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# Trends in Attitudes and Student-School Relations

Have students' attitudes towards reading changed over the years? This chapter describes trends observed between 2000 and 2009 in whether and what students read for enjoyment, and how the gender gap in reading preferences and performance has evolved during that period. The chapter also discusses trends in teacher-student relations and disciplinary climate in the classroom.

## TRENDS IN READING ENGAGEMENT

### Changes in whether students read for enjoyment

Students who are highly engaged in a wide range of reading activities and who adopt particular learning strategies are more likely than other students to be effective learners and perform well at school. Research also documents a strong link between reading practices, motivation and proficiency among adults (OECD and Statistics Canada, 2000). Results presented in Volume III, *Learning to Learn*, indicate that reading for enjoyment is associated with reading proficiency. According to evidence presented in Volume III, a crucial difference between students who perform well in the PISA reading assessment and those who perform poorly lies in whether they read daily for enjoyment, rather than in how much time they spend reading.

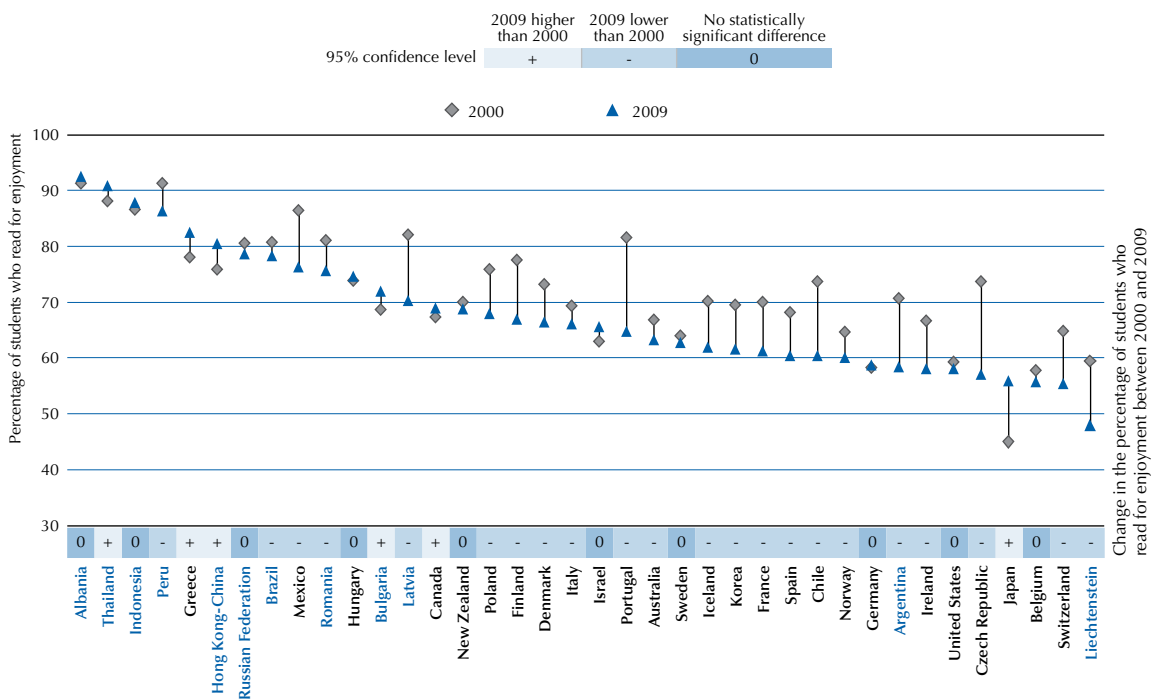
In PISA 2009, students reported how much time they usually spent reading for enjoyment. Since they were asked the same question in PISA 2000, student responses can be compared between these two assessments. Students were classified into two categories: those who read for enjoyment and others.

Fifteen-year-old students in 2009 tended to be less enthusiastic about reading than students were in 2000. On average across OECD countries, the percentage of students who reported reading for enjoyment daily decreased by five percentage points (Table V.5.1). In 2000, 69% of students reported reading for enjoyment daily, but in 2009, only 64% of students did so. As many as 22 countries saw a decrease in the percentage of students who read for enjoyment between 2000 and 2009. But not all countries did: Reading patterns have remained the same in 10 countries; and more students in Japan, Greece and Canada, and in the partner countries and economies Hong Kong-China, Bulgaria and Thailand read daily for enjoyment in 2009 than their counterparts did in 2000 (Figure V.5.1).

Some of the countries where the share of students who read for enjoyment decreased between 2000 and 2009 are countries with comparatively high levels of such readers. In Portugal, Finland and Mexico, and the partner country Latvia, the percentage of students reading for enjoyment decreased by more than 10 percentage points from relatively high levels (above 75% in 2000).

■ Figure V.5.1 ■

Percentage of students who read for enjoyment in 2000 and 2009



Note: Countries are ranked in descending order of percentage of students who read for enjoyment in 2009.

Source: OECD, PISA 2009 Database, Table V.5.1

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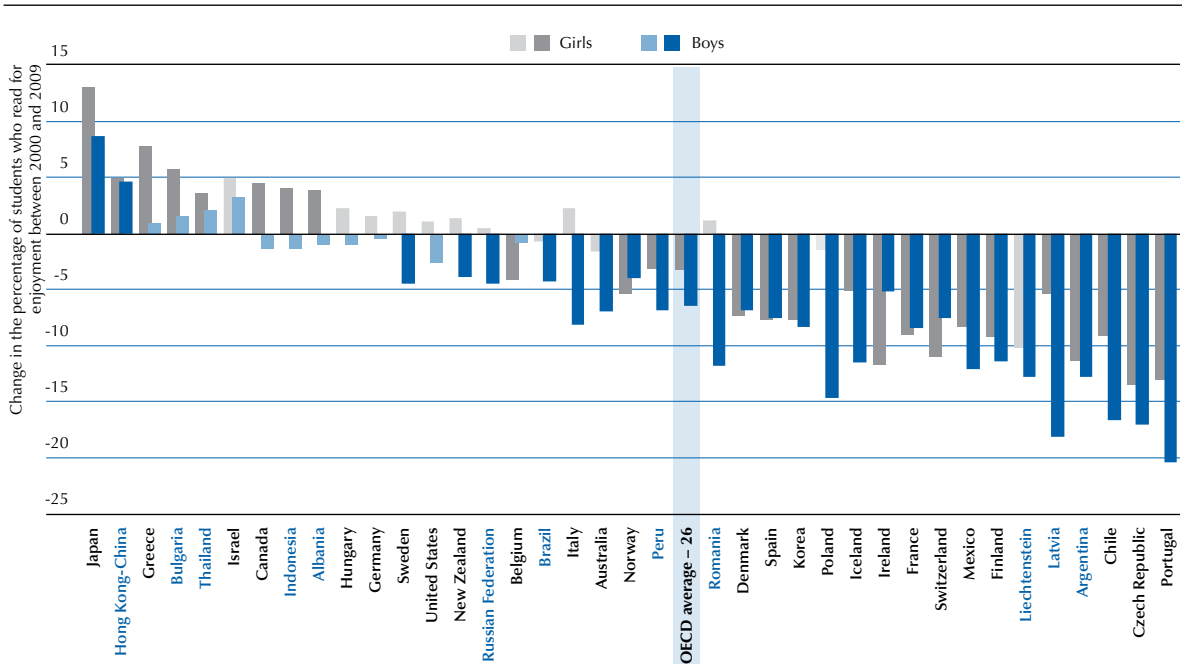
Japan is the only country where fewer than two-thirds of students read for enjoyment daily in 2009 and where this proportion represented a large increase over levels observed in 2000. Because Japan was the country with the smallest share of students reading for enjoyment in 2000, even with an increase of 11 percentage points, this share remains lower than in most other countries.

Girls greatly outnumber boys among students who read for enjoyment. On average across OECD countries, 74% of girls read for enjoyment daily, while only 54% of boys do so – a gap of 20 percentage points (Table V.5.1). The gap between boys and girls widened between 2000 and 2009 by three percentage points across the OECD area: in 2000, 60% of boys and 77% of girls read for enjoyment; by 2009, these percentages had decreased to 54% and 74%, respectively. Interestingly, the widening of the gender gap was due to the fact that while, on average, a smaller percentage of boys and girls read for enjoyment in 2009 than in 2000, the decline is greater among boys than it is among girls. In other words, boys showed a greater decline in reading than girls did. The evolution of the gender gap in reading for enjoyment between 2000 and 2009 varies substantially across countries (see Figure V.5.2). While in most countries the proportion of boys who read for enjoyment decreased between 2000 and 2009, the trend among girls is less consistent.

Across all 38 countries with valid results in both the 2000 and 2009 reading assessments, only two countries show an increase in the proportion of boys who read for enjoyment. In Japan, the share of boys reading for enjoyment increased by nine percentage points, while in the partner economy Hong Kong-China it increased by five percentage points. In Japan, this increase was even greater among girls and was thus accompanied by a widening of the gender gap. In Hong Kong-China, boys and girls increased their reading habits similarly and therefore the gender gap remained stable at around eight percentage points. In 11 countries, including the OECD countries Belgium, Canada, Germany, Greece, Hungary, Israel and the United States, the proportion of boys who read for enjoyment did not change. In 25 countries, the proportion of boys who read for enjoyment has decreased since 2000. Portugal, the Czech Republic, Chile and the partner country Latvia are countries with the largest decrease. In these countries, the percentage of boys who read for enjoyment decreased by 15 percentage points or more, and now stands between 44% and 55%. Among other countries that saw a decrease in the percentage of boys reading for enjoyment, this

■ Figure V.5.2 ■

### Changes in the percentage of boys and girls who read for enjoyment between 2000 and 2009



Note: Statistically significant score point changes are marked in a darker tone.

Countries are ranked in descending order of the change in percentage of all students who read for enjoyment between 2000 and 2009.

Source: OECD, PISA 2009 Database, Table V.5.1

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percentage now stands at 50% or less in Switzerland and the partner countries Argentina and Liechtenstein, and at 55% or less in Iceland, Finland, France, Italy, Spain, Australia, Ireland, Sweden and Norway.

The percentage of girls who read for enjoyment decreased in 17 countries (see Figure V.5.2). In the Czech Republic, Portugal, Ireland, Switzerland, and the partner country Argentina, this proportion decreased by 11 to 13 percentage points and is now close to 70%, except in Portugal, when the overall percentage is close to 80% – well above the OECD average of 74%. In 12 other countries, the percentage of girls who read for enjoyment decreased by up to 10 percentage points. The share of girls reading for enjoyment remained unchanged in 13 OECD countries. In eight countries, the proportion of girls who reported reading for enjoyment increased. It is now above 80% in Greece and Canada, and the partner countries and economies Bulgaria, Hong Kong-China, Indonesia, Albania and Thailand, while despite the largest increase it is still below 60% in Japan.

### Changes in how much students enjoy reading

Students' responses to statements describing their attitudes towards reading can be used to assess how much they enjoy reading. For example, students had to state whether they strongly disagreed, disagreed, agreed or strongly agreed with a statement like "I read only if I have to" or "I like talking about books with other people". Student responses to these questions can be summarised in an index on which the average student (e.g. the student with an average enjoyment of reading) is given an index value of zero, and about two-thirds of the OECD student population are between the values of minus one and one (i.e. the index has a standard deviation of one).

On average across OECD countries, the share of students reporting that they read only if they have to increase by about four percentage points between 2000 and 2009: in 2000, 36% of students in OECD countries reported reading only if they have to, while in 2009 this proportion reached 40%. The proportion of students who reported reading only if they have to increase in 21 countries, and the increase was particularly large, above 10 percentage points, in Mexico, Iceland, Korea and the Czech Republic, and in the partner countries Indonesia, Peru, Albania and Liechtenstein. In 2009, more than one in two students in Korea and Liechtenstein reported reading only when they have to. In Chile and the partner countries Thailand, Brazil and Romania, however, the percentage of students who reported reading only if they had to decrease by over 10 percentage points between 2000 and 2009 (Table V.5.3).

The general rise in students' reports of reading only when needed is matched by a large decline in the number of students reporting that they enjoy going to a bookstore or a library. In 2000, 49% of students reported enjoying going to a bookstore or a library, but in 2009, only 43% said they did – a six percentage point decrease. This drop was particularly pronounced in Mexico, the Czech Republic, Portugal, Chile, Denmark, Poland, Finland, Spain and Greece and the partner countries Peru and Romania. The proportion of students who enjoy going to bookstores or libraries increased only in Australia, Canada and in the partner economy Hong Kong-China.

Figure V.5.4 describes changes in the index of *enjoyment of reading* across countries participating in PISA 2000 and PISA 2009 (see also Table V.5.2). Unlike the section above, which looked at whether students read for enjoyment, this index summarises how much students enjoy reading. In general, across the 26 OECD countries for which data can be compared, enjoyment of reading decreased. In some countries students were more enthusiastic about reading in 2000 than in 2009, while in others the reverse was true. Enjoyment of reading increased in Germany, Canada, New Zealand, Japan and Korea and the partner countries and economies Thailand, Hong Kong-China, Albania and Brazil. In 15 countries, enjoyment of reading remained at similar levels, while it decreased in 14 other countries, with the Czech Republic, Mexico and Finland seeing the greatest decrease (one-fifth of the standard deviation of this index or more).

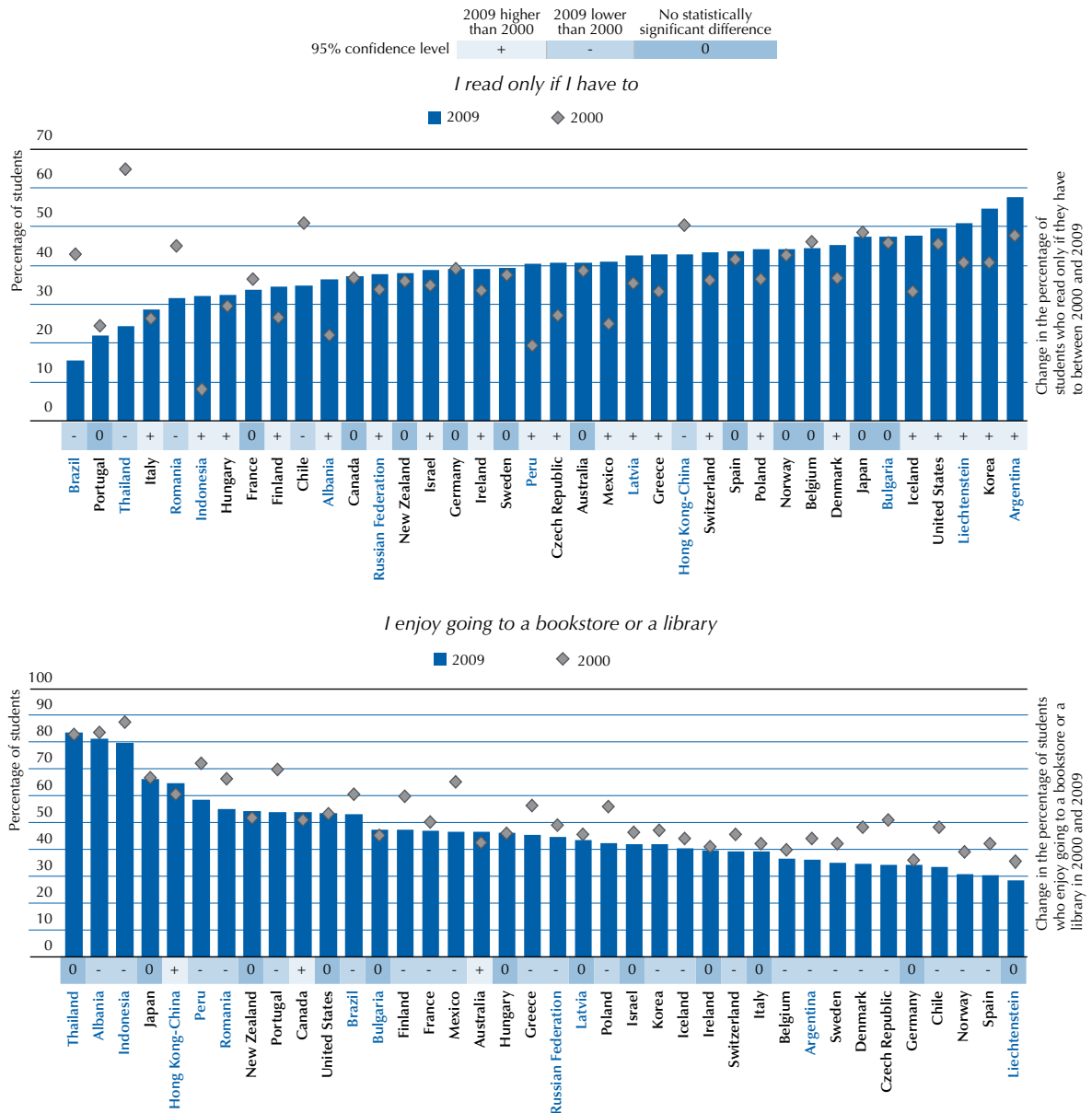
Gender differences in how much more – or less – boys and girls enjoy reading in 2009 compared to 2000 mirror findings described for gender differences over the same period in whether boys and girls read for enjoyment. On average, not only did boys enjoy reading less than girls in PISA 2009, but the gender gap is widening: boys are enjoying reading less and less, while the decline in enjoyment of reading is smaller among girls; and in some countries, girls enjoy reading more in 2009 than their counterparts did in 2000 (Table V.5.2). Although enjoyment of reading decreased more among boys than among girls in most countries, in Ireland in 2009, boys enjoyed reading as much as they did in 2000, while girls' enjoyment decreased over the same period. In the Czech Republic, Finland, Denmark both boys and girls reported less interest in reading, but the drop among girls was larger than that among boys (Figure V.5.5). In these countries, however, girls remain more enthusiastic readers than boys, despite the narrowing of the gender gap in reading enjoyment between 2000 and 2009.



Figure V.5.3

### Percentage of students who read only if they have to and percentage of students who enjoy going to a bookstore or a library in 2000 and 2009

Percentage of students who report «agree» or «strongly agree» on the following reading activities



Note: Countries are ranked in descending order of the percentage of students on these items in 2009.

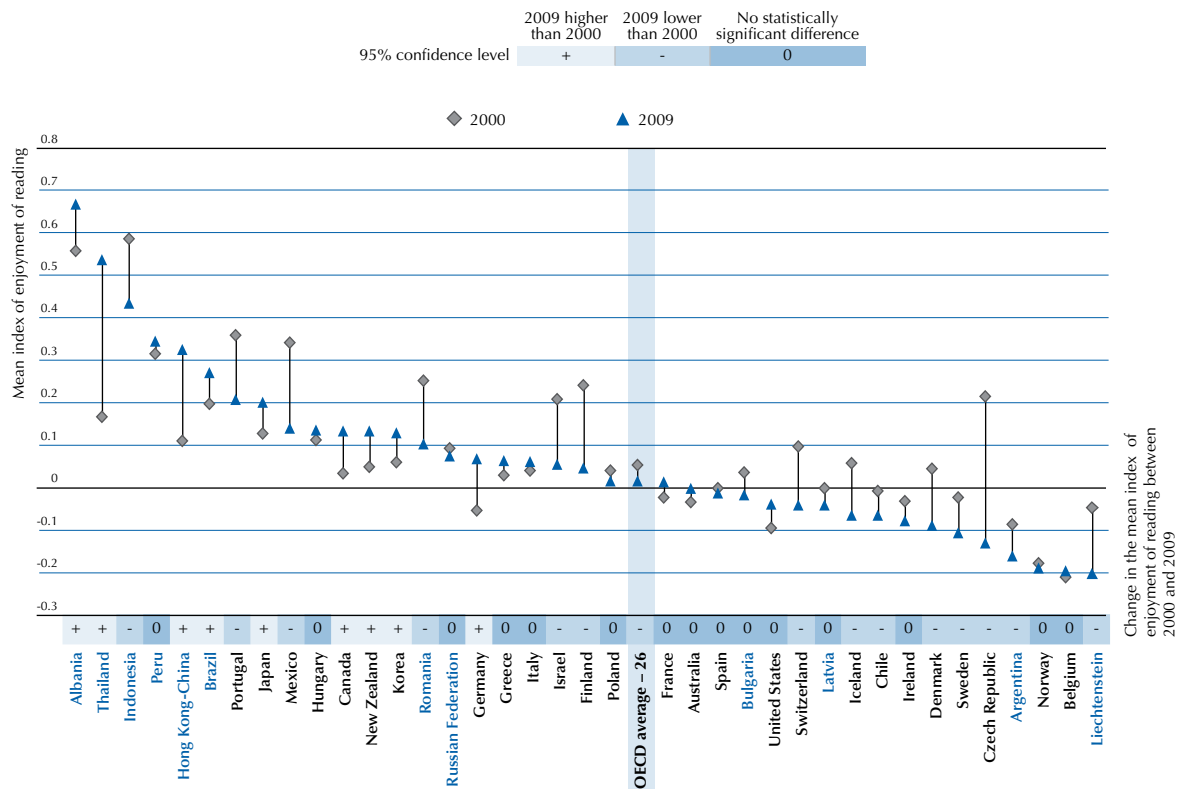
Source: OECD, PISA 2009 Database, Table V.5.3.

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In a large number of countries, the decrease in enjoyment of reading was much more pronounced among boys than among girls, leading to a widening of the gender gap. Poland and the partner country Albania saw the largest increase in the gender gap in enjoyment of reading. In Albania, girls' enjoyment of reading increased between 2000 and 2009, but on average in 2009, boys enjoyed reading as much as they did in 2000. In Poland, boys' enjoyment of reading decreased while girls' enjoyment increased.

Trends in the number of students who report that they read for enjoyment and in the levels of enjoyment of reading are highly related. In countries where students more often report that they read for enjoyment, students also more often report that they enjoy reading. As both aspects are also correlated at the individual student level in PISA 2009 (see Volume III,

■ Figure V.5.4 ■  
Index of enjoyment of reading in 2000 and 2009

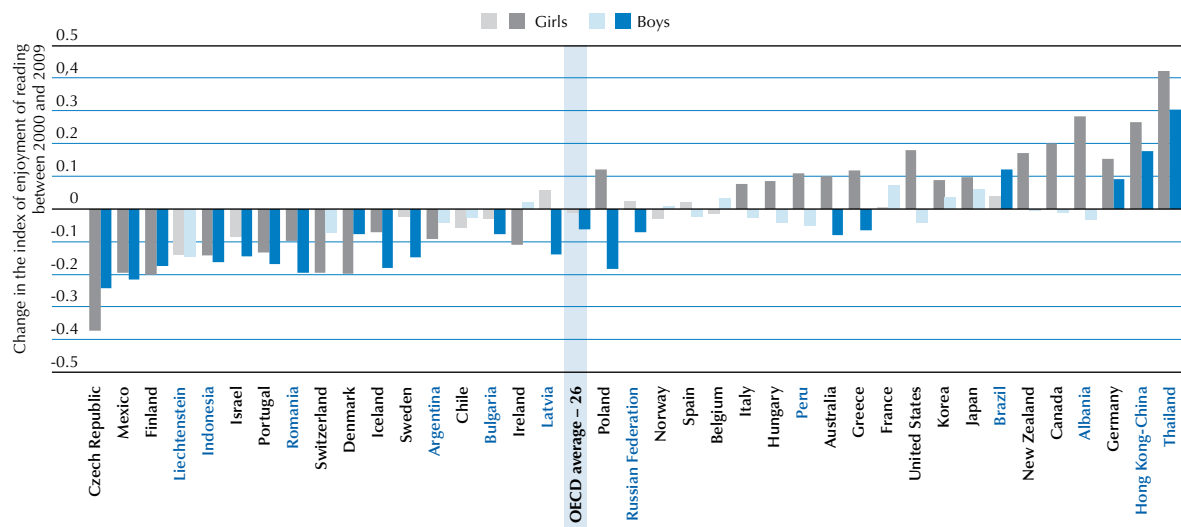


Note: Countries are ranked in descending order of the mean index of enjoyment of reading in 2009.

Source: OECD, PISA 2009 Database, Table V.5.2.

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■ Figure V.5.5 ■  
Change in the index of enjoyment of reading for boys and girls between 2000 and 2009



Note: Statistically significant score point changes are marked in a darker tone.

Countries are ranked in descending order of the change in the mean index of enjoyment of reading for all students between 2000 and 2009.

Source: OECD, PISA 2009 Database, Table V.5.2.

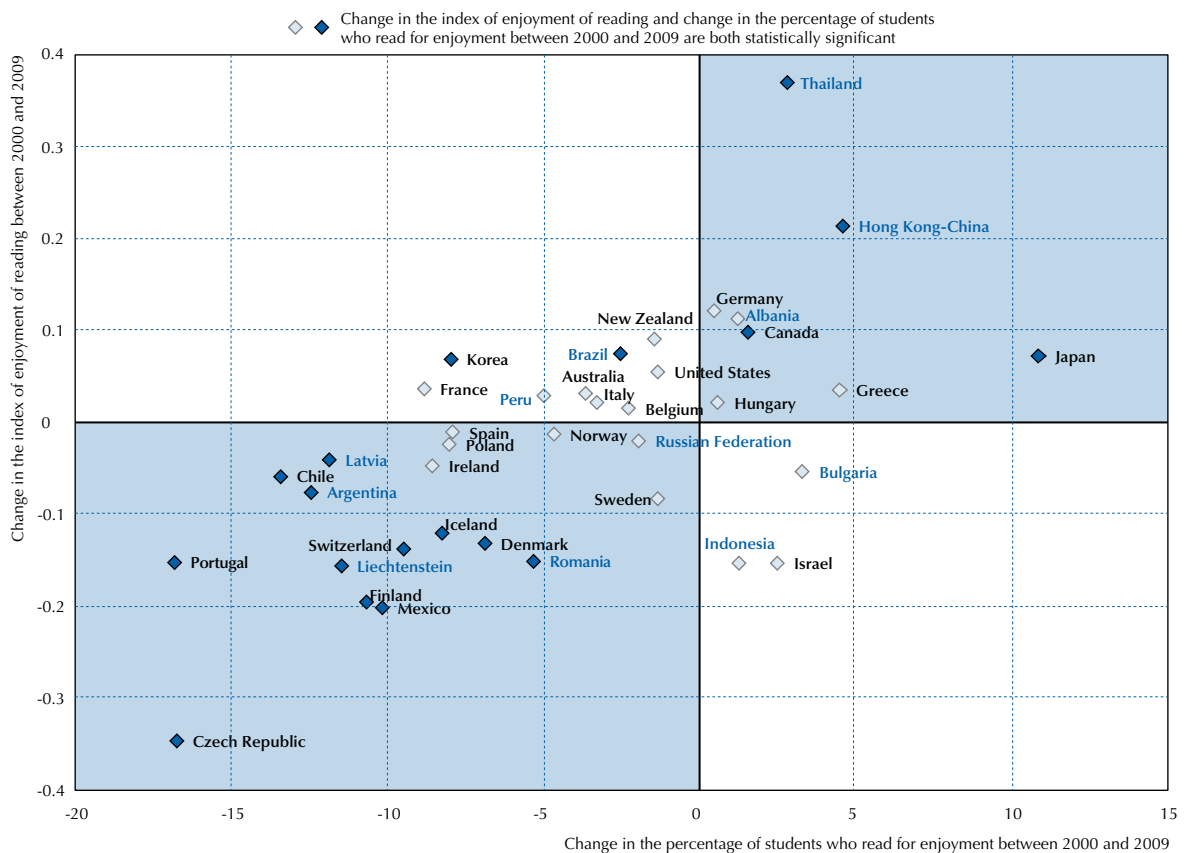
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*Learning to Learn*), this demonstrates that students who read for enjoyment usually enjoy reading, and that an increase in whether students read for enjoyment is associated with an overall increase in how much students enjoy reading.

Figure V.5.6 shows the association between trends in whether students read for enjoyment and in how much they enjoy reading. Countries towards the right are those where more students reported reading for enjoyment in 2009 than in 2000, while countries towards the top are those where the average value of student enjoyment of reading increased. Clearly, similar trends can be observed in whether students read for enjoyment and in how much students enjoy reading. In Canada, Japan and the partner economy Hong Kong-China, both the percentage of students who read for enjoyment and how much students enjoy reading, on average, increased between 2000 and 2009. In 12 countries the percentage of students who read for enjoyment decreased, while these countries also saw a decrease in how much students enjoy reading. In only two countries, Korea and Brazil, the percentage of students who read for enjoyment decreased, while the average value of student enjoyment of reading increased.

■ Figure V.5.6 ■

### Change in the index of enjoyment of reading and the proportion of students who read for enjoyment between 2000 and 2009



Note: Changes in the index of enjoyment of reading and changes in the percentage of students who read for enjoyment between 2000 and 2009 that are both statistically significant are marked in a darker tone.

Source: OECD, PISA 2009 Database, Tables V.5.1 and V.5.2.

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## Changes in what students read for enjoyment

Volume III, *Learning to Learn*, examines the reading habits of students in different countries and different groups of students within each country. PISA asked students to indicate the frequency with which they choose to read the following types of materials: magazines, comic books, fiction, non-fiction and newspapers. The categories for frequency ranged from “never” to “several times a week”. Results presented in Figures V.5.7 and V.5.8 as well as Tables V.5.6, V.5.7, V.5.8 and V.5.9 focus on differences between students who report reading each type of material regularly, i.e. several times a month or several times a week. Results published in this Volume on changes in the materials students read for enjoyment between 2000 and 2009 should be interpreted in light of possible increases

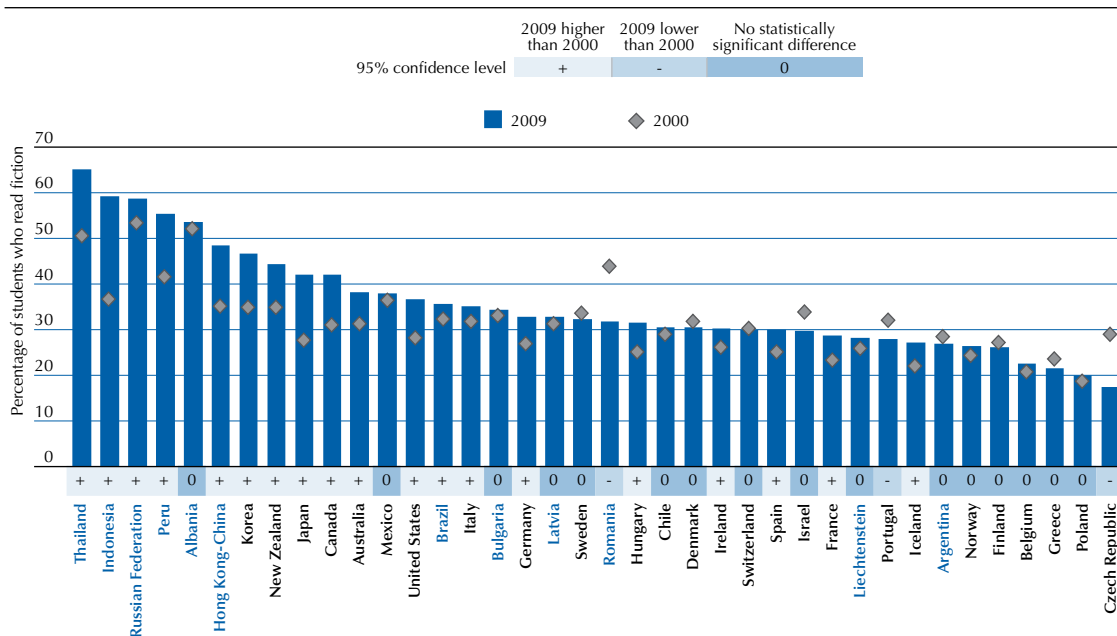
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in the amount of time students spend reading online for enjoyment. Because the way in which PISA measures what students read online in 2000 and 2009 is not comparable, this Volume cannot examine potential substitutions between print and online materials.

Chapter 1 of Volume III identifies a particularly strong and positive association between reading performance and reading fiction regularly, and a negative association between reading performance and reading comic books regularly. Across OECD countries, the proportion of students who reported reading fiction regularly increased by three percentage points between 2000 and 2009. This average increase in the OECD area is a pattern that most countries share: fiction reading decreased in only three countries, while it increased in 19 countries and did not change in the remaining 16 countries. In the partner country Indonesia, the increase in reading fiction was particularly pronounced: while in 2000 only 37% of students there reported reading fiction regularly, in 2009 almost 60% of students did – a 23-percentage-point increase. In Japan, Korea, Canada and the partner countries and economies Indonesia, Thailand, Peru and Hong Kong-China, the proportion of students who reported reading fiction increased by more than 10 percentage points between 2000 and 2009. While in most of these countries only about one-third of students reported reading fiction regularly in 2000, nine years later, more than four in ten students in these countries did (see Figure V.5.7 and Table V.5.6).

■ Figure V.5.7 ■

### Percentage of students who read fiction in 2000 and 2009



Note: Countries are ranked in descending order of the percentage of students on who read fiction for enjoyment in 2009.

Source: OECD, PISA 2009 Database, Table V.5.6.

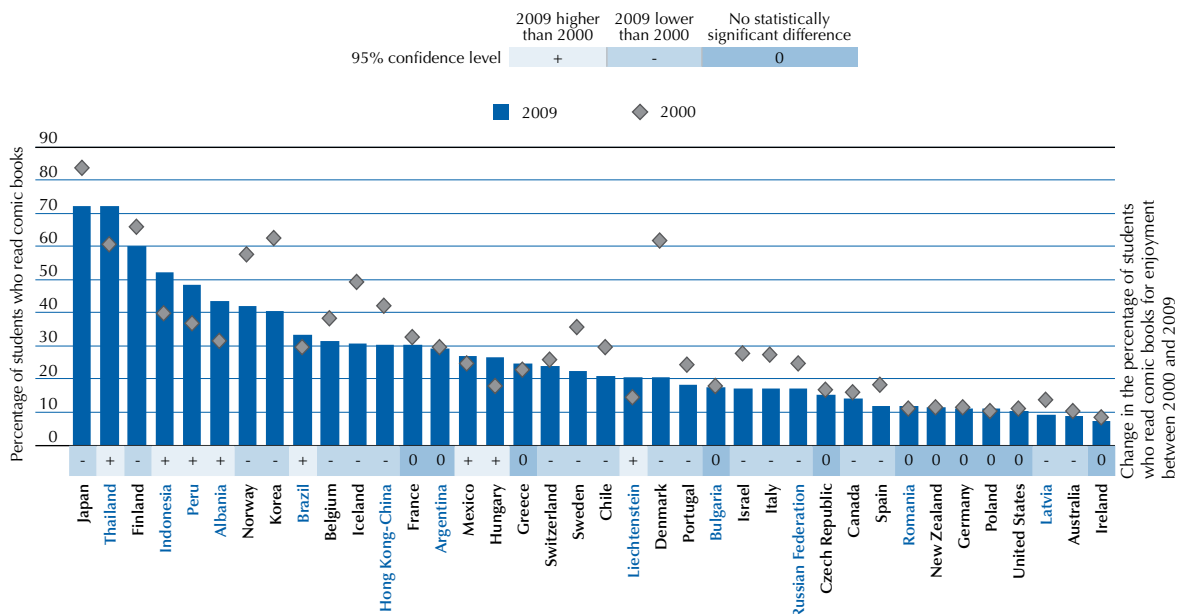
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Volume III, *Learning to Learn*, identifies substantial gender differences in the percentage of boys and girls who read fiction: in 2009, on average across OECD countries, girls were almost twice as likely to report reading fiction as boys. More boys and girls read fiction in 2009 than their counterparts did in 2000. On average across OECD countries, the percentage of boys who reported reading fiction increased by nearly three percentage points and that of girls increased by almost four percentage points. In most countries, however, the increase in the number of girls was larger than that of boys. A notable exception is the partner country the Russian Federation, where the percentage of boys reading fiction increased by almost eight percentage points while it grew by only three percentage points among girls; and Norway, where the proportion of boys reading fiction increased by four percentage points while it remained stable among girls. In Switzerland, the substantial gap between the percentage of boys and girls reading fiction narrowed considerably between 2000 and 2009. In 2009, almost one in five boys reported reading fiction regularly, an increase of more than four percentage points over 2000, while two in five girls reported the same in 2009, a decrease of four percentage points over 2000. The Czech Republic is one of the countries with the lowest





■ Figure V.5.8 ■  
Percentage of students who read comic books in 2000 and 2009



Note: Countries are ranked in descending order of the percentage of students on who read comic books for enjoyment in 2009.

Source: OECD, *PISA 2009 Database*, Table V.5.6.

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number of both boys and girls who reported reading fiction regularly, and one where the decrease in reading fiction was particularly notable among girls. In 2000, almost 45% of girls reported reading fiction regularly, but in 2009, this percentage shrunk by 16 percentage points to 29% (Table V.5.7).

Students reported a declining interest in reading comic books regularly. On average, the percentage of students in OECD countries who reported reading comic books regularly decreased by almost seven percentage points between 2000 and 2009. The proportion of students who reported reading comic books regularly decreased in 19 countries, increased in eight countries and remained stable in the remaining 11 countries that participated in both PISA 2000 and PISA 2009. In general, the countries with the largest share of students who read comic books regularly are among those countries that saw the largest reduction in students' engagement with comic books. The only exception is Thailand, where the percentage of these students grew by almost 12 percentage points, from six in ten students in 2000, to seven in ten students in 2009. The drop in comic book reading was particularly steep in Denmark: while in 2000 almost three in five students there read comic books regularly, nine years later, only one in five did so – a drop of over 40 percentage points. The decline in the percentage of students who reported that they read comic books regularly is also above 15 percentage points in Korea, Iceland and Norway, all countries where relatively large numbers of students read comic books regularly in 2000 (see Figure V.5.8 and Table V.5.6).

In almost all countries taking part in both PISA 2000 and PISA 2009, a lower percentage of students reported reading newspapers and magazines in 2009 than in 2000. Across OECD countries, the number of students who reported reading magazines fell by ten percentage points, and all but nine countries saw a decline in this activity. Thailand, Peru and Indonesia are the only countries with an increase in the percentage of students who reported reading magazines regularly, and all three are among the countries where fewer than one in two students reported reading magazines regularly in 2000. Similarly, on average across OECD countries, the decline in the percentage of students who reported reading newspapers for enjoyment was relatively pronounced and equal to five percentage points. The percentage of students who reported reading newspapers regularly rose in seven countries, remained stable in ten countries and decreased in 21 countries (Table V.5.6). The decrease in the percentage of boys and girls who reported reading newspapers was similar and close to five percentage points (Table V.5.7).

Volume III illustrates that versatile readers – in other words, students who read not just one type of material but different kinds of materials – are more proficient readers than students with undiversified reading habits. Table V.5.10 compares differences in what students read between 2000 and 2009. Students became relatively more versatile readers in seven countries, did not change in eight countries and became less versatile in 23 countries. Reading diversity increased in Hungary, Switzerland, Poland and the partner countries Indonesia, Peru, Thailand and Albania. The decrease was highest in Denmark, and close to one-third of a standard deviation of this index in Italy, Korea, Iceland, Sweden and the partner countries the Russian Federation and Bulgaria.

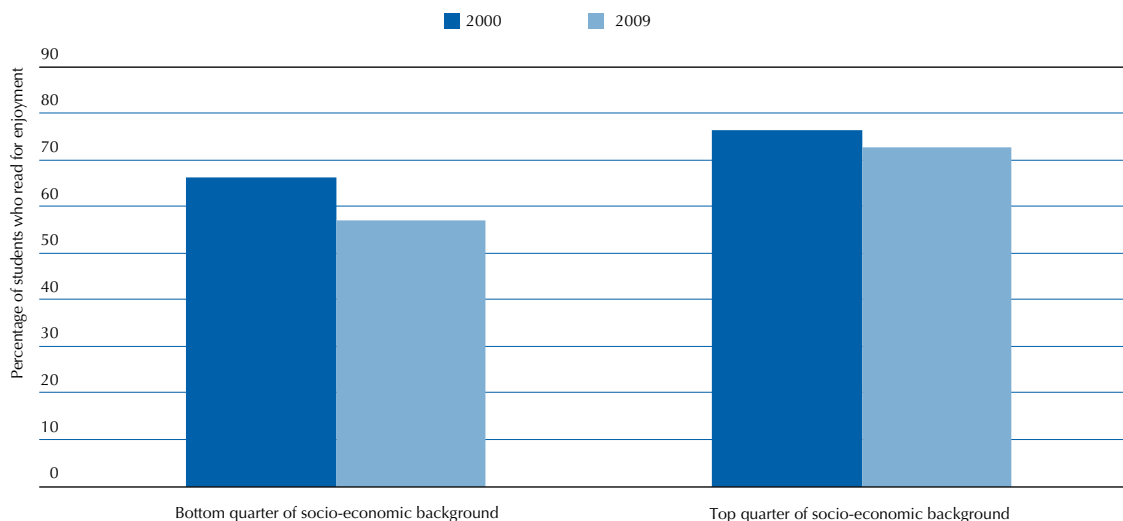
In almost all countries, girls are more versatile readers than boys, and this gap has widened as boys have become less versatile readers over time. However, countries differ in how reading diversity evolved from 2000. In Indonesia, for example, reading diversity increased equally among boys and girls by almost half a standard deviation, while in other countries, where diversity increased, girls became even more versatile readers. In none of the countries did reading diversity increase among boys while it remained the same or decreased among girls. In numerous countries, reading diversity decreased equally among boys and girls, while in Iceland, Sweden, Korea, Israel and Romania reading diversity decreased among boys more than among girls, further widening the gender gap.

### Changes in socio-economically disadvantaged students' engagement in reading


It is often stated that students read less and less, especially boys. Evidence emerging from PISA supports the notion that not only do boys read less than girls, but in many countries, the percentage of students who read for enjoyment decreased, particularly among boys. There are also concerns that this negative trend is more prevalent among students from socio-economically disadvantaged backgrounds. Evidence from PISA 2009 confirms this, indicating that students from such backgrounds read less than others (see Volume III, *Learning to Learn*, for more detailed evidence). This section examines trends to determine how engagement in reading for boys and girls varies according to socio-economic background.

Table V.5.4 and Figure V.5.10 illustrate changes in the percentage of boys and girls from different socio-economic backgrounds who read for enjoyment. Table V.5.5 provides similar data with respect to changes in how much these groups of students enjoy reading between 2000 and 2009 assessments. The majority of students who read for enjoyment are socio-economically advantaged students (see Figure V.5.9).<sup>1</sup> These students are not only more likely to read for enjoyment than disadvantaged students, they also enjoy reading more than disadvantaged students. This is true both in 2000 and 2009.

■ Figure V.5.9 ■  
Percentage of students who read for enjoyment in 2000 and 2009,  
by socio-economic background



Source: OECD, PISA 2009 Database, Table V.5.4.

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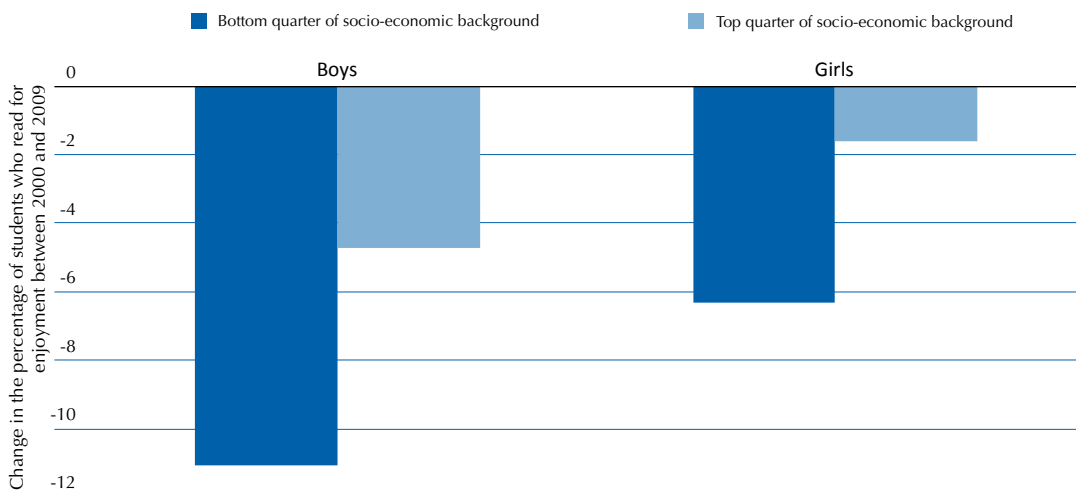


Socio-economically disadvantaged students reported disliking reading more in 2009 than they did in 2000 (see Figure V.5.9 and Table V.5.4). Across OECD countries, the proportion of disadvantaged students who read for enjoyment decreased by nine percentage points between 2000 and 2009, while the percentage among those students from a privileged background fell by three percentage points. The gap between these two groups widened from ten percentage points in 2000 to 16 percentage points in 2009. Similarly, the level of enjoyment of reading reported by disadvantaged students was, on average, lower than that reported by students from privileged backgrounds. In PISA 2000, the gap was 0.33 of the standard deviation, while it increased to 0.46 in PISA 2009 (Table V.5.5).


Relative changes in whether students reported reading for enjoyment and in how much they reported enjoying reading vary greatly among socio-economically disadvantaged and privileged students across countries (see Table V.5.4 and V.5.5). For example, in the partner country Hong Kong-China, the percentage of students who read for enjoyment increased among disadvantaged students, while it remained the same among privileged students. In Canada this percentage increased only among students from privileged socio-economic backgrounds. In contrast, in Ireland, the percentage of students who read for enjoyment remained the same among students from privileged backgrounds, but decreased by almost 18 percentage points among disadvantaged students. In Finland, the number

■ Figure V.5.10 ■

### Change in the percentage of boys and girls who read for enjoyment between 2000 and 2009, by socio-economic background



Source: OECD, PISA 2009 Database, Table V.5.4.

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of students from disadvantaged backgrounds who reported reading for enjoyment decreased by 17 percentage points from 2000 to 2009. But unlike Ireland, in Finland, there was also a decrease by six percentage points in the percentage of advantaged students who reported reading for enjoyment.

Figure V.5.10 (see also Tables V.5.1 and V.5.4) shows the percentage of boys and girls from socio-economically disadvantaged and socio-economically advantaged backgrounds who read for enjoyment in PISA 2000 and PISA 2009. The Figure illustrates how this percentage decreased more among boys (six percentage points) than girls (three percentage points), irrespective of their socio-economic background. The percentage of girls from a disadvantaged background who read for enjoyment decreased by six percentage points while the same percentage decreased by 11 percentage points among boys from similar backgrounds. Among boys from privileged backgrounds, the percentage decreased by five percentage points while among girls from those backgrounds, it decreased by less than two percentage points. Socio-economically disadvantaged boys are the group of students who reads the least for enjoyment and are also the group that is growing the most disengaged from reading for enjoyment.

### Changes in the reading performance of students who read fiction

Volume III, *Learning to Learn*, shows large performance gaps between students who read fiction regularly and students who do not. Table V.5.8 identifies changes between 2000 and 2009 in the reading performance of students



who reported that they read fiction. In 11 countries, the reading performance of students who reported reading fiction increased, in three countries it decreased, and no change was noted in 24 countries. In 15 countries, the “performance premium” that is associated with reading fiction increased, with a change of 20 score points or more in France, the Czech Republic, Italy, Poland, Greece, Portugal and Switzerland (Table V.5.8).

For girls, the advantage in reading performance that is associated with reading fiction increased in 12 countries between 2000 and 2009, remained stable in 22 countries and decreased in four countries: Korea, Mexico and the partner countries Latvia and Argentina (see Table V.5.9). For boys, the “performance premium” that is associated with reading fiction increased in eleven countries, decreased in Mexico and remained the same in other countries. The “performance premium” increased by 25 score points or more in the Czech Republic and France among girls, and in France, Poland, Belgium, Italy and the partner country Albania, among boys.

## TRENDS IN STUDENT VIEWS ON SCHOOLS AND TEACHERS

### Changes in teacher-student relations

Positive teacher-student relations are crucial for establishing an environment that is conducive to learning. Research finds that students, particularly socio-economically disadvantaged students, learn more and have fewer disciplinary problems when they feel that their teachers take them seriously (Gamoran, 1993) and when they have strong bonds with their teachers (Crosnoe, *et al.*, 2004). One explanation is that positive teacher-student relations help transmit social capital, create communal learning environments and promote and strengthen adherence to norms that are conducive to learning (Birch & Ladd, 1998).

PISA 2009 asked students to agree or disagree with several statements regarding their relationships with their teachers in school. These statements included whether they got along with their teachers, whether teachers were interested in their personal well-being, whether teachers took the students seriously, whether teachers were a source of support if the students needed extra help, and whether teachers treated the student fairly. Similar questions were asked in 2000, so teacher-student relations could be compared across time.

Results from PISA 2009 suggest that students in the OECD area are generally satisfied with the quality of teacher-student relations (see Chapter 2 of Volume IV, *What Makes a School Successful?*). The difference between responses in 2000 and 2009 suggests that the quality of teacher-student relations actually improved during the period (Figure V.5.11 and Table V.5.11). For example, across the 26 OECD countries with comparable data, 74% of students in 2000 agreed or strongly agreed with the statements, “If I need extra help, I will receive it from my teachers” or “Most of my teachers treat me fairly”, while 79% of students agreed or strongly agreed with those statements in PISA 2009 – an increase of five percentage points. In 2000, 65% of students agreed or strongly agreed that “most of my teachers really listen to what I have to say” and by 2009 this proportion had increased to almost 68%, an increase of three percentage points.

The increase in the proportion of students reporting that their teachers “really listen to what I have to say” was above 10 percentage points in Germany, Korea, Japan, Iceland and the partner country Albania. The proportion of students agreeing that “If I need extra help, I will receive it from my teachers” also increased in many countries. This increase was most notable in Poland, Portugal, Germany and the partner countries Albania and Latvia, where it increased by more than 10 percentage points. The countries with the largest increases in the proportion of students feeling confident that they will receive help from their teachers are, in most instances, those where the lowest percentage of students expressed a high level of confidence in their teachers in 2000. The gap between countries in the percentage of students who believed “their teachers treat them fairly” also narrowed considerably, since the countries with the most marked increase were generally those, such as Italy and Poland, where a smaller share of students in 2000 reported that they thought their teachers treated them fairly.

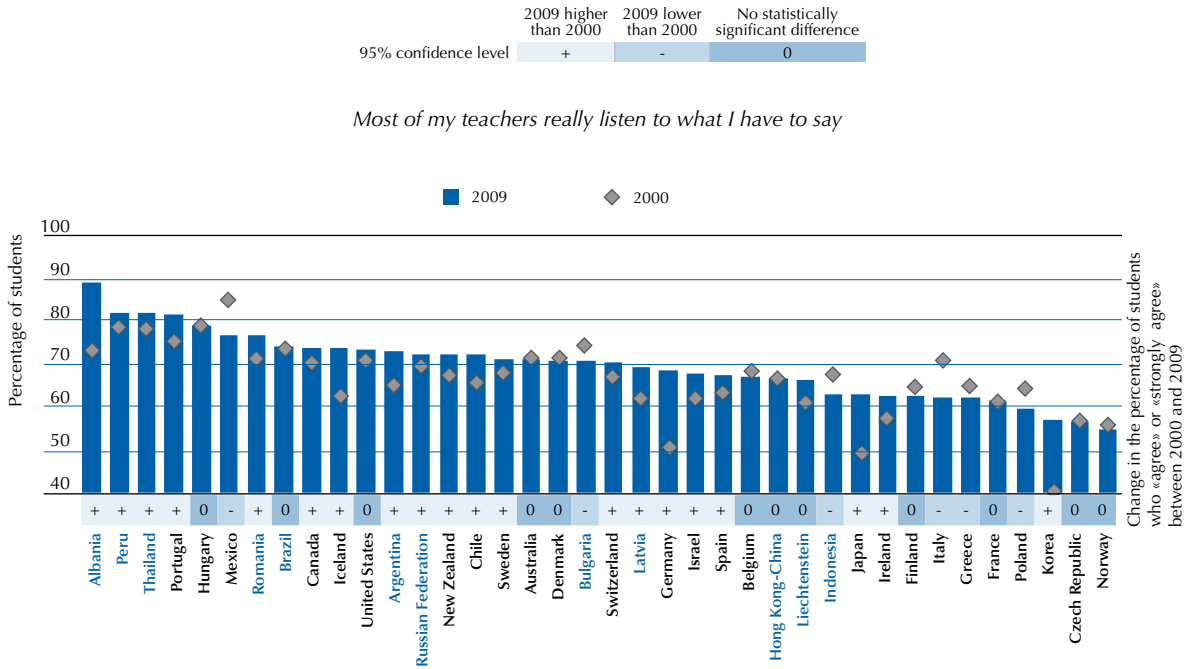
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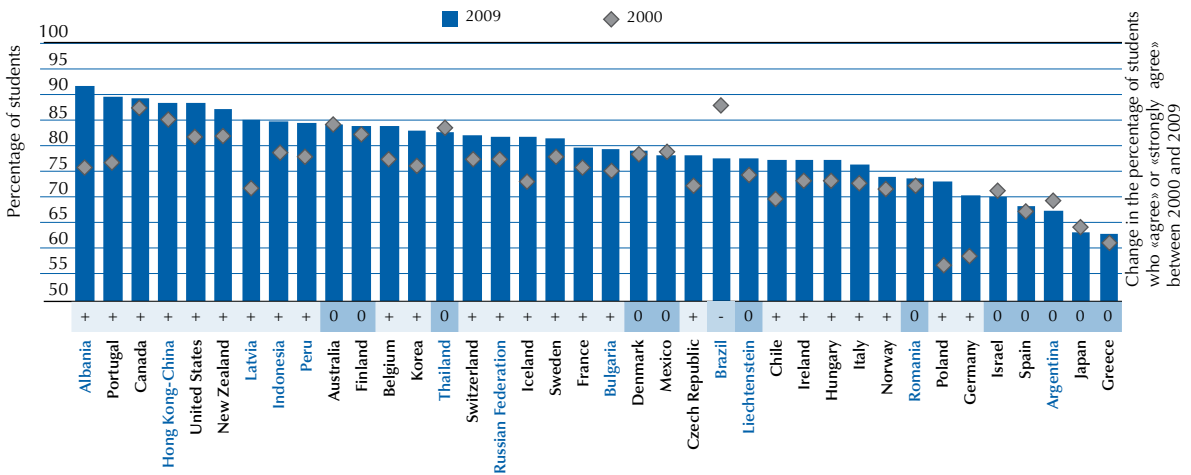
■ Figure V.5.11 ■

### Teacher-student relations in PISA 2000 and 2009

Percentage of students agreeing or strongly agreeing with the following statements



*If I need extra help, I will receive it from my teachers*



Note: Countries are ranked in descending order of the percentage of students on the items in 2009.

Source: OECD, PISA 2009 Database, Table V.5.11.

StatLink <http://dx.doi.org/10.1787/888932360024>



## Changes in disciplinary climate

The disciplinary climate in the classroom and school can also affect learning. Classrooms and schools with more disciplinary problems are less conducive to learning, since teachers have to spend more time creating an orderly environment before instruction can begin (Gamoran and Nystrand in Newman, *et al.*, 1992). Interruptions in the classroom disrupt students' engagement and their ability to follow the lessons.

Students were asked to describe the disciplinary climate in their reading lessons. This includes how often – never, in some, most or all language-of-instruction lessons – students do not listen to what the teacher says, there is noise and disorder, the teacher has to wait a long time for students to quieten down, students cannot work well, and students do not start working for a long time after the lesson begins. Similar questions were asked in PISA 2000, so responses can be compared across time.

On average across OECD countries the percentage of students who reported that their teacher never or almost never has to wait a long time for them to quieten down increased by six percentage points – up to 73% in 2009 from 67% in 2000 (Table V.5.12). Improvements on this indicator of disciplinary climate occurred in 25 countries and in the remaining 13 countries there was no change. The increase in the percentage of students who reported that their teacher never or almost never has to wait a long time for them to quieten down was particularly large – above 10 percentage points – in Italy, Sweden, Germany, Spain, Israel, the partner country Indonesia and the partner economy Hong Kong-China. The largest improvements mostly occurred among countries with poorer conditions as, for example, in Italy or in Indonesia only half of the students in 2000 reported that their teacher did not need to wait a long time for them to quieten down.

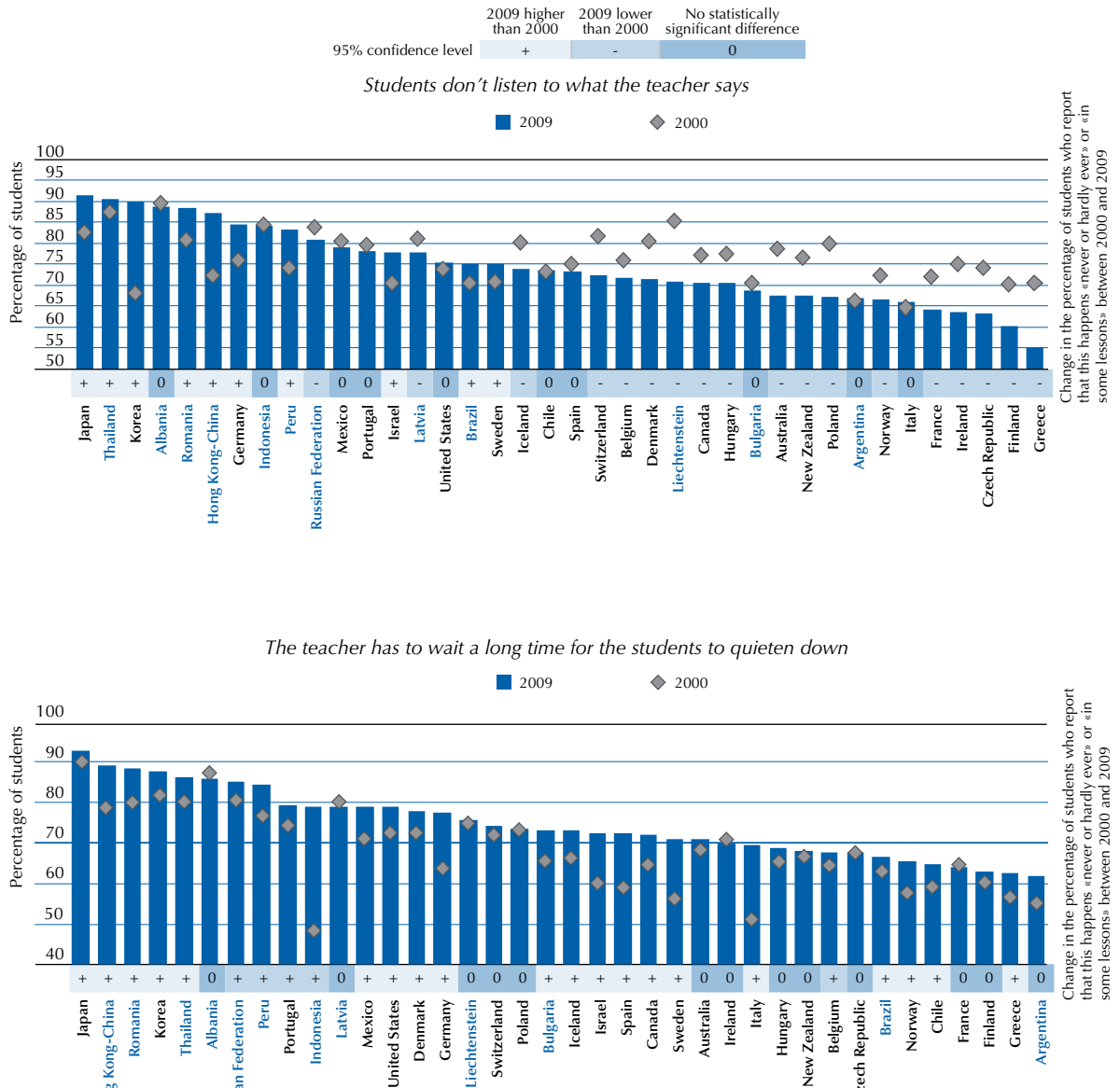
Figure V.5.12 and Table V.5.12 illustrate how on average across OECD countries, three percentage points fewer students in 2009 responded “never” or “almost never” to the statement “students don't listen to what the teacher says”; but these proportions remain high: 75% in 2000 and 72% in 2009. In 18 countries, fewer students disagreed that “students don't listen to what the teacher says” in most or all lessons, signalling a worsening school climate. This proportion decreased by more than ten percentage points in Greece, Poland, Ireland, Australia, the Czech Republic and the partner country Liechtenstein. On the other hand, in ten countries, the share of students who did not agree with that statement increased. Korea and the partner economy Hong Kong-China witnessed the largest increases in this proportion, by more than ten percentage points. An increase between five and ten percentage points was observed in Japan, Germany, Israel and the partner countries Peru and Romania.

Table V.5.12 indicates that on average there was no change among OECD countries in the share of students who reported that there was noise and disorder, and an increase by two percentage points in the share of students who reported that “never” or “hardly ever” students cannot work well and that students do not start working for a long time after the lesson has begun. Some of the countries where almost one in two students reported noise and disorder in some lessons experienced large improvements: in 2000 only between 51% and 54% percent of students in Chile, Greece and Italy reported that there was never or almost never noise and disorder in some lessons. By 2009, this proportion had increased to 68% in Italy, 58% in Greece and 63% in Chile. At the same time many of the countries where more than eight out of ten students reported no noise and disorder in some lessons witnessed worsening conditions: in Switzerland and Poland, and the partner countries Liechtenstein, Latvia and Albania this percentage decreased by between four and nine percentage points.



Figure V.5.12  
Disciplinary climate in PISA 2000 and 2009

Percentage of students reporting that the following things happen «never or hardly ever» or «in some lessons»



Note: Countries are ranked in descending order of the percentage of students on the items in 2009.  
Source: OECD, PISA 2009 Database, Table V.5.12.

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Notes

1. In this context, students with values in the bottom quarter of their country in the PISA index of economic, social and cultural status are considered to have a socio-economically disadvantaged background while students in the top quarter are considered to be socio-economically advantaged.



### Box V.G **Brazil**

Brazil offers a good example of how low-performing countries can use international benchmarking to improve their education systems.

In the 1950s, 64% of the Brazilian population still lived in rural areas and more than 50% of those people were illiterate. Improving education gradually became a priority among the country's leaders, but convincing parents of the importance of more and better quality education for their children was a challenge when many parents had to send their children to work to help support the family.

Brazil's geography also made it difficult to improve access to education: the country's 193 million inhabitants are spread out over some 8.5 million square kilometres – an area slightly smaller than that of the United States. With around 83 000 rural schools, many with one or two teachers, scattered across the country, the quality of both the teachers and the education they provided was limited. And the school system's extensive use of grade repetition meant that the age of students in any given class could span two to six years, making teaching more difficult.

By 1995, 90% of students were in schools, but only half of them completed 8th grade. And those who made it that far took an average of 12 years to get there because of the poor quality of teaching and low student achievement that led to repeated grades. In 2000, 13.6% of Brazil's adult population was considered illiterate and 75% were functionally illiterate, meaning those people were not able to read long texts, follow subtitles, compare two texts, carry out inferences and syntheses, solve math problems, or work with maps and graphics. That year, Brazil was the lowest-scoring country in PISA: over 50% of students scored below Level 1 in reading proficiency while less than 1% scored at the top level.

But during the last decade, Brazil appears to have been able to produce measureable improvements in student achievement across different assessment areas (see Figure V.1.2 and Tables V.2.1, V.3.1 and V.3.4). The country has invested significantly more resources in education, raising spending on educational institutions from 4% of GDP in 2000 to 5.2% of GDP by 2009, and allocating more of those resources to raising teachers' salaries. It is also spending that money much more equitably than in the past. Federal funds are now directed towards the poorest of the country's 26 states, providing schools in those states with resources comparable to those available to schools in wealthier states.

In addition, educators in Brazil cite the Basic Education Development Index (IDEB), created in 2005, as key to improving school results across the country. The Index is based on both the average achievement on national examinations in Portuguese language and mathematics conducted in 4th, 8th and 11th grades, and on the rate of student promotion. The calculation creates a score from 1 to 10, with the levels linked to the international PISA scale. Using the two factors ensures that schools are not given incentives to hold back students from the tested grades or to encourage them to drop out of school. The explicit goal of the Brazilian government is to reach the average PISA score in 2021, the year before the two-hundredth anniversary of Brazil's independence.

The Index is set individually for each school in the country, creating a trajectory that begins at the school's 2005 level and ends where the school reaches average PISA performance in 2021. Educators have accepted the system because they believe it is fairer to compare a school's current performance to its past performance than to set an arbitrary score that all schools should reach. Unlike many other countries, Brazil includes both public and private schools in the assessment and for targeting purposes. Since the index was adopted, national performance in primary schools (1st to 4th grade) has risen from 3.8 in 2005 to 4.6 in 2009, outperforming the target of 4.2. In intermediate grades (5th to 8th grade), the index has gone from 3.5 in 2005 to 4.0 in 2009, outperforming the target of 3.7; and high school (9th to 11th grade) performance rose slightly from 3.4 to 3.6 during the same period.

PISA reading scores have also improved between 2000 and 2009. Brazil improved by 16 score points in reading performance (see Figure V.2.1 and Table V.2.1), reducing the proportion of students performing below proficiency Level 2 and slightly increasing the percentage of students at Level 5 or above (see Figures V.2.4 and V.2.5, and Table V.2.2).

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The overall improvement in PISA reading performance was accompanied by an increase in performance variation. That was largely due to the fact that, in relative terms, Brazil raised the reading performance of its highest-achieving students while maintaining the performance level among the lowest-achieving students. Moreover, the positive trend in reading performance was driven mainly by greater improvements among girls relative to boys. An overall decrease in the share of low-performing students was mainly the result of improvements among girls, with nine percentage points fewer girls performing below Level 2 and three percentage points fewer boys performing below Level 2 (see Figure V.2.8 and Tables V.2.5 and V.2.6).

In mathematics, since 2003, students in Brazil have improved their PISA performance by 30 score points and the percentage of students below Level 2 has been reduced by four percentage points (see Figures V.3.1 and V.3.3, and Tables V.3.1 and V.3.2). In science, Brazil raised its performance by around 15 score points and decreased the share of students performing below Level 2 by seven percentage points since 2006 (see Figures V.3.5 and V.3.7, and Tables V.3.4 and V.3.5).

Despite these improvements, with 412 score points in reading, 386 score points in mathematics and 405 score points in science in the 2009 assessment, Brazil's mean scores remain well below the OECD average.

Changes in the evaluation system were accompanied by changes in teacher training. In return for additional resources, federal universities work with low-performing schools in their municipalities to assess the needs of individual schools and provide teacher training and assistance. The national Education Ministry also provides equipment and materials, transportation services, and technology to assist teacher training through the Open University at rural schools. These schools provide education to 13% of the country's students enrolled in basic education. Each state in Brazil is essentially a laboratory of innovation in education policies and practices.

Take the state of Acre. It is one of the smallest and least developed states in Brazil, located in the far northwest, in the Amazon forest. More than half of the population of 690 000 lives in two cities; the rest lives in small cities and isolated areas that depend on rivers as the only means of transportation. In 1999, Acre ranked last in the country in education outcomes, there were no school improvement plans, school buildings were dilapidated, only 14 out of the 22 municipalities offered high school education, and only 27% of teachers had a college education.

Improvements began with the teachers. Teachers' starting salaries were raised to 26% above the national minimum starting salary and a teacher training programme was developed with the federal university in Acre, making the teaching profession in Acre more attractive. Building standards were developed, and all students were guaranteed a high school education. The state decentralised supply budgets on a per-pupil basis and required school plans on how the funds would be spent. Acre worked in partnership with the Roberto Marinho Foundation on two special programmes to assist students in the 5th through 8th grades and high school students who had repeated grades several times. With these reforms, Acre has raised its IDEB index from 3.3 in 2005 to 4.5 in 2009.

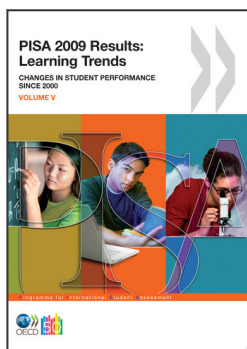
São Paulo, Brazil's most populous and wealthiest state, has undergone a similar transformation in education. As in most states, the majority of upper-middle class students attend private schools, so the priority was to provide opportunities for all students to enrol in school. Then, the state created its own system of assessment and indicators that provided a biennial school-by-school target based on PISA and international standards. While the national goal is to attain the PISA average by 2021, the targets in São Paulo are more differentiated: they look at a school's performance by the proportion of students in each category: below basic, basic, adequate and advanced. This provides parents and the public with better information about the quality of school performance, but it also gives the districts and the state better information on where the school needs to improve.

The state's education secretary worked with teachers and university professors to develop a clearly defined common curriculum for every grade and subject and provided teacher training. Some 12 000 pedagogical assistants were hired so that each school would have a coach to work with teachers on improving their practice. Training on analysing data was a critical part of the programme. A school-wide incentive system was created to reward everyone at the schools that had met their improvement targets. The better a school's performance, the more autonomy the school was granted. Schools that did not reach their targets were given additional

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technical assistance, infrastructure resources and professional development for teachers. In 2007, the 1 000 lowest-performing schools were identified and given technical assistance, targeting teacher development and additional learning resources. One year later, 95% had met their targets. Meanwhile, the state public schools of São Paulo have raised their IDEB index in 4th grade from 4.5 in 2005 to 5.4 in 2009; and in 8th grade, from 3.8 to 4.3 in the same period.



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