1.1)	581 (3.6)	-4 (2.1)	45 (1.0)	550 (3.7)	3 (1.9)	5 (0.4)	540 (5.0)	1 (0.6)
Georgia	50 (1.9)	493 (3.4)	0 0	47 (1.8)	456 (4.1)	0 0	3 (0.4)	445 (9.6)	0 0
Austria	50 (1.2)	557 (2.7)	0 0	40 (1.0)	524 (2.7)	0 0	10 (0.7)	510 (3.8)	0 0
Hungary	50 (1.3)	571 (2.9)	0 (1.8)	39 (1.2)	532 (4.3)	-1 (1.6)	11 (0.7)	531 (3.1)	1 (1.0)
Canada, British Columbia	49 (1.0)	583 (2.5)	0 0	42 (0.9)	540 (2.9)	0 0	9 (0.6)	524 (4.3)	0 0
Indonesia	49 (1.2)	432 (3.8)	0 0	50 (1.2)	383 (4.6)	0 0	1 (0.1)	~ ~	0 0
New Zealand	48 (1.0)	563 (2.3)	-3 (1.7)	44 (0.9)	507 (2.6)	4 (1.6) ▲	7 (0.4)	493 (4.7)	-1 (0.8)
Canada, Alberta	48 (1.1)	584 (2.4)	0 0	41 (0.9)	542 (2.7)	0 0	11 (0.6)	531 (3.6)	0 0
Lithuania	47 (1.1)	551 (2.1)	1 (1.8)	46 (1.0)	525 (2.0)	-2 (1.7)	7 (0.4)	520 (4.2)	0 (0.7)
Norway	47 (1.3)	519 (2.4)	3 (1.7)	45 (1.2)	487 (2.9)	-3 (1.5)	8 (0.8)	469 (5.8)	-1 (1.0)
Singapore	47 (1.0)	582 (3.1)	-7 (1.6) ▼	45 (0.8)	541 (3.1)	3 (1.5) ▲	8 (0.4)	527 (4.0)	4 (0.5) ▲
Canada, Ontario	46 (1.4)	577 (2.8)	-6 (1.9) ▼	42 (1.0)	538 (3.4)	3 (1.7)	12 (0.9)	529 (5.2)	3 (1.0) ▲
Canada, Nova Scotia	46 (1.0)	569 (2.7)	0 0	41 (0.9)	526 (2.5)	0 0	13 (0.7)	513 (3.9)	0 0
Slovak Republic	46 (1.3)	553 (2.7)	2 (2.0)	46 (1.2)	514 (3.5)	-4 (1.7) ▼	9 (0.6)	511 (5.6)	2 (0.8) ▲
Sweden	45 (1.2)	571 (2.9)	-9 (1.6) ▼	44 (1.0)	535 (2.3)	5 (1.4) ▲	10 (0.6)	519 (3.5)	3 (0.8) ▲
Poland	45 (1.3)	544 (2.7)	0 0	45 (1.1)	503 (2.7)	0 0	10 (0.7)	494 (4.1)	0 0
Iceland	44 (0.8)	533 (1.6)	-4 (1.3) ▼	49 (0.8)	496 (2.0)	3 (1.3) ▲	7 (0.4)	484 (4.4)	1 (0.6)
Israel	42 (1.2)	547 (3.7)	-2 (1.8)	49 (1.0)	495 (3.9)	1 (1.6)	9 (0.7)	519 (5.5)	1 (0.9)
Scotland	42 (1.4)	558 (3.5)	-5 (1.9) ▼	44 (1.1)	511 (3.1)	2 (1.6)	14 (1.0)	491 (4.8)	3 (1.4)
Kuwait	41 (1.5)	386 (4.9)	0 0	55 (1.4)	313 (5.4)	0 0	4 (0.4)	277 (11.3)	0 0
England	40 (1.4)	576 (3.4)	-4 (2.0) ▼	45 (1.1)	520 (2.7)	2 (1.7)	15 (0.8)	509 (3.7)	2 (1.1) ▲
United States	40 (1.3)	566 (3.4)	-3 (1.7)	46 (1.1)	526 (3.7)	2 (1.4)	14 (0.7)	522 (3.4)	1 (1.2)
Luxembourg	40 (0.6)	581 (1.8)	0 0	45 (0.6)	545 (1.5)	0 0	15 (0.5)	533 (2.5)	0 0
Denmark	39 (1.3)	568 (2.7)	0 0	49 (1.1)	535 (2.7)	0 0	12 (0.7)	525 (4.7)	0 0
Netherlands	39 (1.1)	567 (2.2)	-5 (1.7) ▼	45 (0.9)	539 (1.4)	3 (1.4) ▲	16 (0.7)	524 (2.7)	2 (1.1)
Qatar	38 (0.6)	399 (1.9)	0 0	57 (0.6)	330 (1.5)	0 0	5 (0.3)	352 (7.0)	0 0
Belgium (Flemish)	38 (1.2)	567 (2.2)	0 0	46 (1.0)	540 (2.2)	0 0	16 (0.8)	521 (2.5)	0 0
South Africa	35 (0.9)	356 (7.6)	0 0	60 (0.9)	277 (4.7)	0 0	4 (0.3)	324 (13.0)	0 0
Latvia	33 (1.3)	564 (3.0)	-9 (2.1) ▼	52 (1.1)	532 (2.9)	3 (1.8)	14 (0.9)	524 (3.8)	6 (1.1) ▲
International Avg.	49 (0.2)	525 (0.5)		44 (0.2)	482 (0.6)		8 (0.1)	489 (1.0)	

SOURCE: IEA Progress in International Reading Literacy Study (PIRLS) 2006

▲ Percent in 2006 significantly higher ▼ Percent in 2006 significantly lower

Based on students' agreement with the following: I read only if I have to, I like talking about books with other people, I would be happy if someone gave me a book as a present, I think reading is boring, and I enjoy reading. Average is computed on a 4-point scale: Disagree a lot = 1, Disagree a little = 2, Agree a little = 3, and Agree a lot = 4. Responses for negative statements were reverse-coded. High level indicates an average of greater than 3 through 4. Medium level indicates an average of 2 through 3. Low level indicates an average of 1 to less than 2.

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

An "r" indicates data are available for 70–84% of the students. An "s" indicates data are available for 50–69% of the students. An "x" indicates data are available for less than 50% of the students.

A tilde (~) indicates insufficient data to report achievement.

A diamond (◊) indicates the country did not participate in the 2001 assessment.

NOTE: The International Average does not include the results from the Canadian provinces.

Trend Note: The primary education systems of the Russian Federation and Slovenia underwent structural changes. Data for Canada, Ontario include only public schools.

At least for reading at this grade level, it seems that positive attitudes and high achievement in reading go hand in hand.

What Are Students' Perceptions of Their Reading Ability?

As was shown in PIRLS 2001, by the fourth grade, students in all countries can give an indication of their perception of themselves as good or poor readers, with a good deal of agreement between students' self-reports and average reading achievement. In PIRLS 2006, students' self-concept in reading was assessed based on their agreement with four statements about their ability to read:

- ▶ Reading is very easy for me.
- ▶ I do not read as well as other students in my class (reverse coded).
- ▶ When I am reading by myself, I understand almost everything I read.
- ▶ I read slower than other students in my class (reverse coded).

Response options were on a 4-point scale, as follows: *agree a lot*, *agree a little*, *disagree a little*, and *disagree a lot*. PIRLS combined students' responses to these four statements to construct an Index of Students' Reading Self-Concept. Students in the high category agreed (a lot or a little), on average, with the four statements about their reading ability. Students in the low category disagreed (a lot or a little), on average, with the statements. The medium level of the index includes all other response combinations. Exhibit 4.2 summarizes the results for this index.

Around the world, fourth-grade students generally seem to view themselves as good, or at least moderately good, readers. Almost half the students (49%), on average internationally, were at the high level of the index of reading self-concept, and almost half (48%) were at the medium level. Just 3 percent were at the low level of the index. Countries with the greatest percentages of high self-concept students (60% or more) included Israel, Austria, Sweden, Poland, Norway, the Netherlands, and Denmark. Interestingly, although these countries all have average reading achievement above the PIRLS international scale average, there are other countries with

higher average achievement. Countries with lesser percentages of students at the high level (less than 40%) included Kuwait, Morocco, Belgium (French), New Zealand, France, Indonesia, Moldova, and South Africa.

Ten countries showed increased percentages of students at the high level in 2006 compared with 2001,¹ including Norway, the Netherlands, Iceland, Germany, Italy, the Russian Federation, Hong Kong SAR, Latvia, Lithuania, and France. However, eight participants had decreased percentages at the high level—Macedonia, the United States, Romania, Morocco, New Zealand, Moldova, and the Canadian provinces of Ontario and Quebec.

As in PIRLS 2001, students' characterizations of themselves in terms of the levels of the reading self-concept index were broadly aligned with their average reading achievement. Students at the high level had average achievement 50 points higher than students at the medium level, and those at the medium level had average achievement more than 40 points higher than students at the low level. As noted above, however, there were few students in the low group in each country.

1 Because the statement "I read slower than other students in my class" was not included in PIRLS 2001, the reading self concept index for the 2001 data was computed by averaging across responses to the remaining three statements.

Exhibit 4.2 Index of Students' Reading Self-Concept (SRSC) with Trends

PIRLS 2006
4th Grade

Countries	High SRSC			Medium SRSC			Low SRSC		
	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001
Israel	63 (0.9)	544 (2.8)	2 (1.3)	36 (0.9)	477 (4.6)	-2 (1.3)	1 (0.2)	~ ~	0 (0.3)
Austria	62 (0.9)	553 (2.4)	◊ ◊	36 (0.9)	517 (2.7)	◊ ◊	2 (0.3)	~ ~	◊ ◊
Sweden	62 (0.9)	569 (2.2)	-2 (1.3)	37 (0.9)	523 (3.0)	1 (1.3)	2 (0.2)	~ ~	1 (0.3)
Poland	61 (0.9)	547 (2.2)	◊ ◊	36 (0.8)	483 (3.3)	◊ ◊	2 (0.3)	~ ~	◊ ◊
Norway	61 (1.2)	518 (2.4)	5 (1.6) ▲	37 (1.2)	477 (3.5)	-5 (1.6) ▼	2 (0.3)	~ ~	0 (0.4)
Netherlands	60 (0.9)	560 (1.8)	4 (1.3) ▲	36 (0.9)	531 (2.2)	-7 (1.2) ▼	4 (0.4)	508 (5.8)	2 (0.5) ▲
Denmark	60 (0.9)	574 (2.2)	◊ ◊	38 (0.9)	511 (3.1)	◊ ◊	3 (0.3)	442 (8.9)	◊ ◊
Slovenia	58 (1.0)	545 (2.1)	0 (1.5)	40 (1.0)	491 (2.4)	-1 (1.5)	2 (0.2)	~ ~	1 (0.4)
Iceland	58 (0.8)	534 (1.5)	3 (1.2) ▲	40 (0.9)	484 (2.1)	-3 (1.2) ▼	2 (0.3)	~ ~	1 (0.4)
Germany	58 (0.9)	571 (2.4)	5 (1.2) ▲	40 (0.9)	529 (2.2)	-6 (1.2) ▼	2 (0.2)	~ ~	1 (0.3)
Bulgaria	58 (1.4)	570 (3.9)	0 (2.0)	38 (1.3)	523 (5.6)	-3 (1.9)	4 (0.6)	482 (14.2)	3 (0.7) ▲
Italy	56 (1.1)	569 (3.2)	6 (1.7) ▲	41 (1.1)	534 (2.9)	-7 (1.7) ▼	3 (0.3)	496 (9.2)	1 (0.4)
Macedonia, Rep. of	55 (1.3)	486 (3.9)	-9 (1.8) ▼	44 (1.2)	401 (4.6)	8 (1.7) ▲	1 (0.2)	~ ~	0 (0.3)
Iran, Islamic Rep. of	54 (1.2)	458 (3.3)	3 (2.1)	44 (1.2)	383 (3.8)	-3 (2.1)	2 (0.2)	~ ~	0 (0.3)
Canada, British Columbia	54 (0.9)	584 (2.5)	◊ ◊	43 (0.9)	533 (3.0)	◊ ◊	2 (0.3)	~ ~	◊ ◊
Qatar	54 (0.6)	400 (1.7)	◊ ◊	43 (0.6)	309 (1.7)	◊ ◊	3 (0.2)	279 (9.6)	◊ ◊
Canada, Alberta	53 (0.9)	584 (2.8)	◊ ◊	44 (0.9)	538 (2.5)	◊ ◊	3 (0.3)	505 (6.6)	◊ ◊
Russian Federation	53 (1.1)	584 (3.5)	15 (1.7) ▲	45 (0.9)	546 (3.8)	-15 (1.5) ▼	2 (0.3)	~ ~	0 (0.4)
Canada, Nova Scotia	52 (0.9)	572 (2.4)	◊ ◊	45 (0.9)	518 (2.3)	◊ ◊	3 (0.3)	469 (7.5)	◊ ◊
United States	51 (0.8)	566 (3.5)	-6 (1.5) ▼	44 (0.8)	518 (3.9)	5 (1.4) ▲	4 (0.3)	495 (5.9)	1 (0.6)
Belgium (Flemish)	51 (1.0)	565 (2.0)	◊ ◊	44 (1.0)	532 (2.3)	◊ ◊	5 (0.4)	502 (4.3)	◊ ◊
Georgia	51 (1.3)	498 (3.2)	◊ ◊	46 (1.2)	450 (3.7)	◊ ◊	4 (0.6)	428 (14.8)	◊ ◊
Canada, Ontario	51 (1.0)	579 (2.8)	-5 (1.5) ▼	46 (1.0)	533 (3.5)	4 (1.5) ▲	3 (0.3)	494 (7.8)	1 (0.5)
Luxembourg	50 (0.7)	582 (1.3)	◊ ◊	46 (0.7)	535 (1.5)	◊ ◊	4 (0.3)	497 (4.5)	◊ ◊
Romania	50 (1.4)	524 (4.2)	-4 (1.9) ▼	45 (1.3)	467 (5.6)	0 (1.8)	5 (0.7)	416 (10.6)	4 (0.8) ▲
Canada, Quebec	50 (1.3)	560 (2.5)	-9 (1.8) ▼	46 (1.2)	515 (3.1)	6 (1.7) ▲	4 (0.5)	463 (6.8)	2 (0.6) ▲
Trinidad and Tobago	49 (1.4)	482 (3.7)	◊ ◊	47 (1.3)	399 (5.8)	◊ ◊	4 (0.6)	338 (16.4)	◊ ◊
Spain	48 (1.0)	535 (2.6)	◊ ◊	50 (1.0)	495 (2.7)	◊ ◊	2 (0.2)	~ ~	◊ ◊
Hong Kong SAR	48 (0.9)	585 (1.9)	9 (1.3) ▲	50 (0.9)	545 (2.7)	-7 (1.3) ▼	2 (0.2)	~ ~	-1 (0.4)
Hungary	45 (1.3)	579 (2.7)	-2 (1.6)	51 (1.1)	531 (3.3)	1 (1.4)	4 (0.4)	495 (7.7)	2 (0.5) ▲
Chinese Taipei	45 (0.9)	560 (2.1)	◊ ◊	51 (0.9)	518 (2.2)	◊ ◊	4 (0.3)	494 (5.9)	◊ ◊
Singapore	45 (0.9)	583 (2.9)	-2 (1.4)	52 (0.8)	542 (3.0)	2 (1.3)	3 (0.2)	489 (6.4)	0 (0.4)
Latvia	43 (1.2)	567 (2.6)	9 (1.5) ▲	53 (1.2)	523 (3.0)	-9 (1.6) ▼	3 (0.4)	498 (7.0)	1 (0.5)
Slovak Republic	43 (0.9)	562 (2.4)	0 (1.6)	54 (0.9)	512 (3.3)	-2 (1.5)	4 (0.3)	459 (7.0)	2 (0.5) ▲
Scotland	43 (1.1)	556 (3.7)	-1 (1.7)	52 (1.1)	512 (2.9)	-1 (1.6)	6 (0.5)	457 (5.1)	2 (0.6) ▲
England	42 (1.1)	578 (3.5)	-3 (1.6)	51 (1.1)	519 (2.7)	0 (1.6)	7 (0.5)	468 (7.0)	3 (0.7) ▲
Lithuania	40 (0.9)	561 (2.1)	5 (1.4) ▲	57 (0.8)	523 (1.9)	-6 (1.3) ▼	3 (0.3)	493 (6.8)	1 (0.5)
Kuwait	38 (1.3)	384 (5.2)	◊ ◊	59 (1.2)	318 (5.0)	◊ ◊	3 (0.3)	247 (11.6)	◊ ◊
Morocco	38 (1.6)	354 (5.8)	-8 (2.4) ▼	59 (1.6)	309 (7.6)	9 (2.3) ▲	3 (0.5)	276 (22.0)	-1 (1.1)
Belgium (French)	38 (0.9)	526 (3.1)	◊ ◊	58 (0.8)	487 (2.7)	◊ ◊	4 (0.5)	454 (6.1)	◊ ◊
New Zealand	36 (0.8)	574 (2.2)	-9 (1.3) ▼	60 (0.8)	513 (2.4)	8 (1.3) ▲	4 (0.3)	459 (6.1)	1 (0.5)
France	36 (0.8)	549 (3.1)	3 (1.3) ▲	60 (0.9)	510 (1.9)	-4 (1.3) ▼	4 (0.3)	472 (5.1)	1 (0.4)
Indonesia	34 (1.3)	426 (3.8)	◊ ◊	65 (1.2)	398 (4.7)	◊ ◊	1 (0.3)	~ ~	◊ ◊
Moldova, Rep. of	32 (1.3)	525 (3.6)	-11 (2.1) ▼	65 (1.3)	490 (3.4)	11 (2.1) ▲	3 (0.4)	469 (10.7)	-1 (0.7)
South Africa	31 (0.8)	369 (6.6)	◊ ◊	64 (0.8)	282 (5.3)	◊ ◊	4 (0.3)	232 (6.6)	◊ ◊
International Avg.	49 (0.2)	529 (0.5)		48 (0.2)	479 (0.6)		3 (0.1)	436 (1.9)	

SOURCE: IEA Progress in International Reading Literacy Study (PIRLS) 2006

▲ Percent in 2006 significantly higher ▼ Percent in 2006 significantly lower

Based on students' responses to the following: reading is very easy for me, I do not read as well as other students in my class, when I am reading by myself I understand almost everything I read, and I read slower than other students in my class. Average is computed on a 4-point scale: Disagree a lot = 1, Disagree a little = 2, Agree a little = 3, and Agree a lot = 4. Responses for negative statements were reverse-coded. High indicates an average of greater than 3 through 4. Medium indicates an average of 2 through 3. Low indicates an average of 1 to less than 2.

Please note that "I read slower than other students in my class" is a new variable added to the index in PIRLS 2006, and is not a part of the PIRLS 2001 index calculations.

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

An "r" indicates data are available for 70–84% of the students. An "s" indicates data are available for 50–69% of the students. An "x" indicates data are available for less than 50% of the students.

A tilde (~) indicates insufficient data to report achievement.

A diamond (◊) indicates the country did not participate in the 2001 assessment.

NOTE: The International Average does not include the results from the Canadian provinces.

Trend Note: The primary education systems of the Russian Federation and Slovenia underwent structural changes. Data for Canada, Ontario include only public schools.

How Often Do Children Engage in Literacy Activities Outside of School?

Exhibit 4.3 presents trends in the frequency with which students read stories or novels outside of school. The exhibit shows the percentage of students in each country in 2006 that reported reading stories or novels, as follows: *every day or almost every day*, *once or twice a week*, *once or twice a month*, and *never or almost never*, as well as the average reading achievement of those students. Also presented for those countries that participated in both cycles of PIRLS is the change in the percentage of students in each of these categories since 2001.

On average across countries, nearly one third of students (32%) reported reading stories or novels outside of school every day or almost every day, and an additional one third (31%) at least once a week. PIRLS 2006 participants with the highest percentages of frequent readers of novels and stories (at least 50% of students reading every day or almost every day) included four of the Canadian provinces (British Columbia, Nova Scotia, Alberta, and Ontario) and the Russian Federation. Although most countries had a majority of students reading novels and stories at least weekly, many countries also had a significant percentage of nonreaders. Countries where the percentage of students reporting never or almost never reading a novel or short story exceeded 25% included Germany, Spain, Belgium (French), Luxembourg, Norway, Austria, Bulgaria, Italy, Slovenia, Latvia, and the Slovak Republic.

A number of participants showed an increase in the percentage of students reading stories or novels every day or almost every day, including Israel, Hungary, Hong Kong SAR, Germany, Morocco, Romania, Norway, Italy, and the Canadian province of Quebec. The greatest increases were found in Israel and Hong Kong SAR (16%). Countries with a decrease in the percentage of students in this frequent reader category included the Russian Federation, the Netherlands, Singapore, Macedonia, Iceland, Scotland, England, Sweden, Bulgaria, Slovenia, Moldova, and Latvia. Countries with increased percentages in the never or almost never category included Scotland, England, Sweden, Bulgaria, Moldova, and Latvia.

Exhibit 4.3 Students Reading Stories or Novels Outside of School with Trends

PIRLS 2006
4th Grade

Countries	Every Day or Almost Every Day			Once or Twice a Week		
	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001
Canada, British Columbia	57 (1.2)	572 (2.5)	◇ ◇	26 (0.7)	552 (3.2)	◇ ◇
Canada, Nova Scotia	54 (1.0)	557 (2.4)	◇ ◇	26 (0.8)	534 (2.9)	◇ ◇
Canada, Alberta	53 (1.2)	577 (2.7)	◇ ◇	27 (0.9)	549 (3.5)	◇ ◇
Canada, Ontario	50 (1.7)	566 (3.2)	0 (2.0)	28 (1.4)	548 (3.0)	0 (1.7)
Russian Federation	50 (1.1)	568 (3.6)	-6 (1.9) ▼	32 (0.7)	565 (3.6)	3 (1.3) ▲
Trinidad and Tobago	47 (1.4)	452 (5.8)	◇ ◇	31 (1.3)	431 (6.6)	◇ ◇
New Zealand	46 (1.1)	556 (2.3)	0 (1.9)	29 (0.8)	526 (2.6)	-1 (1.4)
Israel	46 (1.0)	532 (4.2)	16 (1.5) ▲	32 (0.8)	513 (3.8)	6 (1.3) ▲
Netherlands	45 (1.0)	558 (2.0)	-3 (1.5) ▼	28 (0.7)	542 (1.8)	2 (1.1) ▲
Singapore	44 (1.1)	579 (3.0)	-9 (1.6) ▼	33 (0.8)	555 (3.1)	6 (1.1) ▲
Macedonia, Rep. of	44 (1.5)	442 (5.1)	-4 (2.1) ▼	35 (1.3)	449 (5.0)	1 (1.8)
Canada, Quebec	44 (1.4)	546 (3.3)	5 (1.9) ▲	28 (0.8)	530 (3.1)	-1 (1.3)
Iceland	42 (0.9)	522 (2.4)	-2 (1.1) ▼	27 (0.8)	512 (2.3)	1 (1.0)
South Africa	39 (1.0)	308 (7.0)	◇ ◇	33 (0.6)	310 (6.7)	◇ ◇
Qatar	37 (0.6)	361 (2.1)	◇ ◇	37 (0.6)	359 (2.0)	◇ ◇
United States	36 (1.3)	558 (4.6)	2 (2.0)	28 (0.8)	541 (3.6)	-1 (1.3)
Hungary	36 (1.2)	554 (4.6)	3 (1.5) ▲	34 (0.9)	553 (3.5)	1 (1.3)
Hong Kong SAR	36 (0.9)	575 (2.4)	16 (1.3) ▲	40 (0.8)	568 (2.6)	-5 (1.2) ▼
Scotland	35 (1.3)	555 (4.2)	-5 (1.8) ▼	29 (0.9)	525 (3.3)	-2 (1.4)
Kuwait	33 (1.2)	351 (5.2)	◇ ◇	40 (1.0)	337 (4.9)	◇ ◇
England	33 (1.2)	573 (3.9)	-5 (1.8) ▼	30 (1.0)	535 (3.2)	-1 (1.4)
Germany	32 (0.7)	566 (3.0)	5 (1.0) ▲	21 (0.8)	547 (3.7)	0 (1.1)
France	32 (1.0)	533 (2.9)	2 (1.5)	30 (0.8)	524 (2.3)	1 (1.2)
Georgia	32 (1.5)	467 (3.5)	◇ ◇	32 (1.3)	479 (3.5)	◇ ◇
Belgium (Flemish)	31 (0.9)	557 (2.8)	◇ ◇	34 (0.9)	546 (2.4)	◇ ◇
Spain	31 (1.1)	511 (3.7)	◇ ◇	24 (0.8)	515 (3.0)	◇ ◇
Poland	31 (1.1)	524 (3.3)	◇ ◇	37 (1.2)	524 (3.1)	◇ ◇
Sweden	30 (0.9)	564 (3.2)	-3 (1.3) ▼	33 (0.9)	549 (3.4)	-1 (1.2)
Chinese Taipei	30 (0.8)	549 (2.7)	◇ ◇	36 (0.9)	541 (2.4)	◇ ◇
Denmark	29 (1.1)	558 (3.2)	◇ ◇	26 (0.8)	548 (3.2)	◇ ◇
Belgium (French)	28 (0.9)	509 (3.7)	◇ ◇	27 (0.8)	498 (3.5)	◇ ◇
Lithuania	28 (1.0)	542 (2.5)	1 (1.6)	30 (0.9)	538 (2.5)	-1 (1.3)
Morocco	27 (1.2)	334 (6.2)	9 (1.6) ▲	36 (1.5)	334 (6.3)	2 (2.2)
Romania	27 (1.4)	491 (6.1)	7 (1.9) ▲	34 (1.3)	497 (5.8)	-4 (1.9) ▼
Iran, Islamic Rep. of	25 (0.9)	435 (5.8)	2 (1.3)	43 (1.3)	429 (3.6)	1 (1.6)
Luxembourg	24 (0.6)	587 (2.6)	◇ ◇	24 (0.6)	554 (2.6)	◇ ◇
Norway	23 (1.1)	509 (3.2)	5 (1.4) ▲	24 (0.9)	501 (3.5)	-1 (1.2)
Austria	23 (0.9)	554 (3.0)	◇ ◇	23 (0.8)	541 (3.0)	◇ ◇
Indonesia	22 (1.0)	399 (4.8)	◇ ◇	36 (1.1)	413 (4.4)	◇ ◇
Bulgaria	22 (1.0)	558 (6.4)	-6 (1.6) ▼	26 (1.0)	555 (4.9)	-2 (1.5)
Italy	22 (1.2)	573 (4.4)	7 (1.4) ▲	20 (1.0)	556 (3.3)	2 (1.2)
Slovenia	21 (0.8)	536 (3.0)	-5 (1.4) ▼	29 (0.8)	520 (3.0)	2 (1.3)
Moldova, Rep. of	19 (1.0)	499 (4.4)	-4 (1.8) ▼	37 (1.2)	503 (3.7)	-7 (2.2) ▼
Latvia	19 (0.9)	558 (4.0)	-4 (1.3) ▼	25 (1.1)	548 (3.6)	-2 (1.4)
Slovak Republic	15 (0.7)	540 (4.5)	0 (1.1)	21 (0.9)	536 (3.5)	0 (1.3)
International Avg.	32 (0.2)	512 (0.6)		31 (0.2)	503 (0.6)	

▲ Percent in 2006 significantly higher

▼ Percent in 2006 significantly lower

SOURCE: IEA Progress in International Reading Literacy Study (PIRLS) 2006

Background data provided by students.

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A diamond (◇) indicates the country did not participate in the 2001 assessment.

NOTE: The International Average does not include the results from the Canadian provinces.

Trend Note: The primary education systems of the Russian Federation and Slovenia underwent structural changes. Data for Canada, Ontario include only public schools.



Exhibit 4.3 Students Reading Stories or Novels Outside of School with Trends (Continued)

Countries	Once or Twice a Month			Never or Almost Never		
	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001
Canada, British Columbia	11 (0.7)	539 (4.1)	◇ ◇	6 (0.6)	511 (7.0)	◇ ◇
Canada, Nova Scotia	12 (0.5)	531 (3.9)	◇ ◇	8 (0.5)	497 (6.3)	◇ ◇
Canada, Alberta	12 (0.7)	544 (3.4)	◇ ◇	8 (0.6)	523 (4.9)	◇ ◇
Canada, Ontario	14 (0.9)	544 (5.1)	0 (1.1)	7 (0.7)	520 (7.5)	1 (1.0)
Russian Federation	11 (0.6)	563 (4.9)	2 (0.9) ▲	7 (0.6)	548 (5.4)	1 (0.8)
Trinidad and Tobago	10 (0.6)	420 (7.1)	◇ ◇	11 (1.0)	408 (7.2)	◇ ◇
New Zealand	14 (0.6)	513 (3.9)	1 (1.0)	10 (0.6)	473 (4.2)	0 (1.0)
Israel	15 (0.6)	495 (4.8)	1 (0.9)	7 (0.5)	481 (7.2)	-22 (1.4) ▼
Netherlands	13 (0.6)	540 (2.2)	0 (0.9)	14 (0.7)	531 (3.2)	0 (1.1)
Singapore	15 (0.5)	534 (3.5)	4 (0.7) ▲	8 (0.4)	505 (4.6)	-1 (0.7)
Macedonia, Rep. of	16 (1.1)	452 (7.1)	2 (1.6)	5 (0.4)	445 (10.1)	1 (0.6)
Canada, Quebec	16 (0.9)	528 (3.4)	-1 (1.3)	12 (0.9)	502 (5.1)	-4 (1.6) ▼
Iceland	16 (0.6)	508 (2.8)	2 (0.8) ▲	15 (0.6)	486 (2.9)	-1 (0.8)
South Africa	14 (0.5)	302 (6.6)	◇ ◇	13 (0.7)	294 (7.2)	◇ ◇
Qatar	15 (0.4)	347 (3.4)	◇ ◇	10 (0.4)	342 (4.4)	◇ ◇
United States	18 (0.7)	539 (3.6)	1 (1.0)	18 (0.9)	509 (3.2)	-3 (1.3)
Hungary	20 (0.9)	553 (2.9)	-2 (1.2) ▼	10 (0.7)	535 (6.7)	-2 (1.0)
Hong Kong SAR	17 (0.7)	550 (3.3)	-6 (1.0) ▼	7 (0.5)	518 (5.0)	-5 (0.8) ▼
Scotland	18 (0.9)	521 (3.8)	3 (1.2) ▲	17 (1.2)	484 (4.8)	5 (1.5) ▲
Kuwait	19 (0.8)	326 (5.8)	◇ ◇	8 (0.7)	312 (8.9)	◇ ◇
England	20 (0.7)	536 (4.2)	3 (1.0) ▲	17 (0.8)	492 (3.5)	3 (1.2) ▲
Germany	16 (0.5)	550 (3.6)	1 (0.8)	31 (0.9)	535 (2.6)	-6 (1.4) ▼
France	19 (0.6)	522 (2.8)	-1 (0.9)	19 (0.9)	501 (2.9)	-2 (1.3)
Georgia	20 (1.4)	484 (6.8)	◇ ◇	17 (1.2)	459 (5.6)	◇ ◇
Belgium (Flemish)	21 (0.8)	545 (3.0)	◇ ◇	14 (0.8)	530 (3.3)	◇ ◇
Spain	15 (0.6)	523 (3.7)	◇ ◇	29 (1.0)	508 (3.2)	◇ ◇
Poland	21 (0.8)	516 (3.7)	◇ ◇	11 (0.8)	504 (4.6)	◇ ◇
Sweden	22 (0.8)	546 (2.7)	0 (1.0)	15 (0.8)	529 (3.4)	3 (1.0) ▲
Chinese Taipei	20 (0.7)	531 (3.2)	◇ ◇	15 (0.7)	505 (3.1)	◇ ◇
Denmark	20 (0.8)	551 (3.0)	◇ ◇	25 (1.1)	529 (3.0)	◇ ◇
Belgium (French)	18 (0.7)	507 (3.3)	◇ ◇	27 (0.9)	488 (3.0)	◇ ◇
Lithuania	19 (0.7)	540 (2.6)	-1 (1.2)	23 (1.0)	528 (2.4)	1 (1.5)
Morocco	21 (1.5)	327 (10.2)	-4 (1.9)	16 (2.5)	282 (16.8)	-8 (3.5) ▼
Romania	23 (1.3)	503 (5.8)	-4 (1.8) ▼	16 (1.1)	463 (9.8)	2 (1.7)
Iran, Islamic Rep. of	22 (0.9)	423 (4.3)	1 (1.3)	10 (1.0)	356 (9.3)	-5 (1.6) ▼
Luxembourg	21 (0.5)	553 (2.4)	◇ ◇	31 (0.6)	539 (1.8)	◇ ◇
Norway	21 (0.8)	503 (5.1)	1 (1.2)	32 (1.2)	488 (3.5)	-5 (1.8) ▼
Austria	18 (0.7)	537 (3.8)	◇ ◇	37 (1.1)	528 (2.6)	◇ ◇
Indonesia	16 (0.7)	411 (5.7)	◇ ◇	25 (1.2)	406 (6.0)	◇ ◇
Bulgaria	23 (1.0)	555 (6.0)	2 (1.4)	29 (1.3)	529 (5.2)	7 (2.0) ▲
Italy	15 (0.8)	554 (4.1)	-1 (1.0)	43 (1.3)	540 (3.3)	-7 (1.7) ▼
Slovenia	23 (0.8)	522 (3.0)	4 (1.3) ▲	28 (0.9)	513 (2.5)	0 (1.7)
Moldova, Rep. of	23 (0.9)	504 (4.1)	0 (1.8)	21 (1.1)	493 (4.4)	11 (1.6) ▲
Latvia	21 (0.9)	544 (3.6)	1 (1.2)	36 (1.4)	526 (2.5)	6 (1.7) ▲
Slovak Republic	21 (0.7)	540 (3.7)	-1 (1.1)	43 (1.1)	522 (3.9)	1 (1.7)
International Avg.	18 (0.1)	500 (0.7)		19 (0.2)	479 (0.9)	

SOURCE: IEA Progress in International Reading Literacy Study (PIRLS) 2006

▲ Percent in 2006 significantly higher

▼ Percent in 2006 significantly lower

On average internationally, and in most countries, students who reported reading novels and short stories most frequently had higher average achievement than those who read less frequently. Students who never or almost never did this kind of reading had the lowest achievement in most countries. The average achievement difference between students who read novels or short stories daily or almost daily and those who never or almost never read them was 33 points on the PIRLS reading scale.

Although literary texts such as short stories and novels make up a large part of the reading material of fourth-grade students outside of school, there are also many kinds of informational texts that children may read, such as magazines, newspapers, books that explain things, directions, or instructions. Exhibit 4.4 presents students' reports of how often they read such materials, together with average student reading achievement and changes since 2001. The PIRLS Reading for Information Scale was based on student responses to six questions/statements, as follows:

How often do you do these things outside of school?

- ▶ I read to find out about things I want to learn.

How often do you read these things after school?

- ▶ I read books that explain things.
- ▶ I read magazines.
- ▶ I read newspapers.
- ▶ I read directions or instructions.
- ▶ I read brochures or catalogs.

Student responses were recorded on a 4-point scale, as follows: *every day or almost every day, once or twice a week, once or twice a month, and never or almost never*, and students were assigned to one of the four categories of reading frequency for information on the basis of their average response (see Exhibit 4.4).

Compared to literary reading, which for many students was a daily or at least weekly occurrence, student reading of informational texts was

more intermittent. Fewer students, on average internationally, reported daily informational reading (16%) than literary reading (32%), and relatively more reported reading for information once or twice a week or once or twice a month (72% informational vs. 49% literary). Countries with the greatest percentages of students reporting frequent informational reading (30% or more) included South Africa, Macedonia, Qatar, and Kuwait. Only two countries, Hong Kong SAR and Sweden, had greater percentages of students in 2006 than in 2001 reporting frequent reading for information. In contrast, several participants (Slovenia, Lithuania, Bulgaria, Singapore, Latvia, the United States, Iran, and the provinces of Ontario and Quebec) showed a decrease from 2001 to 2006 in the percentage of students reading informational texts daily or almost daily.

Not only was student reading for information more intermittent than literary reading, it also had a less clear-cut relationship with student reading achievement. Unlike literary reading, where students who read most frequently (every day or almost every day) had higher average achievement, average achievement for informational reading was highest among students who reported reading once or twice a week or once or twice a month.

In view of the widespread access to the Internet in today's world, and the reading opportunities that the Internet provides over and above those provided by print media, PIRLS 2006 asked students how much time they spent reading stories or articles on the Internet and how much time they spent reading them in books or magazines. Exhibit 4.5 presents the average number of hours on a typical day students in each country reported reading on the Internet and reading from books and magazines, separately for girls and boys and for all students together.

As might be expected, on average across countries, students reported spending more time on a typical day reading stories and articles in books or magazines than on the Internet (1.4 hours vs. 1.0 hours). Students in Kuwait, Qatar, and South Africa reported spending the most time reading on the Internet (more than 2 hours, on average, on a typical day), whereas in Iran, Luxembourg, the Netherlands, the Russian Federation, and Sweden,

Exhibit 4.4 Students Reading for Information Outside of School with Trends

PIRLS 2006
4th Grade

Countries	Every Day or Almost Every Day			Once or Twice a Week		
	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001
South Africa	36 (1.1)	302 (6.0)	◇ ◇	45 (0.7)	307 (5.8)	◇ ◇
Macedonia, Rep. of	33 (1.3)	440 (5.4)	-3 (1.9)	48 (1.1)	453 (4.4)	1 (1.7)
Qatar	33 (0.6)	359 (1.9)	◇ ◇	49 (0.6)	355 (1.7)	◇ ◇
Kuwait	30 (1.4)	342 (5.6)	◇ ◇	50 (1.1)	343 (4.5)	◇ ◇
Trinidad and Tobago	29 (1.4)	440 (6.2)	◇ ◇	48 (1.2)	435 (5.9)	◇ ◇
Israel	21 (0.8)	499 (5.4)	-1 (1.3)	44 (1.0)	510 (4.0)	1 (1.4)
Poland	21 (0.8)	523 (2.9)	◇ ◇	46 (0.9)	522 (3.3)	◇ ◇
Slovak Republic	20 (1.0)	527 (4.2)	1 (1.3)	50 (0.9)	539 (2.5)	0 (1.4)
Moldova, Rep. of	19 (1.0)	497 (4.0)	1 (1.8)	50 (1.3)	503 (3.9)	5 (2.3)
Indonesia	19 (0.9)	409 (5.4)	◇ ◇	50 (1.1)	409 (4.4)	◇ ◇
Hungary	19 (0.9)	533 (4.6)	0 (1.2)	50 (0.9)	552 (3.5)	4 (1.3) ▲
Russian Federation	18 (0.9)	555 (4.2)	-2 (1.4)	47 (0.7)	564 (3.7)	-1 (1.4)
Slovenia	18 (0.6)	510 (3.3)	-5 (1.3) ▼	49 (0.9)	519 (2.6)	2 (1.4)
Lithuania	18 (0.8)	530 (3.3)	-4 (1.3) ▼	53 (0.9)	538 (1.9)	1 (1.3)
Bulgaria	17 (1.1)	544 (6.7)	-10 (1.6) ▼	47 (1.5)	556 (4.5)	2 (1.9)
Romania	16 (1.0)	493 (6.1)	-3 (1.7)	49 (1.4)	500 (5.4)	1 (1.9)
Singapore	16 (0.5)	558 (3.5)	-8 (0.9) ▼	47 (0.8)	561 (3.2)	0 (1.0)
Latvia	16 (0.8)	530 (4.8)	-3 (1.3) ▼	48 (0.9)	541 (2.9)	-3 (1.7) ▼
Georgia	16 (1.3)	465 (4.5)	◇ ◇	43 (1.3)	480 (3.0)	◇ ◇
Germany	15 (0.6)	536 (3.3)	1 (0.9)	40 (0.8)	551 (3.1)	2 (1.2) ▲
Austria	15 (0.7)	526 (3.3)	◇ ◇	43 (1.0)	540 (2.7)	◇ ◇
Spain	14 (0.8)	501 (3.6)	◇ ◇	45 (1.1)	513 (3.0)	◇ ◇
New Zealand	14 (0.6)	514 (4.5)	-1 (1.1)	43 (0.8)	534 (2.2)	1 (1.3)
United States	14 (0.6)	519 (4.5)	-4 (1.1) ▼	43 (0.9)	538 (3.5)	-1 (1.3)
Scotland	13 (0.8)	506 (5.2)	-1 (1.1)	42 (1.0)	527 (3.6)	-1 (1.5)
Morocco	13 (1.2)	324 (7.5)	2 (1.7)	45 (1.6)	326 (6.8)	5 (2.4) ▲
Belgium (French)	13 (0.7)	480 (4.6)	◇ ◇	40 (0.8)	498 (2.9)	◇ ◇
France	12 (0.7)	506 (4.0)	1 (0.9)	40 (0.8)	520 (2.2)	1 (1.2)
Hong Kong SAR	12 (0.5)	554 (4.0)	4 (0.7) ▲	43 (0.8)	569 (2.6)	0 (1.2)
Canada, Nova Scotia	12 (0.6)	523 (4.5)	◇ ◇	42 (1.0)	545 (2.6)	◇ ◇
Iran, Islamic Rep. of	11 (0.8)	435 (6.7)	-2 (1.1) ▼	40 (1.5)	436 (3.8)	1 (2.1)
Norway	11 (0.7)	485 (4.7)	0 (1.0)	38 (0.9)	499 (2.7)	0 (1.4)
Italy	11 (0.8)	539 (6.3)	-1 (1.1)	40 (0.8)	554 (3.1)	1 (1.2)
Canada, Ontario	11 (0.9)	532 (6.2)	-3 (1.2) ▼	40 (1.5)	554 (3.1)	-1 (1.8)
Canada, Alberta	10 (0.6)	543 (4.2)	◇ ◇	43 (0.9)	560 (2.7)	◇ ◇
England	10 (0.7)	502 (5.5)	-2 (1.0)	44 (1.0)	537 (2.8)	0 (1.5)
Canada, Quebec	10 (0.6)	520 (3.9)	-2 (1.0) ▼	37 (1.1)	532 (3.3)	-6 (1.5) ▼
Sweden	9 (0.7)	539 (6.0)	2 (0.8) ▲	33 (1.0)	550 (2.8)	2 (1.3)
Canada, British Columbia	9 (0.6)	541 (5.3)	◇ ◇	39 (1.0)	557 (3.3)	◇ ◇
Chinese Taipei	8 (0.4)	538 (3.6)	◇ ◇	38 (0.8)	538 (2.2)	◇ ◇
Iceland	8 (0.4)	496 (4.9)	-1 (0.7)	33 (0.8)	511 (2.0)	0 (1.1)
Denmark	6 (0.5)	526 (5.7)	◇ ◇	30 (1.0)	539 (3.1)	◇ ◇
Luxembourg	6 (0.3)	542 (4.1)	◇ ◇	33 (0.6)	555 (2.0)	◇ ◇
Belgium (Flemish)	4 (0.4)	532 (5.7)	◇ ◇	29 (1.0)	544 (2.8)	◇ ◇
Netherlands	4 (0.4)	528 (6.0)	0 (0.6)	25 (1.0)	542 (2.3)	1 (1.2)
International Avg.	16 (0.1)	492 (0.8)		43 (0.2)	503 (0.6)	

▲ Percent in 2006 significantly higher

▼ Percent in 2006 significantly lower

Based on students' responses on how often they read to find out about things they want to learn and how often they read the following things outside of school: books that explain things, magazines, newspapers, directions or instructions, and brochures and catalogs. Average is computed on a 4-point scale: Never or almost never = 1, Once or twice a month = 2, Once or twice a week = 3, and Every day or almost every day = 4. Every day or almost every day indicates an average of greater than 3.25 through 4. Once or twice a week indicates an average of greater than 2.5 through 3.25. Once or twice a month

indicates an average of greater than 1.75 through 2.5. Never or almost never indicates an average of 1 to less than 1.75.

Please note that "I read brochures and catalogs" is a new item added to the index in 2006, and is not included in the 2001 index calculations.

- (1) Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

SOURCE: IEA Progress in International Reading Literacy Study (PIRLS) 2006



Exhibit 4.4 Students Reading for Information Outside of School with Trends (Continued)

PIRLS 2006
4th Grade

Countries	Once or Twice a Month			Never or Almost Never		
	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001
South Africa	16 (0.8)	317 (10.1)	◇ ◇	3 (0.5)	304 (19.7)	◇ ◇
Macedonia, Rep. of	16 (1.2)	447 (6.3)	2 (1.5)	2 (0.3)	~ ~	0 (0.6)
Qatar	15 (0.4)	359 (3.5)	◇ ◇	3 (0.2)	345 (7.6)	◇ ◇
Kuwait	16 (0.9)	329 (6.4)	◇ ◇	3 (0.6)	295 (15.3)	◇ ◇
Trinidad and Tobago	18 (0.8)	444 (5.8)	◇ ◇	4 (0.5)	414 (13.6)	◇ ◇
Israel	25 (1.0)	532 (3.9)	-1 (1.3)	10 (0.6)	549 (5.1)	2 (0.8) ▲
Poland	27 (0.7)	518 (3.4)	◇ ◇	6 (0.5)	508 (6.8)	◇ ◇
Slovak Republic	24 (0.8)	530 (4.3)	-2 (1.2)	6 (0.6)	492 (15.3)	1 (0.8)
Moldova, Rep. of	24 (1.3)	500 (4.3)	-5 (2.1) ▼	7 (0.9)	492 (8.7)	0 (1.4)
Indonesia	25 (1.0)	407 (5.1)	◇ ◇	6 (0.9)	391 (8.0)	◇ ◇
Hungary	25 (0.8)	562 (3.4)	-3 (1.3) ▼	7 (0.5)	558 (6.4)	0 (0.7)
Russian Federation	28 (0.9)	572 (3.5)	1 (1.3)	7 (0.5)	570 (5.6)	2 (0.9)
Slovenia	26 (0.7)	533 (2.9)	1 (1.2)	8 (0.5)	524 (4.9)	2 (0.7) ▲
Lithuania	25 (0.8)	541 (2.4)	0 (1.4)	4 (0.4)	533 (4.7)	3 (0.4) ▲
Bulgaria	25 (1.2)	550 (4.3)	4 (1.6) ▲	11 (1.3)	521 (9.6)	4 (1.6) ▲
Romania	26 (1.1)	490 (5.5)	-3 (1.7)	9 (1.0)	444 (12.7)	5 (1.1) ▲
Singapore	28 (0.7)	561 (3.4)	4 (0.9) ▲	8 (0.3)	538 (4.4)	4 (0.4) ▲
Latvia	29 (0.9)	547 (2.9)	4 (1.7) ▲	7 (0.6)	545 (5.1)	3 (0.7) ▲
Georgia	30 (1.5)	475 (4.7)	◇ ◇	11 (1.0)	450 (10.3)	◇ ◇
Germany	32 (0.7)	555 (2.6)	-4 (1.0) ▼	13 (0.7)	547 (3.7)	0 (1.0)
Austria	31 (0.8)	540 (2.7)	◇ ◇	12 (0.7)	543 (4.3)	◇ ◇
Spain	30 (0.9)	518 (2.7)	◇ ◇	10 (0.6)	514 (5.4)	◇ ◇
New Zealand	31 (0.6)	541 (2.7)	-4 (1.3) ▼	12 (0.7)	531 (5.2)	3 (0.9) ▲
United States	33 (1.0)	553 (4.0)	2 (1.4)	10 (0.6)	546 (5.3)	3 (0.9) ▲
Scotland	34 (1.0)	538 (3.0)	-1 (1.6)	11 (1.0)	522 (6.7)	3 (1.2) ▲
Morocco	28 (1.4)	331 (9.1)	-5 (2.4)	14 (1.8)	310 (12.6)	-3 (3.4)
Belgium (French)	31 (0.7)	506 (3.1)	◇ ◇	16 (0.8)	510 (3.6)	◇ ◇
France	34 (0.9)	527 (3.0)	-5 (1.4) ▼	14 (0.6)	530 (3.8)	3 (0.8) ▲
Hong Kong SAR	32 (0.8)	567 (2.5)	-8 (1.1) ▼	13 (0.6)	550 (3.5)	4 (0.7) ▲
Canada, Nova Scotia	33 (0.8)	552 (2.7)	◇ ◇	13 (0.6)	533 (4.0)	◇ ◇
Iran, Islamic Rep. of	35 (1.2)	421 (4.0)	-3 (1.8)	14 (1.2)	374 (9.4)	4 (1.5) ▲
Norway	34 (0.9)	503 (3.7)	-4 (1.5) ▼	17 (0.8)	497 (3.9)	3 (1.3) ▲
Italy	36 (1.0)	554 (3.7)	-2 (1.4)	14 (0.8)	552 (4.8)	2 (1.0) ▲
Canada, Ontario	35 (1.2)	558 (3.3)	-1 (1.6)	14 (1.0)	564 (4.5)	4 (1.1) ▲
Canada, Alberta	34 (0.8)	566 (2.8)	◇ ◇	13 (0.6)	565 (4.2)	◇ ◇
England	35 (1.1)	556 (3.2)	-2 (1.6)	11 (0.7)	537 (5.8)	3 (0.9) ▲
Canada, Quebec	35 (1.1)	536 (3.6)	0 (1.4)	18 (1.0)	539 (4.2)	8 (1.2) ▲
Sweden	36 (0.8)	553 (2.7)	-6 (1.1) ▼	23 (1.1)	548 (3.0)	1 (1.4)
Canada, British Columbia	38 (0.8)	564 (3.1)	◇ ◇	14 (0.7)	561 (4.2)	◇ ◇
Chinese Taipei	38 (0.8)	536 (2.8)	◇ ◇	16 (0.7)	529 (3.5)	◇ ◇
Iceland	36 (0.7)	515 (2.1)	-4 (1.1) ▼	22 (0.7)	514 (2.2)	4 (0.9) ▲
Denmark	40 (0.9)	549 (2.6)	◇ ◇	25 (1.1)	557 (3.7)	◇ ◇
Luxembourg	41 (0.6)	560 (1.6)	◇ ◇	20 (0.4)	559 (2.3)	◇ ◇
Belgium (Flemish)	42 (0.8)	549 (2.3)	◇ ◇	25 (0.8)	550 (2.1)	◇ ◇
Netherlands	38 (0.9)	552 (2.1)	-5 (1.3) ▼	34 (1.2)	549 (2.2)	4 (1.5) ▲
International Avg.	29 (0.1)	506 (0.7)		12 (0.1)	496 (1.3)	

SOURCE: IEA Progress in International Reading Literacy Study (PIRLS) 2006

▲ Percent in 2006 significantly higher

▼ Percent in 2006 significantly lower

A tilde (~) indicates insufficient data to report achievement.

A diamond (◇) indicates the country did not participate in the 2001 assessment.

NOTE: The International Average does not include the results from the Canadian provinces.

Trend Note: The primary education systems of the Russian Federation and Slovenia underwent structural changes. Data for Canada, Ontario include only public schools.

Exhibit 4.5 Students Read Stories or Articles Outside of School

PIRLS 2006
4th Grade

Countries	Average Number of Hours on a Typical Day Spent Reading					
	Stories or Articles on the Internet			Stories or Articles in Books or Magazines		
	Overall	Girls	Boys	Overall	Girls	Boys
Austria	0.8 (0.02)	0.8 (0.03)	0.9 (0.03) ▲	1.6 (0.03)	1.8 (0.04) ▲	1.3 (0.04)
Belgium (Flemish)	0.6 (0.03)	0.5 (0.03)	0.6 (0.04) ▲	0.6 (0.02)	0.7 (0.03) ▲	0.5 (0.02)
Belgium (French)	1.2 (0.04)	1.2 (0.05)	1.3 (0.05)	1.2 (0.03)	1.3 (0.04) ▲	1.1 (0.04)
Bulgaria	1.0 (0.05)	0.9 (0.05)	1.1 (0.06) ▲	1.5 (0.05)	1.6 (0.07) ▲	1.3 (0.05)
Canada, Alberta	0.8 (0.03)	0.8 (0.04)	0.9 (0.04)	1.3 (0.03)	1.4 (0.04) ▲	1.2 (0.04)
Canada, British Columbia	0.8 (0.03)	0.7 (0.04)	0.8 (0.04) ▲	1.3 (0.04)	1.4 (0.05) ▲	1.2 (0.05)
Canada, Nova Scotia	0.9 (0.03)	0.9 (0.04)	1.0 (0.04) ▲	1.3 (0.03)	1.5 (0.04) ▲	1.2 (0.04)
Canada, Ontario	0.9 (0.04)	0.8 (0.05)	0.9 (0.04)	1.4 (0.05)	1.5 (0.06) ▲	1.3 (0.06)
Canada, Quebec	1.0 (0.04)	1.0 (0.04)	1.1 (0.06)	1.3 (0.04)	1.5 (0.06) ▲	1.2 (0.04)
Chinese Taipei	1.0 (0.03)	1.1 (0.04) ▲	0.9 (0.03)	1.2 (0.03)	1.4 (0.04) ▲	1.1 (0.04)
Denmark	0.6 (0.03)	0.5 (0.03)	0.7 (0.04) ▲	1.0 (0.03)	1.1 (0.04) ▲	0.9 (0.04)
England	0.9 (0.03)	0.8 (0.04)	0.9 (0.04)	1.2 (0.03)	1.4 (0.05) ▲	1.1 (0.04)
France	0.9 (0.03)	0.9 (0.04)	0.9 (0.05)	1.2 (0.03)	1.2 (0.04) ▲	1.1 (0.04)
Georgia	0.9 (0.05)	0.8 (0.06)	0.9 (0.06)	1.5 (0.05)	1.6 (0.07) ▲	1.4 (0.06)
Germany	0.6 (0.02)	0.6 (0.03)	0.6 (0.03) ▲	1.5 (0.03)	1.7 (0.04) ▲	1.4 (0.05)
Hong Kong SAR	1.1 (0.03)	1.1 (0.04)	1.0 (0.04)	1.0 (0.03)	1.1 (0.04) ▲	1.0 (0.04)
Hungary	0.7 (0.03)	0.7 (0.04)	0.7 (0.03)	1.3 (0.04)	1.4 (0.06) ▲	1.1 (0.04)
Iceland	0.6 (0.02)	0.6 (0.02)	0.7 (0.03) ▲	0.8 (0.02)	0.9 (0.03) ▲	0.7 (0.03)
Indonesia	1.3 (0.05)	1.2 (0.05)	1.3 (0.06)	1.6 (0.04)	1.7 (0.06)	1.6 (0.05)
Iran, Islamic Rep. of	0.3 (0.03)	0.3 (0.05)	0.4 (0.05)	1.5 (0.05)	1.5 (0.06)	1.4 (0.08)
Israel	1.5 (0.04)	1.4 (0.05)	1.5 (0.05) ▲	1.4 (0.04)	1.6 (0.05) ▲	1.3 (0.04)
Italy	0.7 (0.03)	0.6 (0.04)	0.8 (0.04) ▲	1.3 (0.04)	1.4 (0.05) ▲	1.1 (0.05)
Kuwait	2.1 (0.06)	2.0 (0.07)	2.1 (0.08)	2.1 (0.05)	2.2 (0.07)	2.1 (0.07)
Latvia	1.0 (0.04)	0.9 (0.04)	1.1 (0.05) ▲	1.2 (0.03)	1.4 (0.05) ▲	1.0 (0.04)
Lithuania	0.9 (0.03)	0.9 (0.04)	1.0 (0.03)	1.4 (0.03)	1.7 (0.04) ▲	1.2 (0.04)
Luxembourg	0.5 (0.01)	0.5 (0.02)	0.6 (0.02) ▲	0.9 (0.02)	1.0 (0.02) ▲	0.8 (0.03)
Macedonia, Rep. of	1.8 (0.08)	1.7 (0.09)	1.8 (0.08) ▲	2.6 (0.07)	2.7 (0.08) ▲	2.4 (0.07)
Moldova, Rep. of	1.0 (0.06)	0.9 (0.08)	1.0 (0.06)	1.8 (0.05)	1.9 (0.07) ▲	1.7 (0.06)
Morocco	1.3 (0.08)	1.3 (0.09)	1.4 (0.08)	1.3 (0.07)	1.4 (0.09)	1.3 (0.08)
Netherlands	0.5 (0.02)	0.5 (0.02)	0.5 (0.03)	0.8 (0.02)	0.9 (0.04) ▲	0.6 (0.03)
New Zealand	0.9 (0.03)	0.9 (0.04)	1.0 (0.04) ▲	1.4 (0.04)	1.6 (0.05) ▲	1.3 (0.04)
Norway	0.6 (0.03)	0.5 (0.04)	0.6 (0.03)	0.9 (0.04)	0.9 (0.05) ▲	0.8 (0.05)
Poland	0.9 (0.03)	0.8 (0.03)	1.0 (0.04) ▲	1.5 (0.03)	1.7 (0.04) ▲	1.3 (0.05)
Qatar	2.3 (0.03)	2.2 (0.04)	2.4 (0.04) ▲	2.2 (0.03)	2.3 (0.04) ▲	2.1 (0.04)
Romania	0.9 (0.06)	0.8 (0.06)	1.0 (0.07) ▲	1.6 (0.05)	1.8 (0.07) ▲	1.5 (0.06)
Russian Federation	0.5 (0.03)	0.4 (0.02)	0.6 (0.04) ▲	1.5 (0.04)	1.6 (0.05) ▲	1.3 (0.04)
Scotland	0.9 (0.04)	0.9 (0.05)	0.9 (0.05)	1.2 (0.03)	1.4 (0.05) ▲	1.1 (0.05)
Singapore	1.1 (0.03)	1.1 (0.03)	1.0 (0.04)	1.4 (0.02)	1.6 (0.04) ▲	1.2 (0.03)
Slovak Republic	0.7 (0.03)	0.7 (0.04)	0.8 (0.04) ▲	1.5 (0.04)	1.7 (0.05) ▲	1.3 (0.05)
Slovenia	0.7 (0.03)	0.6 (0.03)	0.8 (0.04) ▲	1.0 (0.02)	1.1 (0.03) ▲	0.9 (0.03)
South Africa	2.1 (0.07)	2.1 (0.07)	2.1 (0.07)	2.7 (0.06)	2.7 (0.06) ▲	2.6 (0.07)
Spain	0.9 (0.03)	0.8 (0.04)	1.0 (0.05) ▲	1.2 (0.03)	1.2 (0.05)	1.2 (0.05)
Sweden	0.5 (0.02)	0.4 (0.02)	0.6 (0.04) ▲	0.7 (0.02)	0.7 (0.03) ▲	0.6 (0.03)
Trinidad and Tobago	1.5 (0.07)	1.5 (0.09)	1.5 (0.07)	1.7 (0.06)	1.9 (0.08) ▲	1.6 (0.07)
United States	1.0 (0.05)	1.1 (0.06)	1.0 (0.05)	1.4 (0.04)	1.6 (0.04) ▲	1.2 (0.06)
International Avg.	1.0 (0.01)	0.9 (0.01)	1.0 (0.01) ▲	1.4 (0.01)	1.5 (0.01) ▲	1.3 (0.01)

▲ Average significantly higher than other gender

SOURCE: IEA Progress in International Reading Literacy Study (PIRLS) 2006

Background data provided by students.

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

NOTE: The International Average does not include the results from the Canadian provinces.

students reported half an hour or less spent reading daily on the Internet. Countries where students reported the most time spent reading stories or articles in books or magazines included Kuwait, Macedonia, Qatar, and South Africa (more than 2 hours on a typical day, on average). Students in Belgium (Flemish), Iceland, Luxembourg, the Netherlands, Norway, and Sweden reported reading from books or magazines for less than one hour, on average, on a typical day. In almost every country, girls reported more time than boys reading from books or magazines (1.5 hours vs. 1.3 hours) and in many countries, boys reported more time than girls reading stories or articles on the Internet (1.0 hours vs. 0.9 hours). Only in Chinese Taipei did girls report more time reading on the Internet than boys.

Exhibit 4.6 presents trends in students' reports of how frequently they read for fun outside of school, regardless of the source of their reading material. In general, students around the world reported a good deal of reading for fun, with 40 percent, on average internationally, reading every day or almost every day, and a further 28 percent once or twice a week. However, almost one third of students (32%, on average) reported reading for fun no more than twice a month. Reading for fun was reported most frequently in the Russian Federation, Germany, Lithuania, Moldova, France, and the Canadian provinces of Alberta and British Columbia, where the majority of students reported reading for fun daily or almost daily. In contrast, less than 30 percent of students in Georgia, Morocco, Singapore, Romania, and Chinese Taipei reported daily reading for fun. Of the PIRLS 2001 participants, five had increased percentages of students in 2006 reporting reading for fun daily or almost daily—Germany, Hungary, Italy, Hong Kong SAR, and Ontario province. Seven countries had fewer students reporting daily reading for fun in 2006—Iceland, Israel, Slovenia, Sweden, Latvia, Norway, and Singapore.

There was a positive association between the frequency of reading for fun and average student reading achievement, on average, across countries, and in most countries. Across all countries, students who reported reading

for fun every day or almost every day had average reading achievement of 516 points, compared to 503 points for those reading for fun once or twice a week, and 484 points for those reading for fun twice a month or less.

Exhibit 4.6 Students Reading for Fun Outside of School with Trends

PIRLS 2006
4th Grade

Countries	Every Day or Almost Every Day			Once or Twice a Week			Twice a Month or Less		
	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001	2006 Percent of Students	Average Achievement	Difference in Percent from 2001
Russian Federation	58 (1.1)	570 (3.8)	0 (1.8)	28 (0.8)	559 (3.9)	-1 (1.3)	14 (0.8)	556 (3.9)	2 (1.3)
Canada, Alberta	53 (0.9)	575 (2.5)	0 0	23 (0.8)	555 (3.5)	0 0	23 (0.9)	537 (2.7)	0 0
Canada, British Columbia	53 (1.0)	573 (2.9)	0 0	26 (0.8)	554 (2.5)	0 0	21 (0.9)	531 (4.1)	0 0
Germany	53 (0.9)	563 (2.7)	5 (1.2) ▲	24 (0.6)	545 (3.0)	0 (0.9)	24 (0.8)	525 (2.5)	-5 (1.2) ▼
Lithuania	52 (1.2)	545 (2.1)	-1 (1.9)	30 (1.0)	533 (2.2)	-1 (1.6)	17 (0.8)	520 (2.8)	2 (1.2)
Moldova, Rep. of	52 (1.4)	507 (3.2)	2 (2.6)	34 (1.1)	498 (4.2)	0 (1.9)	14 (1.0)	484 (5.1)	-2 (1.6)
France	51 (1.0)	540 (2.5)	2 (1.6)	24 (0.8)	517 (2.3)	-2 (1.2)	25 (0.9)	491 (2.7)	0 (1.3)
Canada, Ontario	49 (1.4)	567 (3.2)	14 (2.0) ▲	25 (1.1)	552 (3.6)	2 (1.4)	26 (1.1)	534 (4.1)	-16 (1.9) ▼
Belgium (French)	49 (1.1)	517 (3.0)	0 0	26 (0.7)	495 (2.9)	0 0	25 (0.9)	473 (3.1)	0 0
Iceland	49 (0.9)	527 (1.9)	-3 (1.2) ▼	23 (0.7)	511 (2.6)	2 (1.0)	28 (0.7)	485 (2.3)	1 (1.0)
Denmark	49 (1.1)	559 (2.9)	0 0	30 (0.8)	540 (2.7)	0 0	21 (0.9)	528 (3.2)	0 0
Canada, Nova Scotia	48 (0.9)	560 (2.6)	0 0	25 (0.8)	541 (2.7)	0 0	27 (0.8)	515 (3.2)	0 0
Bulgaria	47 (1.6)	561 (4.4)	-4 (2.3)	27 (1.0)	555 (5.0)	-2 (1.5)	26 (1.6)	520 (6.5)	5 (2.2) ▲
Canada, Quebec	47 (1.3)	549 (3.0)	1 (1.9)	26 (1.0)	530 (3.8)	1 (1.4)	27 (1.2)	509 (3.2)	-3 (1.7)
South Africa	45 (0.9)	303 (6.4)	0 0	26 (0.5)	314 (6.4)	0 0	28 (0.8)	307 (6.4)	0 0
Austria	45 (1.1)	555 (3.0)	0 0	25 (0.8)	535 (2.4)	0 0	29 (1.0)	516 (2.9)	0 0
Spain	45 (1.1)	525 (2.9)	0 0	27 (0.7)	515 (2.5)	0 0	28 (1.0)	494 (3.7)	0 0
Hungary	44 (1.2)	565 (3.7)	4 (1.7) ▲	30 (0.9)	547 (3.4)	-2 (1.4)	26 (1.1)	532 (4.2)	-2 (1.5)
Indonesia	44 (1.4)	405 (4.7)	0 0	31 (1.1)	414 (4.6)	0 0	25 (1.2)	403 (4.8)	0 0
Macedonia, Rep. of	43 (1.2)	453 (5.7)	-3 (1.9)	31 (1.0)	451 (4.6)	3 (1.4) ▲	25 (1.1)	435 (5.1)	0 (1.8)
Poland	43 (1.3)	538 (2.5)	0 0	29 (1.0)	518 (3.2)	0 0	27 (1.0)	495 (3.0)	0 0
New Zealand	42 (1.1)	562 (2.4)	-1 (1.8)	24 (0.7)	531 (2.5)	0 (1.1)	34 (1.0)	500 (3.0)	1 (1.6)
Belgium (Flemish)	40 (1.1)	563 (2.1)	0 0	29 (0.8)	545 (2.9)	0 0	31 (1.2)	529 (2.3)	0 0
Slovak Republic	39 (1.0)	545 (2.9)	0 (1.5)	33 (0.9)	535 (3.2)	0 (1.3)	27 (1.1)	507 (5.4)	0 (1.6)
Italy	38 (1.3)	573 (3.3)	7 (1.7) ▲	25 (0.7)	554 (3.2)	1 (1.0)	37 (1.3)	529 (3.8)	-7 (1.7) ▼
Luxembourg	38 (0.6)	581 (1.8)	0 0	27 (0.7)	551 (2.0)	0 0	35 (0.5)	537 (1.5)	0 0
Israel	38 (1.2)	538 (4.2)	-6 (1.6) ▼	28 (0.9)	518 (4.4)	1 (1.2)	35 (1.1)	497 (4.1)	5 (1.5) ▲
Slovenia	37 (0.9)	543 (2.5)	-8 (1.6) ▼	33 (0.7)	519 (3.0)	4 (1.1) ▲	30 (0.9)	500 (2.6)	4 (1.5) ▲
Netherlands	36 (1.1)	566 (2.1)	0 (1.6)	22 (0.7)	550 (1.8)	2 (1.1) ▲	42 (1.1)	530 (1.8)	-2 (1.6)
Sweden	36 (1.0)	569 (2.8)	-8 (1.3) ▼	31 (0.9)	549 (3.2)	-1 (1.2)	33 (1.0)	530 (2.6)	9 (1.3) ▲
United States	35 (1.3)	561 (4.3)	1 (1.8)	22 (0.7)	550 (3.3)	0 (1.3)	43 (1.4)	521 (3.3)	-1 (1.8)
Latvia	35 (1.2)	556 (3.0)	-8 (1.7) ▼	31 (0.8)	543 (2.8)	-2 (1.2)	34 (1.2)	524 (2.6)	10 (1.7) ▲
Hong Kong SAR	35 (1.0)	575 (2.6)	14 (1.3) ▲	33 (0.9)	567 (2.7)	-5 (1.2) ▼	32 (1.0)	549 (2.8)	-8 (1.4) ▼
Iran, Islamic Rep. of	33 (1.2)	428 (4.2)	-1 (1.7)	41 (1.2)	429 (3.9)	2 (1.9)	26 (1.0)	406 (5.2)	0 (1.5)
Norway	33 (1.1)	514 (3.4)	-5 (1.5) ▼	30 (1.0)	505 (3.2)	2 (1.3)	37 (1.2)	481 (3.1)	4 (1.7) ▲
Qatar	33 (0.6)	357 (2.2)	0 0	28 (0.5)	367 (2.5)	0 0	39 (0.6)	352 (2.2)	0 0
Scotland	33 (1.1)	555 (4.4)	2 (1.6)	24 (1.0)	533 (3.1)	0 (1.3)	44 (1.5)	505 (2.7)	-2 (2.2)
England	33 (1.2)	575 (4.0)	0 (1.8)	25 (0.8)	537 (3.5)	-1 (1.2)	42 (1.3)	517 (2.9)	1 (2.0)
Kuwait	32 (1.1)	338 (5.5)	0 0	32 (1.0)	342 (5.5)	0 0	36 (1.2)	332 (5.4)	0 0
Trinidad and Tobago	32 (1.2)	450 (6.7)	0 0	25 (1.0)	442 (5.9)	0 0	43 (1.4)	427 (5.6)	0 0
Georgia	29 (1.4)	479 (4.5)	0 0	29 (1.2)	484 (4.0)	0 0	41 (1.4)	461 (4.3)	0 0
Morocco	29 (1.3)	317 (8.2)	-3 (2.3)	34 (1.4)	326 (6.9)	-3 (2.0)	37 (1.9)	331 (7.1)	6 (3.1)
Singapore	27 (0.9)	587 (3.9)	-3 (1.5) ▼	26 (0.6)	564 (3.1)	3 (0.9) ▲	47 (1.0)	540 (2.7)	0 (1.5)
Romania	25 (1.3)	510 (5.5)	-3 (2.2)	26 (1.1)	502 (5.5)	-4 (1.6) ▼	50 (1.6)	478 (5.5)	7 (2.3) ▲
Chinese Taipei	24 (0.7)	553 (2.6)	0 0	31 (0.8)	539 (2.6)	0 0	45 (1.0)	525 (2.2)	0 0
International Avg.	40 (0.2)	516 (0.6)		28 (0.1)	503 (0.6)		32 (0.2)	484 (0.6)	

▲ Percent in 2006 significantly higher

▼ Percent in 2006 significantly lower

Background data provided by students.

() Standard errors appear in parentheses. Because results are rounded to the nearest whole number, some totals may appear inconsistent.

A diamond (0) indicates the country did not participate in the 2001 assessment.

NOTE: The International Average does not include the results from the Canadian provinces.

Trend Note: The primary education systems of the Russian Federation and Slovenia underwent structural changes. Data for Canada, Ontario include only public schools.



