MESSAGES FROM PISA 2000
TABLE OF CONTENTS

Messages from PISA 2000 ........................................................... 4
Students, schools and education systems ..................................... 6
Student characteristics (1) – Home background ........................ 8
Student characteristics (2) – Engagement .................................. 9
Student characteristics (3) – Approaches to learning ................. 11
Student characteristics (4) – Gender differences......................... 12
School characteristics (1) – Social background of students ........... 14
School characteristics (2) – Climate and resources ................... 18
School system characteristics ..................................................... 19
Conclusions .............................................................................. 24

PISA 2000 profile for Australia ................................................. 22
PISA 2000 profile for Austria ..................................................... 24
PISA 2000 profile for Belgium .................................................. 26
PISA 2000 profile for Canada .................................................... 28
PISA 2000 profile for Czech Republic ....................................... 32
PISA 2000 profile for Denmark ................................................ 33
PISA 2000 profile for Finland ................................................... 34
PISA 2000 profile for France .................................................... 36
PISA 2000 profile for Germany ................................................ 38
PISA 2000 profile for Greece .................................................... 40
PISA 2000 profile for Hungary ................................................ 42
PISA 2000 profile for Iceland ................................................... 44
PISA 2000 profile for Ireland .................................................... 46
PISA 2000 profile for Italy ....................................................... 48
PISA 2000 profile for Japan ...................................................... 50
PISA 2000 profile for Korea ..................................................... 52
PISA 2000 profile for Luxembourg ......................................... 54
PISA 2000 profile for Mexico ................................................... 56
PISA 2000 profile for New Zealand .......................................... 58
PISA 2000 profile for Norway .................................................. 60
PISA 2000 profile for Poland .................................................... 62
PISA 2000 profile for Portugal ................................................. 64
PISA 2000 profile for Spain ..................................................... 66
PISA 2000 profile for Sweden .................................................. 68
PISA 2000 profile for Switzerland ......................................... 70
PISA 2000 profile for United Kingdom .................................... 72
PISA 2000 profile for United States ........................................... 74
MESSAGES FROM PISA 2000

Since the publication of the first PISA survey in 2001, the OECD has been analysing its results, and their implications for public policy. This is a summary of the key findings.

The Programme for International Student Assessment (PISA) is a powerful tool for measuring the outcomes of education systems. The first three-yearly survey was conducted in 2000, with results first published in 2001.

The Organisation for Economic Co-operation and Development (OECD), which co-ordinated the survey, has published four studies examining thematically what the survey shows about factors behind student performance (see details on back page). This overview picks out some key messages that have emerged from the analysis.

The PISA survey tells countries the extent to which students near the end of compulsory education have acquired some of the knowledge and skills that they will need in later life. The basic results for reading literacy are shown on the facing page. National strategies to improve on such performance against international benchmarks can be usefully informed by analysis of the features that characterise countries with strong results, and of which students and schools perform better within each country. Such analysis is essential to meeting the objectives of PISA, which was designed not as an educational Olympics, but as a tool to help countries to improve educational outcomes against international standards.

The PISA survey collected information on a wide range of factors with a bearing on student performance. It looked for example at the backgrounds of individual students, at how they approach learning and at various characteristics of their schools.

Some of these factors, such as students’ socio-economic background, cannot be changed by education systems and need to be taken as a given. The influence of these factors is nevertheless worth knowing, since this can inform educators about how to target particular interventions. Other factors, such as the learning strategies adopted by students or the atmosphere of the classroom, are directly susceptible to improvement.

This overview considers factors associated with student performance at three levels:

- Characteristics of individual students, including their backgrounds, their attitudes to learning and their behaviour in terms of participation at school and their learning strategies.
- Characteristics of schools, including the atmosphere of the school and the classroom as described by students, and resources and school processes as described by principals. Some school characteristics with a bearing on student performance are the sum of individual student characteristics – for example, the average social background of all the students at a school, and their rate of school attendance.
- Characteristics of school systems, which affect the experiences of individual schools and students across a whole country. These include, for example, the extent to which secondary school students are differentiated into separate groups rather than all educated together, and the degree to which individual schools are given autonomy within the education system.

The following pages look in turn at each of these aspects across countries. Pages 22-75 present a profile for each OECD country in PISA 2000 summarising these characteristics.

What is PISA?

- A three-yearly survey, starting in 2000, of knowledge, skills and other characteristics of 15-year-olds. In the first survey, around 315,000 students in 43 countries took part in pencil and paper tests and filled out questionnaires about themselves. Their schools also provided background information.
- Specifically, an assessment of reading, mathematical and scientific literacies in a way that looks at the capacity of students to address real-life challenges.
- A unique collaboration among governments to monitor educational outcomes, co-ordinated through the OECD.

Of the countries taking part, 27 were the OECD member countries shown in the table opposite; these are the focus of the present summary. The Netherlands participated, but its school response rate was too low to ensure international comparability. A further 15 partner countries also participated.

The PISA survey collected information on a wide range of factors with a bearing on student performance. It looked for example at the backgrounds of individual students, at how they approach learning and at various characteristics of their schools.

Some of these factors, such as students’ socio-economic background, cannot be changed by education systems and need to be taken as a given. The influence of these factors is nevertheless worth knowing, since this can inform educators about how to target particular interventions. Other factors, such as the learning strategies adopted by students or the atmosphere of the classroom, are directly susceptible to improvement.

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PISA underlines the strength of the link between student background and performance, and helps understand its profile in each country.

Students who come from families with more favourable social, economic and cultural characteristics tend to perform better at school. PISA allows the strength of this advantage to be measured and compared among countries and shows that it varies significantly across countries.

Overall, socio-economic difference is the strongest single factor associated with performance in PISA, accounting for about a fifth of all variation in student reading scores. The gap between the least-advantaged quarter of students and the most-advantaged quarter is equivalent to more than one reading proficiency level on PISA’s five-level scale. This gap within countries attributable to social background is similar to the range in performance across countries of students with a given social background. Thus, if a country could raise performance of the least-advantaged quarter of its students to that of the most-advantaged quarter, this would be equivalent to the worst-performing country raising the score of each student to the level of a student with similar social characteristics in the best-performing country.

In order to develop policies to raise overall performance and reduce social differences, countries need to start by understanding the characteristics of their “social gradient”. Some of its features are described on the facing page, and summarised for each country in the profiles on pages 22-75. A range of strategies may be envisaged, according to the shape of the gradient. For example, where average performance is high but the gradient steep, this argues for a strategy more closely targeted on more disadvantaged students than where below-average performance is more generalised. The stronger the association between social background and performance, the greater the case for using student background as a targeting tool, rather than focusing on under-performance as such. And in countries where the range of social backgrounds among the student population is the greatest, there may be a case for concentrat- ing resources on disadvantaged children or their schools to help provide a learning environment that helps compensate for lower resources in the home.

Such strategies need to take account not only of individual students’ backgrounds but of the effects of the socio-economic character of whole schools. School effects in this context are discussed on pages 14-15. In aiming to raise student performance overall and improve equity by making the social gradient less steep, countries can take heart from the fact that PISA shows that such objectives are mutually compatible. Indeed, analysis of the PISA 2000 results shows that there is a significant negative correlation across countries between the level of the gradient line and its steep-ness. This means that, on average, in countries where students are performing better overall, social differences are relatively narrow.

PISA has identified a number of aspects of students’ background, attitudes and behaviours associated with strong performance in reading and other literacies. Understanding these characteristics can help education policy makers to target interventions designed to help particular groups, and to promote particular characteristics (such as successful approaches to learning) across the student population. The comparison in the graph to the right gives an indication of the relative importance of a range of student characteristics discussed on the next eight pages.

Student characteristics

<table>
<thead>
<tr>
<th>Characteristics of students who tend to do well at school</th>
<th>Difference in reading score between top and bottom quarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favourable home background</td>
<td>40</td>
</tr>
<tr>
<td>Arrives on time for school</td>
<td>40</td>
</tr>
<tr>
<td>Interested in reading</td>
<td>40</td>
</tr>
<tr>
<td>Confidence in learning ability</td>
<td>40</td>
</tr>
<tr>
<td>Controls own learning</td>
<td>40</td>
</tr>
<tr>
<td>Being female</td>
<td>40</td>
</tr>
<tr>
<td>High sense of belonging</td>
<td>40</td>
</tr>
<tr>
<td>PISA score points</td>
<td>0, 20, 40, 60, 80, 100</td>
</tr>
</tbody>
</table>

(i) The length and horizontal position of the gradient line shows the spread of student backgrounds: the longer the line, the more varied socio-economic background is among students; the further right the line, the more fa-vourable students’ socio-economic background is in general. Students in Iceland have on average a much more advantaged socio-economic background than students in Mexico (the line is further to the right), and the range of socio-economic backgrounds is narrower (the line is shorter). The country profiles on pages 22-75 show adjusted reading scores that each country might expect if its social profile were average.

(ii) Despite the overall pattern, some students with more advantaged socio-economic background do poorly in PISA, while some with less advantaged socio-economic background do well. How closely do they conform to the predicted trend? This is shown by representing each student’s performance as a dot, and seeing how closely they cluster around the gradient line. In Finland, Iceland, Japan and Korea, the influence of socio-economic back-ground on student performance is limited, with over 90 per cent of student differences accounted for by other factors. In Hungary, on the other hand, just over a quarter of differences in student reading scores can be attributed to social background.

(iii) How severe is social disadvantage in its effect on performance? The slope of the social gradient line shows how much difference a given amount of social difference makes to a student’s predicted reading score: the steeper the gradient, the more inequality. In Germany, it makes nearly three times as much difference as in Iceland and Mexico.

Aspects of the socio-economic gradient

What does the gradient line show?

The gradient line slopes up and shows that students from more advantaged socio-economic backgrounds in general perform better in PISA. Specifically, it shows the range of predicted scores of the middle 90 per cent of students on an international index of socio-economic background (5th to 95th percentile). A student from a comparatively less advantaged socio-economic background (5th percentile) tends to be nearly two PISA reading levels behind a student from a comparatively more advantaged socio-economic background (95th percentile). Socio-

economic background explains about 20 per cent of all variation in students’ reading scores. The social gradient line reflects not only the extent to which students from advantaged socio-economic backgrounds do better, but also the overall level of student performance in each country. The level of the gradient lines – their average height – shows the average reading score reached by those students in each country whose socio-econ-omic background is equal to the average socio-economic background across OECD countries.
Students who are engaged in reading are far more likely to have high levels of reading literacy. Student engagement at school more generally has a bearing on wider educational outcomes. Students who are interested in learning tend to learn more effectively, and to achieve better results at school. The implication for school systems is that improved teaching relies not just on instructional strategies for improving students’ cognitive skills, but also on engaging their interest and ensuring that they are well motivated. Different strategies may be appropriate for boys and girls, who tend to have different reading interests, with girls particularly interested in books, especially fiction, and boys more interested in other forms such as newspapers and comics. Students from less favourable socio-economic backgrounds are on average less engaged in reading. However, a substantial number of disadvantaged students are among the most interested and wide-ranging readers, and these students tend to perform well in reading. Indeed, the level of a student’s reading engagement is a better predictor of literacy performance than his or her socio-economic background, indicating that cultivating a student’s interest in reading can help overcome home disadvantages.

**Engagement at school**

As well as interest in particular aspects of learning such as reading, a student’s overall engagement at school is also a key factor in secondary education. A substantial minority of students—one in four 15-year-olds in the PISA survey—say they do not want to be at school. Analysis of student replies to the PISA questionnaire has identified about one in four students who have a low sense of belonging in the social environment of school, and about one in four who regularly miss or are late for school or classes (low participation). As shown in the table on the right, a substantial proportion—at least 17 per cent—feel a low sense of belonging in all countries, but some countries manage to contain low participation to a smaller number. In Japan and Korea fewer than 10 per cent of students report regular lateness or absence.

Students who are not engaged at school are not necessarily those with the lowest performance. It is notable that substantial numbers of medium to higher achievers are also disengaged from school in this respect. Yet these people may still be at risk in the future, particularly if they decide not to continue their education. Thus, intervention strategies may also be needed to help students who are not necessarily doing badly at school. These students can be hard to target. However, the analysis also showed that schools where students perform poorly overall also have a tendency to be those where students become disengaged. This suggests that the whole school environment is important for student engagement and that the targeting of particular schools can be appropriate.

**Two forms of student engagement**

**Student engagement measures**

<table>
<thead>
<tr>
<th>How engaged are students in reading?</th>
<th>How many students are weakly engaged at school?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index scores</strong>¹</td>
<td><strong>Low sense of belonging</strong>² %</td>
</tr>
<tr>
<td>Finland</td>
<td>0.46</td>
</tr>
<tr>
<td>Iceland</td>
<td>0.27</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.26</td>
</tr>
<tr>
<td>Korea</td>
<td>0.21</td>
</tr>
<tr>
<td>Japan</td>
<td>0.20</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.14</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.13</td>
</tr>
<tr>
<td>Norway</td>
<td>0.09</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.07</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.05</td>
</tr>
<tr>
<td>Hungary</td>
<td>0.03</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>0.02</td>
</tr>
<tr>
<td>Canada</td>
<td>0.01</td>
</tr>
<tr>
<td><strong>OECD average</strong></td>
<td>0.00</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.00</td>
</tr>
<tr>
<td>Australia</td>
<td>-0.04</td>
</tr>
<tr>
<td>Italy</td>
<td>-0.08</td>
</tr>
<tr>
<td>Austria</td>
<td>-0.08</td>
</tr>
<tr>
<td>Greece</td>
<td>-0.09</td>
</tr>
<tr>
<td>Poland</td>
<td>-0.10</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>-0.10</td>
</tr>
<tr>
<td>United States</td>
<td>-0.14</td>
</tr>
<tr>
<td>France</td>
<td>-0.18</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>-0.19</td>
</tr>
<tr>
<td>Ireland</td>
<td>-0.20</td>
</tr>
<tr>
<td>Spain</td>
<td>-0.23</td>
</tr>
<tr>
<td>Germany</td>
<td>-0.26</td>
</tr>
<tr>
<td>Belgium</td>
<td>-0.28</td>
</tr>
</tbody>
</table>

1. The index is set with a mean of zero and two-thirds of students fall in between 1 and -1.
2. Students were asked whether they strongly agree, agree, disagree or disagree strongly, in each case that: a) School is a place where: a) I feel like an outsider (or left out of things); b) I make friends easily; c) I feel like I belong; d) I feel awkward and out of place; e) Other students seem to like me; f) I feel lonely. Students with a “low sense of belonging” express negative attitudes in at least one respect.
3. Students’ participation is measured according to how many times in the past two weeks they say that they: missed school; skipped classes; arrived late. Students have “low participation” if they report a frequency of at least: “1 or 2 times” to all three items, OR: “3 or 4 times” to “missed school”, OR “3 or 4 times” to both “skipped classes” and “arrived late for school”.

---

¹ The index is set with a mean of zero and two-thirds of students fall in between 1 and -1.
² Low sense of belonging is measured as the percentage of students who feel like an outsider (or left out of things), make friends easily, feel like they belong, feel awkward and out of place, other students like them, and feel lonely.
³ Low participation is measured according to how many times in the past two weeks they report that they: missed school; skipped classes; arrived late. Students have “low participation” if they report a frequency of at least: “1 or 2 times” to all three items, OR: “3 or 4 times” to “missed school”, OR “3 or 4 times” to both “skipped classes” and “arrived late for school”.

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8 © OECD 2004
9 © OECD 2004
PISA found strong relationships between students’ attitudes, learning strategies and performance. The results also show that students with the autonomous learning strategies needed to become lifelong learners are characterised by strong motivation and self-belief.

The PISA survey asked students about a range of their characteristics as learners. It asked them about their motivation (for example, their interest in reading, and their commitment to use education to get a good job), their self-belief (for example, whether they believe they can handle learning tasks effectively) and their learning strategies (for example, whether they measure their progress against their goals to control their own learning).

The survey found that in a number of respects, students with stronger approaches to learning are likely to have higher literacy performance, and that these relationships apply across different countries and cultures.

The evidence suggests that students who are more self-confident and have stronger motivation do better at school largely because they are more inclined to invest in learning strategies that work. For example, students who believe they can succeed in performing tasks that they find difficult are more likely to make an effort to control their learning, checking their own progress and working out what they still need to know. Such behaviour, in turn, is associated with higher performance in PISA.

These findings suggest that strategies to improve teaching and learning techniques need to do more than just offer students a learning tool-kit. Students will only use learning tools if they feel motivated and believe in their capacity to learn. So measures to improve learning techniques must go hand in hand with measures to nurture stronger attitudes to learning.

How strong are these attitudes in different countries? Such comparisons need to be made with care, since for example it can be shown that students do not always mean the same thing in different cultures when, for example, they say they are interested in reading. However, some cross-country comparisons are more robust, and the table to the left ranks countries in order of students’ average level of belief in their learning efficacy.

<table>
<thead>
<tr>
<th>A measure of students’ self-belief: how effective do they feel as learners?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index of self-efficacy</strong></td>
</tr>
<tr>
<td>Mexico</td>
</tr>
<tr>
<td>Austria</td>
</tr>
<tr>
<td>Switzerland</td>
</tr>
<tr>
<td>Scotland</td>
</tr>
<tr>
<td>United States</td>
</tr>
<tr>
<td>Australia</td>
</tr>
<tr>
<td>Belgium (Fl.)</td>
</tr>
<tr>
<td>New Zealand</td>
</tr>
<tr>
<td>Sweden</td>
</tr>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>Italy</td>
</tr>
<tr>
<td>Hungary</td>
</tr>
<tr>
<td>Iceland</td>
</tr>
<tr>
<td>Norway</td>
</tr>
<tr>
<td><strong>OECD average</strong></td>
</tr>
</tbody>
</table>

| Portugal | 2.54 |
| Denmark | 2.52 |
| Ireland | 2.50 |
| Luxembourg | 2.49 |
| Finland | 2.47 |
| Czech Republic | 2.41 |
| Korea | 2.28 |

The scale ranges from 1 to 4 and shows how frequently, on average, students agree with statements such as “I am certain I can understand the most difficult material presented in reading”: 1 (almost never), 2 (sometimes), 3 (often) and 4 (almost always). Countries at the top have students who are more confident, on average, about dealing with learning situations they find difficult.

Learning autonomy

A further important finding is that students’ motivation and self-belief may have even greater implications for their capacity for lifelong learning than for their performance at school. Student approaches to learning measured in PISA explain about a fifth of the difference in students’ literacy performance. But if students’ tendency to control their learning is taken as an outcome of learning – since learning autonomy is a key precondition of lifelong learning – an even stronger relationship becomes visible.

About two-thirds of differences in student use of “control strategies” can be explained by the varying levels of motivation and self-belief expressed by students who use such strategies more or less often.

| Relative performance of students who control their learning more |
|---|---|
| Advantage in PISA score points for students who control their learning more¹ | Mean score in reading for students who control their learning... |
|          | most | least |
| Portugal | 96   | 517  | 421  |
| New Zealand | 77  | 571  | 494  |
| Austria | 70   | 565  | 495  |
| Czech Republic | 66  | 531  | 465  |
| Scotland | 62   | 555  | 493  |
| Germany | 61   | 521  | 460  |
| United States | 61  | 534  | 473  |
| Ireland | 56   | 554  | 498  |
| Mexico | 55   | 449  | 394  |
| Luxembourg | 53  | 478  | 425  |
| **OECD average** | **53** | **528** | **475** |
| Korea | 51   | 549  | 498  |
| Sweden | 49   | 538  | 489  |
| Switzerland | 49  | 522  | 473  |
| Austria | 44   | 532  | 488  |
| Italy | 44   | 505  | 461  |
| Hungary | 40   | 497  | 457  |
| Iceland | 37   | 527  | 490  |
| Finland | 36   | 562  | 526  |
| Denmark | 32   | 516  | 484  |
| Belgium (Fl.) | 27  | 544  | 517  |
| Norway | 26   | 520  | 494  |

1. Difference in score points between students in the top and bottom quarters of the index of control strategies. Based on students’ reports.
PISA revealed considerable gender differences among 15-year-olds, of which the most consistent among countries is that girls are more interested in reading and perform on average better in reading literacy. Yet both boys and girls have specific strengths and weaknesses, suggesting that differentiated strategies may be needed to meet their needs.

In every country participating in PISA 2000, girls perform on average higher in reading literacy than boys. The average gap is substantial: nearly half a proficiency level (32 points). While the gap is less than half this average in Korea, in other countries the contrast between boys and girls is stark. For example, in Norway, girls score on average 529 points, which is higher than the average student score (for boys and girls) in all but three of the 27 OECD countries in the survey, whereas boys score 486 points, lower than the average in all but seven countries overall.

In mathematical literacy, boys do better overall, but only outperform girls in about half the PISA countries. In the others, there is no significant gender gap. Moreover, even in those countries where girls do less well in mathematics, the nature of this underperformance differs from the underperformance of boys in reading. In the case of mathematics, boys’ advantage derives mainly from a disproportionate number of them performing very well. Girls are, on average, no more likely than boys to have low mathematical literacy. In contrast, for reading literacy, boys are nearly 70 per cent more likely than girls to have low performance.

### Differences between the interests and study habits of boys and girls

PISA identified a number of qualitative differences between the interests and study habits of boys and girls, which suggest that different strategies may be appropriate in addressing the learning needs of each gender.

#### Interest in different areas

Girls are more interested in reading, and boys in mathematics. This is clearly a factor associated with differences in performance, and it is notable that in Finland, the country where girls are the furthest ahead of boys in reading performance, there is also the largest gap in interest, whereas Korea has the smallest gap in both respects. However, these two factors are not strongly associated across countries (see table opposite).

PISA also found that boys and girls have different types of reading interests, which is fairly consistent across countries. Boys’ interest in a wide range of materials including non-fiction, newspapers and comics, but their interest in reading fiction is lower. Boys are more inclined to “elaborate” new knowledge, by relating it to what they already know. While these differences do not apply in every country, they give useful insights into the strengths and weaknesses of boys and girls, and which learning skills each need to work on.

#### Characteristics as learners

Boys and girls each have distinctive strengths and weaknesses in terms of how they approach learning.

Part of this is a matter of attitude and motivation: girls are more confident and motivated in reading; boys in mathematics. Boys also have a stronger general confidence in their ability to overcome obstacles and be effective as learners, while girls report greater effort and persistence.

Another feature of difference is in learning strategies. Girls tend to be more systematic about controlling their own learning, and to memorise material. Boys are more inclined to “elaborate” new knowledge, by relating it to what they already know. While these differences do not apply in every country, they give useful insights into the strengths and weaknesses of boys and girls, and which learning skills each need to work on.

Finally, boys have a stronger preference for competitive learning situations and girls (less consistently across countries) are more inclined to favour co-operative situations.

#### Engagement at school

Even though girls fare better in PISA than boys in many respects, the survey does not support the notion that difficulties at school age 15 are concentrated among male students. In particular, there is no significant difference overall between the frequency with which boys and girls report having a low sense of belonging at school. There is only a minor difference between their chances of having low attendance, but in some countries these differences are much higher. Notably in Greece and Poland, two of the three countries with the highest number of students missing school or classes, the rate is only two-thirds and three-quarters as high, respectively, for girls as for boys.

---

### Reading performance (mean score)

<table>
<thead>
<tr>
<th>Country</th>
<th>Boys</th>
<th>Girls</th>
<th>How far girls are ahead (score points)</th>
<th>Interest in reading: how far girls are ahead</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>513</td>
<td>546</td>
<td>34</td>
<td>0.36</td>
</tr>
<tr>
<td>Austria</td>
<td>495</td>
<td>520</td>
<td>26</td>
<td>0.62</td>
</tr>
<tr>
<td>Belgium</td>
<td>492</td>
<td>525</td>
<td>33</td>
<td>0.54</td>
</tr>
<tr>
<td>Canada</td>
<td>519</td>
<td>551</td>
<td>32</td>
<td>0.65</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>473</td>
<td>510</td>
<td>37</td>
<td>0.79</td>
</tr>
<tr>
<td>Denmark</td>
<td>485</td>
<td>510</td>
<td>25</td>
<td>0.53</td>
</tr>
<tr>
<td>Finland</td>
<td>520</td>
<td>571</td>
<td>51</td>
<td>0.96</td>
</tr>
<tr>
<td>France</td>
<td>490</td>
<td>519</td>
<td>29</td>
<td>m</td>
</tr>
<tr>
<td>Germany</td>
<td>468</td>
<td>502</td>
<td>35</td>
<td>0.60</td>
</tr>
<tr>
<td>Greece</td>
<td>456</td>
<td>493</td>
<td>37</td>
<td>m</td>
</tr>
<tr>
<td>Hungary</td>
<td>465</td>
<td>496</td>
<td>32</td>
<td>0.49</td>
</tr>
<tr>
<td>Iceland</td>
<td>488</td>
<td>528</td>
<td>40</td>
<td>0.45</td>
</tr>
<tr>
<td>Ireland</td>
<td>513</td>
<td>542</td>
<td>29</td>
<td>0.53</td>
</tr>
<tr>
<td>Italy</td>
<td>469</td>
<td>507</td>
<td>38</td>
<td>0.58</td>
</tr>
<tr>
<td>Japan</td>
<td>507</td>
<td>537</td>
<td>30</td>
<td>m</td>
</tr>
<tr>
<td>Korea</td>
<td>519</td>
<td>533</td>
<td>14</td>
<td>m</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>429</td>
<td>456</td>
<td>27</td>
<td>0.43</td>
</tr>
<tr>
<td>Mexico</td>
<td>411</td>
<td>432</td>
<td>20</td>
<td>0.32</td>
</tr>
<tr>
<td>New Zealand</td>
<td>507</td>
<td>553</td>
<td>46</td>
<td>0.37</td>
</tr>
<tr>
<td>Norway</td>
<td>486</td>
<td>529</td>
<td>43</td>
<td>0.60</td>
</tr>
<tr>
<td>Poland</td>
<td>461</td>
<td>498</td>
<td>36</td>
<td>m</td>
</tr>
<tr>
<td>Portugal</td>
<td>458</td>
<td>482</td>
<td>25</td>
<td>0.80</td>
</tr>
<tr>
<td>Spain</td>
<td>481</td>
<td>505</td>
<td>24</td>
<td>m</td>
</tr>
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<td>Sweden</td>
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<td>536</td>
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<td>0.47</td>
</tr>
<tr>
<td>Switzerland</td>
<td>480</td>
<td>510</td>
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<td>United Kingdom</td>
<td>512</td>
<td>537</td>
<td>26</td>
<td>0.43</td>
</tr>
<tr>
<td>United States</td>
<td>490</td>
<td>518</td>
<td>29</td>
<td>0.36</td>
</tr>
<tr>
<td>OECD average</td>
<td>485</td>
<td>517</td>
<td>32</td>
<td>0.53</td>
</tr>
</tbody>
</table>

1. This is based on an index of interest in reading and shows positive effect sizes from 0 to 1. Positive effects show that girls are more interested in reading; an effect of 0.20 is small, 0.50 is medium and 0.80 is large.
2. Interest in reading data for the Flemish Community only.
3. Interest in reading data for Scotland only.
The social background of all students in a school is strongly associated with reading performance.

As noted earlier, the social background of an individual student is the strongest single factor associated with performance in PISA. However, it is not just the characteristics of an individual’s family but also the characteristics of the families of other students in the school that are closely associated with how well individuals performed in PISA. On average, students who attend schools with a more advantaged “social profile” are likely to show considerably higher levels of literacy than those at less advantaged schools – and this superior performance is greater than can be accounted for by the sum of their own individual advantages.

The importance of the whole-school social profile is illustrated in the graph below, using the United States as an example of a country with average characteristics in terms of the social gradient. Note that the slope of the school gradient is nearly twice that of individuals – i.e. if one compares two schools with different social composition, the predicted difference in average reading scores is twice as great as it would be on the basis of predicting the individual scores of each student attending those schools.

This is an average; in some countries the compounding effect is much higher; in others lower. As a result, variation in the steepness of the social gradient across countries is greater when the school effect is taken into account. Iceland has the least severe social gradient at both the individual and the school level, and Germany has the steepest at both levels. However, the slopes of the gradient in the two countries differ by a factor of three at the individual level but a factor of five at the school level.

Thus there appears to be an advantage for an individual in attending a school in which other students have more favourable home backgrounds. That advantage may stem from a variety of factors, including peer-group influences, differences in the resources or quality of schools attended by different social groups, or differences in teacher expectations.

However, the results also show that the social profile of a school does not determine its results, and that for two schools whose students have the same average socio-economic status, average reading performance can vary by as much as two proficiency levels.

Analysis of the PISA results indicates that the most important factor influencing whether a school does well compared to other schools with similar social background is whether the less advantaged students within the school achieve good results. In general, the impact of the social profile seems to be greater in schools where there are more disadvantaged students: the lower the social profile, the greater the differences between students from different backgrounds. For students at better-off schools there is more of a “convergence” in their performance, with background mattering less.

Since most variation in student performance tends to be within schools, a key priority is to help the least advantaged individuals within schools to achieve their potential. In particular, those within schools with below-average social profiles may benefit most from compensatory assistance. However, this analysis also suggests that high segregation of students by social background can create an intense disadvantage for students in the least-favoured schools. The graph above shows that students in the lowest quarter of schools on the index of socio-economic status have no overlap in predicted reading scores with those from other schools. Even one of the 5 per cent most socially privileged students within a less-advantaged school has an expected score below one of the least privileged students in a school with a higher social profile. Thus, policies that limit the extent of social segregation across schools appear likely to help more students to achieve their potential.
The school environment makes a tangible difference to learning outcomes, and in particular the atmosphere created by students and teachers has measurable effects.

How much difference does the quality of a school make to learning outcomes? PISA asked students and school principals questions about various characteristics of schools that might make a difference to learning outcomes. Factors such as the environment in the classroom or the physical infrastructure of the school are more susceptible to policy influence than students' home backgrounds, and therefore of particular interest to policy makers.

The graph shows that a range of school characteristics are associated with student reading performance. Compared to social background, the impact of these factors appears modest: rated on any one of the characteristics shown, the gap between students in the top and bottom quarter of schools is below half a proficiency level, except for student-related factors affecting school climate. Nevertheless, if schools were able to improve performance by these kinds of amounts as a result of improvements in school climate and resources, this would represent a substantial educational gain.

The PISA results underline the particular importance of school climate as a factor affecting school performance. Its effect is more discernible than the level of school resources. Overall, the measured school climate variables account for about 6 per cent of between-school differences in performance, while school resources account for only about 1 per cent. A range of factors affect school climate, including the attitudes of both teachers and students and the quality of the relationship between them.

The PISA results indicate that it is student attitudes and behaviour that are particularly important, and that an atmosphere in which they are committed to purposeful learning makes a key difference.

These results confirm a range of other research suggesting that students perform best in a positive learning environment that is oriented towards results. They also relate to PISA’s finding that students who are ready to invest effort and who enjoy learning thrive as individuals. They are best able to develop these characteristics in purposeful and well disciplined schools and classroom environments. It is interesting to note that the extent to which teachers emphasise academic performance is also positively related to performance, but less strongly so than the disciplinary climate of the classroom.

### School characteristics

How much difference does it make what school you go to? PISA found that although much variation in student performance is attributable to differences within schools, a substantial amount (varying greatly by country) reflects the fact that students at some schools do better than those at others.

In Austria, Belgium, the Czech Republic, Germany, Greece, Hungary, Italy, Mexico and Poland, between-school variation is greater than within-school variation. By contrast, in Finland, Iceland, Norway and Sweden, around a tenth of variation lies in between-school differences.

What is it that makes students at some schools perform so much better than others? Analysis of the PISA 2000 results shows that the most important influence is the combined background of the students in a school, and in particular differences in average socio-economic status. Characteristics of the school itself play a smaller, but still significant role, and in particular students do better on average in schools with a positive climate for learning.

### How much student performance varies with aspects of school climate and resources

(Average effect within OECD countries)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Score point difference</th>
<th>Bottom quarter of schools</th>
<th>Top quarter of schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-related factors affecting school climate¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disciplinary climate²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers’ morale and commitment¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of schools’ educational resources¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher shortage¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher-related factors affecting school climate¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of schools’ physical infrastructure¹</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For example: on average in OECD countries the quarter of schools with the least favourable student influences on school climate have average student reading scores of 473 points.

1. As reported by school principals.
2. As reported by students.
PISA does not allow us to design a perfect education system, but gives clues about which features of school systems are relevant to student outcomes.

Thus, the degree to which students’ educational chances are affected by which country they live in should not be exaggerated. However, different school systems vary not just in their average scores but also in the dispersion of scores and, as seen above, in the strength of the relationship with factors such as social background.

Analysis of the PISA results has started to look at some system features that might help explain differences both in the overall performance and the equity of student outcomes across countries. This analysis does not produce prescriptions for education systems, but makes observations designed to help policy makers think about the effect of certain system features. In looking at features of more successful systems in PISA 2000, three particular observations have emerged.

1 Successful education systems have been extending school autonomy

During the past two decades, many countries have given schools greater autonomy in a range of institutional operations, aiming to raise performance levels by devolving responsibility to the front line.

In most of the countries that performed well in PISA 2000, local authorities and schools now have substantial freedom to adapt and deliver educational content and/or to allocate and manage resources. In all OECD countries, most 15-year-olds are in schools that have some responsibility for student admissions. Except in Germany, Italy and Switzerland, most schools also play a role in deciding on the courses offered. Schools are also gaining autonomy over institutional operations, and most principals have at least some control over budgets, although control of teacher salaries most commonly remains with central authorities.

The PISA 2000 results suggest that in those countries where schools have greater freedom to choose courses, average performance in reading literacy tends to be significantly higher. The picture is similar, though less pronounced, for other aspects of school autonomy, including the relationship between mean performance and the degree of school autonomy in budget allocation. This finding cannot, of course, be interpreted in a causal sense as, for example, school autonomy and performance could well be mutually reinforcing or influenced by other factors.

2 Successful education systems are committed to monitoring student and system performance

Performance standards can only be maintained if they are consistently implemented and assessed. Assessments of student performance are now common in many OECD countries.

These assessment systems have a range of rationales and forms. Different countries use various forms of external assessment, external evaluation or inspection, and schools’ own quality assurance and self-evaluation efforts. Some countries see such assessments primarily as tools to reveal best practices and identify shared problems in order to inform improvement. Others extend their purpose to support contestability of public services or market-mechanisms in the allocation of resources, e.g. by making comparative results of schools publicly available to facilitate parental choice or by having funds following students. While there is no single model that best supports school improvement, higher-performing countries in PISA have been putting increased emphasis on the monitoring of their schooling systems.

3 The method used in an education system to support low-performing students is critical to the raising of performance

An important aspect of country differences in PISA is that much of the variation in overall performance is attributable to differences in the number of low-performing students. Germany and Japan, for example, both have an average percentage of students reading at level 5, but Germany has twice as many at level 1 or below; this is what makes Germany’s average performance below average and Japan’s above average. Such differences are also associated with differences in social gradients.

Country approaches to helping disadvantaged students vary widely. Some strategies focus resources on targeted groups of students. Others concentrate on changing the way in which students are allocated to schools, in some cases making schools less selective. The effectiveness of these policies remains controversial. However, the results from PISA 2000 suggest that overall variation in student performance and performance differences between schools tend to be greater in those countries with rigid institutionalised selection and tracking practices at early ages.
CONCLUSIONS

The initial OECD report on findings from PISA 2000 reported that there is no single key to success in PISA: rather, “successful performance is attributable to a constellation of factors”. Subsequent analysis has shed light on the relative importance of factors within this constellation, and offers a profile for each country describing how these relationships play out.

This analysis found some common factors among countries, as well as some important differences.

Important common factors among countries

- The significance of social background differences as a factor that helps explain variations in student performance. While this difference does vary substantially by country, in every country social background was the single most important factor that PISA identified, both in accounting for variations among individuals and for variations across schools.

- The importance of student attitudes as a prerequisite for successful learning. Within countries, students who are interested in what they learn and believe in their own abilities are much more likely to do well, even once other factors have been taken into account. This finding gives a very direct message to school systems that efficient instructional methods are not on their own enough to assure strong learning outcomes: unless the motivation and interest of students can be enhanced, learning gains are likely to be constrained.

- The influence of the atmosphere within schools and classrooms in relation to student outcomes. In every country, having a positive school climate had a stronger measurable relationship with student reading performance than the level of physical resources of the school.

Among the main differences among countries uncovered by PISA, the most striking was the degree to which student performance varied across schools. In some countries, most of the variation in student reading performance can be predicted simply by looking at the characteristics of the school they go to. In others, 90 per cent of variation is contained within individual schools. Some of the extremes of this difference can be accounted for by the fact that some countries separate more and less able students into different schools. However, even the variation across countries with similar education systems is striking in this regard.

Moreover, country differences in the performance advantage associated with individual social background are compound-ed by the varying degrees to which the social composition of the school appears to ad- vantage students. Thus while the steepness of the “social gradient” varies by a factor of about three across countries when looking just at individu- als, the predicted difference in performance between students attending schools with differ- ent social profiles is five times as high in the highest country than in the lowest.

In seeking to learn from these differences, countries should note the very strong finding of PISA that achieving greater equity need not be at the expense of overall standards. On the contrary, there is a negative correlation between the amount of difference between the predicted performance of students from social backgrounds and the overall level of performance. This is consistent with the finding that the biggest factor that distinguishes more and less successful countries in PISA is not how well students are doing at the top, but how well they are doing at the bottom. Rather than suggesting that an emphasis on equality might lead to “levelling down”, the PISA results indicate that the most successful countries have mainly employed an inte-grated approach to grouping students. This puts the onus on differentiated systems to look carefully at how they can avoid limiting less able students’ chances.

PISA together with recent re-search suggests that in improving their education systems in response to such messages, the important thing for individu- al countries is not to copy their neighbours directly but to moni-tor carefully the evolution and outcome of their own system.

Such evaluation does not mean rigid control from the centre; indeed, devolution to the front line has been an important dynamic in educational improvement in many countries. Rather, it means a co-ordinated and consistent approach to tracking outcomes. PISA itself will continue to be part of this process at an international level. The results of the second three-yearly survey appear in Learning for Tomorrow’s World – First Results from PISA 2003 (OECD, 2004).
1. Student performance

In reading literacy

<table>
<thead>
<tr>
<th>Australia</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean score</td>
<td>528</td>
</tr>
<tr>
<td>% at reading level 5</td>
<td>18</td>
</tr>
<tr>
<td>% at reading level 1 or below</td>
<td>12</td>
</tr>
<tr>
<td>Standard deviation of reading literacy scores</td>
<td>102</td>
</tr>
<tr>
<td>% of variation between schools</td>
<td>19</td>
</tr>
<tr>
<td>Mean score in mathematical literacy</td>
<td>533</td>
</tr>
<tr>
<td>Mean score in scientific literacy</td>
<td>528</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

<table>
<thead>
<tr>
<th>Reading score</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below Level I</td>
<td>Level I</td>
</tr>
<tr>
<td>300</td>
<td>400</td>
</tr>
</tbody>
</table>

3. Student characteristics

Goals

- above average confidence in their own learning efficacy.
- close to average confidence in their own reading ability.
- above average confidence in their own mathematical ability.

4. School characteristics

Climate

- close to average Discipline climate
- close to average Teachers’ morale and commitment
- less favourable Teacher-related factors affecting the school climate

Resources

- close to average quality of the schools’ physical infrastructure

5. System characteristics

School autonomy

| Percentage of students attending schools with at least some responsibility for: |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Australia                     | OECD                         | Australia                     | OECD                         |
| Student disciplinary policies  | 100                          | 95                            | 100                          | 95                            |
| Budget allocation             | 100                          | 94                            | 100                          | 94                            |
| Textbooks used                | 100                          | 92                            | 100                          | 89                            |
| Student assessment policies   | 99                           | 89                            | 94                           | 84                            |
| Student admissions            | 96                           | 84                            | 96                           | 76                            |
| Formulating school budget     | 84                           | 69                            | 96                           | 61                            |
| Courses offered               | 84                           | 69                            | 96                           | 61                            |
| Course content                | 60                           | 61                            | 47                           | 61                            |
| Teaching staff                | 47                           | 26                            | 19                           | 23                            |
| Salaries                     | 18                           | 18                            | 18                           | 23                            |
PISA 2000 Profile for Austria

1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
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</thead>
<tbody>
<tr>
<td><strong>Austria</strong></td>
<td>507</td>
<td>9</td>
<td>15</td>
<td>93</td>
<td>60</td>
<td>515</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

- Reading score
- Socio-economic status

3. Student characteristics

Approaches to learning

- Compared to other OECD students, students from Austria have:
  - above average confidence in their own learning efficacy.
  - close to average confidence in their own reading ability.
  - below average confidence in their own mathematical ability.

Engagement at school

- In Austria:
  - 20% of students have a low sense of belonging, compared to 25% on average in OECD countries.
  - 15% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

- Compared to other OECD students, students from Austria have:
  - more favourable Disciplinary climate
  - more favourable Teachers’ morale and commitment
  - more favourable Teacher-related factors affecting the school climate

Resources

- Compared to other OECD students, students from Austria have:
  - close to average Quality of the schools’t physical infrastructure
  - less Teacher shortage

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

- Student disciplinary policies
- Budget allocation
- Textbooks used
- Student assessment policies
- Student admissions
- Formulating school budget
- Courses offered
- Course content
- Appointing teachers
- Dismissing teachers
- Teachers’ salary increases
- Teachers’ starting salaries

<table>
<thead>
<tr>
<th></th>
<th>Austria</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>96</td>
<td>95</td>
</tr>
<tr>
<td>Disciplinary</td>
<td>93</td>
<td>94</td>
</tr>
<tr>
<td>Policies</td>
<td>99</td>
<td>92</td>
</tr>
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<td>Budget</td>
<td>69</td>
<td>89</td>
</tr>
<tr>
<td>Allocation</td>
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<td>84</td>
</tr>
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<td>Textbooks</td>
<td>14</td>
<td>76</td>
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<td>Used</td>
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<td>Admissions</td>
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<tr>
<td>Budget</td>
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<tr>
<td>Courses</td>
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<tr>
<td>Offered</td>
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<tr>
<td>Content</td>
<td></td>
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<td>Appointing</td>
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<tr>
<td>Teachers</td>
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</tr>
<tr>
<td>Dismissing</td>
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</tr>
<tr>
<td>Teachers’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salaries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.

2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
PISA 2000 Profile for Belgium

1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>Belgium</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean score</td>
<td>507</td>
<td>500</td>
</tr>
<tr>
<td>% at reading level</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>% at 5 or below</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>Standard deviation of reading literacy scores</td>
<td>107</td>
<td>100</td>
</tr>
<tr>
<td>Mean score in mathematical literacy</td>
<td>60</td>
<td>35</td>
</tr>
<tr>
<td>Mean score in scientific literacy</td>
<td>520</td>
<td>500</td>
</tr>
<tr>
<td>% of variation between schools</td>
<td>496</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

Reading score vs Socio-economic status

<table>
<thead>
<tr>
<th>Socio-economic status of participating students</th>
<th>Features of the socio-economic gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean socio-economic status</td>
<td>Percentage of explained variation in student performance</td>
</tr>
<tr>
<td>-0.03</td>
<td>22</td>
</tr>
<tr>
<td>OECD</td>
<td>20</td>
</tr>
</tbody>
</table>

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Belgium (Fl.) have:
- close to average confidence in their own reading ability.
- below average confidence in their own learning efficacy.
- close to average confidence in their own mathematical ability.

Engagement at school

In Belgium:
- 32% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 14% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Belgium have:
- less favourable disciplinary climate.
- less favourable teachers’ morale and commitment.
- close to average teacher-related factors affecting the school climate.

Resources

Compared to other OECD students, students from Belgium have:
- higher quality of the schools’ physical infrastructure.
- less teacher shortage.

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th></th>
<th>Belgium</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student disciplinary policies</td>
<td>99</td>
<td>95</td>
</tr>
<tr>
<td>Budget allocation</td>
<td>99</td>
<td>94</td>
</tr>
<tr>
<td>Textbooks used</td>
<td>100</td>
<td>92</td>
</tr>
<tr>
<td>Student assessment policies</td>
<td>95</td>
<td>89</td>
</tr>
<tr>
<td>Student admissions</td>
<td>98</td>
<td>84</td>
</tr>
<tr>
<td>Formulating school budget</td>
<td>61</td>
<td>76</td>
</tr>
<tr>
<td>Courses offered</td>
<td>59</td>
<td>71</td>
</tr>
<tr>
<td>Course content</td>
<td>96</td>
<td>69</td>
</tr>
<tr>
<td>Appointing teachers</td>
<td>95</td>
<td>61</td>
</tr>
<tr>
<td>Dismissing teachers</td>
<td>7</td>
<td>54</td>
</tr>
<tr>
<td>Teachers’ salary increases</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>Teachers’ salaries</td>
<td>7</td>
<td>23</td>
</tr>
</tbody>
</table>
1. Student performance

<table>
<thead>
<tr>
<th>In reading literacy</th>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>534</td>
<td>17</td>
<td>10</td>
<td>95</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>533</td>
<td>529</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

2.1 The socio-economic gradient

3. Student characteristics

3.1 Engagement at school

In Canada:
- 23% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 20% of students have low participation (attendance), compared to 20% on average in OECD countries.

3.2 Socio-economic status

The socio-economic gradient

<table>
<thead>
<tr>
<th>Mean socio-economic status</th>
<th>Percentage of explained variation in student performance</th>
<th>Difference in reading literacy score if students had the average OECD SES (score points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>0.27</td>
<td>-7</td>
</tr>
<tr>
<td>OECD</td>
<td>0.00</td>
<td>20</td>
</tr>
</tbody>
</table>

Features of the socio-economic gradient

- **Socio-economic status of participating students**
  - Mean socio-economic status: Canada 0.27, OECD 0.00
  - Percentage of explained variation in student performance: Canada 11%, OECD 20%
  - Difference in reading literacy score if students had the average OECD SES (score points): Canada -7, OECD 20

- **Features of the socio-economic gradient**
  - Length of the gradient: Canada 3.1, OECD 3.0
  - Slope of the gradient: Canada 37, OECD 41

4. School characteristics

4.1 Climate

Compared to other OECD students, students from Canada have:
- less favourable Disciplinary climate
- close to average Teachers’ morale and commitment
- more favourable Teacher-related factors affecting the school climate

4.2 Resources

Compared to other OECD students, students from Canada have:
- higher Quality of the schools’ physical infrastructure
- close to average Teacher shortage

5. System characteristics

5.1 School autonomy

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th>Student disciplinary policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointing teachers</th>
<th>Dismissing teachers</th>
<th>Teachers’ salary increases</th>
<th>Teachers’ starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>98</td>
<td>99</td>
<td>92</td>
<td>89</td>
<td>89</td>
<td>77</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>34</td>
</tr>
<tr>
<td>OECD</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
PISA 2000 Profile for Czech Republic

1. Student performance

<table>
<thead>
<tr>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>492</td>
<td>7</td>
<td>18</td>
<td>96</td>
<td>53</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Czech Republic have:
- below average confidence in their own learning efficacy.
- below average confidence in their own reading ability.
- below average confidence in their own mathematical ability.

Performance advantage in reading literacy of students...

Engagement at school

In Czech Republic:
- 30% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 22% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Czech Republic have:
- more favourable disciplinary climate.
- less favourable teachers’ morale and commitment.
- more favourable teacher-related factors affecting the school climate.

Performance advantage in schools with a more positive climate...

Resources

Compared to other OECD students, students from Czech Republic have:
- higher quality of the schools’ physical infrastructure.
- less teacher shortage.

Performance advantage in schools with... better educational resources...

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

Czech Republic OECD

Student discipline policies 100 99
Budget allocation 100 89
Textbooks used 83 82
Student assessment policies 82 82
Student admissions 96 95
Formulating school budget 73 70
Courses offered 71 69
Course content 61 61
Appointing teachers 54 54
Dismissal teachers 26 23
Teachers’ salary increases 70 70
Teachers’ starting salaries 70 70

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.

2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
1. Student performance

In reading literacy

<table>
<thead>
<tr>
<th>Mean score</th>
<th>% at reading level 5</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>497</td>
<td>8</td>
<td>18</td>
<td>98</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
</tr>
</tbody>
</table>

Mean score in mathematical literacy: 514, Mean score in scientific literacy: 481

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Denmark have:
- close to average confidence in their own learning efficacy.
- above average confidence in their own reading ability.
- above average confidence in their own mathematical ability.

Engagement at school

In Denmark:
- 21% of students have a low sense of belonging, compared to 25% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Denmark have:
- less favourable Disciplinary climate
- close to average Teachers’ morale and commitment
- more favourable Teacher-related factors affecting the school climate

Resources

Compared to other OECD students, students from Denmark have:
- close to average Quality of the schools’ physical infrastructure
- less Teacher shortage

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th></th>
<th>Student disciplinary policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointing teachers</th>
<th>Dismissing teachers</th>
<th>Teachers’ salary increases</th>
<th>Teachers’ starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denmark</td>
<td>99</td>
<td>98</td>
<td>100</td>
<td>87</td>
<td>87</td>
<td>89</td>
<td>77</td>
<td>90</td>
<td>97</td>
<td>57</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>OECD</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
<td>23</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>546</td>
<td>18</td>
<td>7</td>
<td>89</td>
<td>12</td>
<td>536</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
</tr>
</tbody>
</table>

### Reading Literacy

- **Mean score in reading literacy**: 546 for Finland, 500 for OECD.
- **% at reading level**: 18% for Finland, 9% for OECD.
- **Standard deviation of reading literacy scores**: 7 for Finland, 18 for OECD.
- **% of variation between schools**: 89% for Finland, 100% for OECD.

### Mathematical Literacy

- **Mean score in mathematical literacy**: 536 for Finland, 500 for OECD.
- **Standard deviation of reading literacy scores**: 12 for Finland, 35 for OECD.
- **% of variation between schools**: 538 for Finland, 500 for OECD.

### Scientific Literacy

- **Mean score in scientific literacy**: 536 for Finland, 500 for OECD.
- **Standard deviation of reading literacy scores**: 53 for Finland, 50 for OECD.
- **% of variation between schools**: 38 for Finland, 30 for OECD.

### Socio-economic status (SES)

#### The socio-economic gradient

- **Reading score**:
  - Level IV: 600
  - Level III: 560
  - Level II: 520
  - Level I: 480
  - Below Level I: 440

#### Engagement at school

- **In Finland**:
  - 21% of students have a low sense of belonging compared to 25% on average in OECD countries.
  - 23% of students have low participation (attendance) compared to 20% on average in OECD countries.

#### Approaches to learning

- **Students from Finland have**:
  - Below average confidence in their own learning efficacy.
  - Close to average confidence in their own reading ability.
  - Close to average confidence in their own mathematical ability.

#### School autonomy

- **Percentage of students attending schools with at least some responsibility for**:
  - Student disciplinary policies: 96% for Finland, 95% for OECD.
  - Budget allocation: 99% for Finland, 94% for OECD.
  - Textbooks used: 100% for Finland, 92% for OECD.
  - Student assessment policies: 89% for Finland, 89% for OECD.
  - Student admissions: 54% for Finland, 84% for OECD.
  - Formulating school budget: 56% for Finland, 76% for OECD.
  - Courses offered: 95% for Finland, 71% for OECD.
  - Course content: 91% for Finland, 69% for OECD.
  - Displaying teachers: 35% for Finland, 61% for OECD.
  - Displaying teachers' salaries: 21% for Finland, 54% for OECD.
  - Displaying teachers' starting salaries: 2% for Finland, 26% for OECD.
### 1. Student performance

<table>
<thead>
<tr>
<th>Mean score in reading literacy</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>France</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>505</td>
<td>9</td>
<td>92</td>
</tr>
<tr>
<td>OECD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

**Student characteristics**

#### Engagement at school

- 30% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 15% of students have low participation (attendance), compared to 20% on average in OECD countries.

#### Reading level

- Level IV
- Level III
- Level II
- Level I
- Below Level I

#### Socio-economic status (SES)

**The socio-economic gradient**

- Mean socio-economic status: -0.12
- Percentage of explained variation in student performance: 23
- Difference in reading literacy score if students had the average OECD SES (score points): 6
- Length of the gradient: 2.9
- Slope of the gradient: 21

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
1. Student performance

In reading literacy

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level 5</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>484</td>
<td>9</td>
<td>23</td>
<td>111</td>
<td>60</td>
<td>490</td>
<td>487</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

In mathematical literacy

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level 5</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>484</td>
<td>9</td>
<td>23</td>
<td>111</td>
<td>60</td>
<td>490</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
</tr>
</tbody>
</table>

In scientific literacy

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level 5</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>484</td>
<td>9</td>
<td>23</td>
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<td>60</td>
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<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Germany have:

- close to average confidence in their own learning efficacy.
- below average confidence in their own reading ability.
- close to average confidence in their own mathematical ability.

Engagement at school

In Germany:

- 23% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 13% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Germany have:

- close to average disciplinary climate.
- less favourable teacher-related factors affecting the school climate.

Resources

Compared to other OECD students, students from Germany have:

- higher quality of the schools’ physical infrastructure.
- more teacher shortage.

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th></th>
<th>Student disciplinary policies</th>
<th>Student assessment policies</th>
<th>Student admissions policies</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointing teachers</th>
<th>Dismissing teachers</th>
<th>Teachers’ salary increases</th>
<th>Teachers’ starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>95</td>
<td>96</td>
<td>79</td>
<td>79</td>
<td>13</td>
<td>35</td>
<td>10</td>
<td>4</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>OECD</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>
1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>474</td>
<td>5</td>
<td>24</td>
<td>97</td>
<td>50</td>
<td>447</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

Engagement at school

In Greece:
- 23% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 29% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Greece have:
- less favourable Disciplinary climate
- more favourable Teachers’ morale and commitment
- less favourable Teacher-related factors, affecting the school climate

Resources

Compared to other OECD students, students from Greece have:
- lower Quality of the schools’ physical infrastructure
- more Teacher shortage

5. System characteristics

School autonomy

| Percentage of students attending schools with at least some responsibility for: |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                  | Student disci   | Budget allocation | Textbooks used | Student assess- | Formulat- | Courses offered | Course content | Appointing | Dismiss- | Teachers’ salary increases | Teachers’ starting |
|                                  | plinary policies|                  |                | ment policies     | ing school |                  |                | teachers    | ing teachers | increases | salaries         |
| Greece                          | 97              | 95               | 90             | 94              | 90          | 87              | 89             | 92           | 65           | 70              | 77              | 73              |
| OECD                            | 95              | 94               | 92             | 94              | 92          | 87              | 89             | 92           | 65           | 70              | 77              | 73              |

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
1. Student performance

<table>
<thead>
<tr>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hungary</td>
<td>480</td>
<td>5</td>
<td>23</td>
<td>94</td>
<td>67</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

<table>
<thead>
<tr>
<th>Reading score</th>
<th>Reading level</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>Level IV</td>
</tr>
<tr>
<td>500</td>
<td>Level III</td>
</tr>
<tr>
<td>400</td>
<td>Level II</td>
</tr>
<tr>
<td>300</td>
<td>Level I</td>
</tr>
<tr>
<td>Below Level I</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Socio-economic status of participating students</th>
<th>Features of the socio-economic gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean socio-economic status</td>
<td>Percentage of explained variation in student performance</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Hungary</td>
<td>-0.11</td>
</tr>
<tr>
<td>OECD</td>
<td>0.00</td>
</tr>
</tbody>
</table>

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Hungary have:
- close to average confidence in their own learning efficacy.
- below average confidence in their own reading ability.
- below average confidence in their own mathematical ability.

Engagement at school

In Hungary:
- 19% of students have low sense of belonging, compared to 25% on average in OECD countries.
- 18% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Hungary have:
- more favourable Disciplinary climate
- more favourable Teachers’ morale and commitment
- more favourable Teacher-related factors affecting the school climate

Resources

Compared to other OECD students, students from Hungary have:
- higher Quality of the schools’ physical infrastructure
- less Teacher shortage

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th>Student disciplinary policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointing teachers</th>
<th>Dismissing teachers</th>
<th>Teachers’ salary increases</th>
<th>Teachers’ starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hungary</td>
<td>100</td>
<td>92</td>
<td>100</td>
<td>98</td>
<td>99</td>
<td>61</td>
<td>98</td>
<td>97</td>
<td>100</td>
<td>99</td>
<td>50</td>
</tr>
<tr>
<td>OECD</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>
1. Student performance

<table>
<thead>
<tr>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iceland</td>
<td>507</td>
<td>9</td>
<td>15</td>
<td>92</td>
<td>514</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

<table>
<thead>
<tr>
<th>Reading score</th>
<th>Reading level</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>Level IV</td>
</tr>
<tr>
<td>500</td>
<td>Level III</td>
</tr>
<tr>
<td>400</td>
<td>Level II</td>
</tr>
<tr>
<td>300</td>
<td>Level I</td>
</tr>
<tr>
<td>Below Level I</td>
<td></td>
</tr>
</tbody>
</table>

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Iceland have:
- close to average confidence in their own learning efficacy.
- close to average confidence in their own reading ability.
- close to average confidence in their own mathematical ability.

Engagement at school

In Iceland:
- 22% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 26% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Iceland have:
- close to average disciplinary climate.
- more favourable teachers’ morale and commitment.

Resources

Compared to other OECD students, students from Iceland have:
- higher quality of the schools’ physical infrastructure.
- more teacher shortage.

5. System characteristics

School autonomy

<table>
<thead>
<tr>
<th>Student disciplinary policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointing teachers</th>
<th>Dismissing teachers</th>
<th>Teachers’ salary increases</th>
<th>Teachers’ starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iceland</td>
<td>99</td>
<td>87</td>
<td>99</td>
<td>98</td>
<td>74</td>
<td>76</td>
<td>62</td>
<td>79</td>
<td>99</td>
<td>99</td>
<td>7</td>
</tr>
<tr>
<td>OECD</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>In reading literacy</th>
<th>Mean score</th>
<th>% at reading level</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>527</td>
<td>14</td>
<td>11</td>
<td>94</td>
<td>503</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

3. Student characteristics

Approaches to learning

- close to average confidence in their own learning efficacy.
- above average in reading ability.
- close to average confidence in their own mathematical ability.

Engagement at school

- 15% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 15% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

- close to average more favourable disciplinary climate.
- close to average Teachers’ morale and commitment.
- close to average Teacher-related factors affecting the school climate.

Resources

- close to average Quality of the schools’ physical infrastructure.
- close to average Teacher shortage.

5. System characteristics

- close to average Behave disciplinary policies.
- close to average Budget allocation.
- close to average Textbooks used.
- close to average Student assessment.
- close to average Students’ admissions.
- close to average Formulating school budget.
- close to average Courses offered.
- close to average Course content.
- close to average Appointing teachers.
- close to average Dismissing teachers.
- close to average Teachers’ salary increases.
- close to average Teachers’ starting salaries.

- close to average Performance advantage in reading literacy of students...
- close to average Performance advantage in reading literacy and schools...
- close to average Professional correlation.
- close to average Reading level.
- close to average Socio-economic status.
- close to average Reading score.
- close to average Socio-economic status of participating students.

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
# PISA 2000 Profile for Italy

## 1. Student performance

### In reading literacy

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Italy</strong></td>
<td>487</td>
<td>5</td>
<td>19</td>
<td>91</td>
<td>54</td>
<td>457</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
</tr>
</tbody>
</table>

## 2. Socio-economic status (SES)

### The socio-economic gradient

- **Reading score**
  - Level IV: 600
  - Level III: 500
  - Level II: 400
  - Level I: 300
- **Socio-economic status**
  - Below Level I

### Features of the socio-economic gradient

<table>
<thead>
<tr>
<th>Socio-economic status of participating students</th>
<th>Features of the socio-economic gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean socio-economic status</td>
<td>Percentage of explained variation in student performance</td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>0.09</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>0.00</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.

## 3. Student characteristics

### Approaches to learning

- Compared to other OECD students, students from Italy have:
  - close to average confidence in their own learning efficacy.
  - close to average confidence in their own reading ability.
  - close to average confidence in their own mathematical ability.

### Engagement at school

- In Italy:
  - 23% of students have a low sense of belonging, compared to 25% on average in OECD countries.
  - 22% of students have low participation (attendance), compared to 20% on average in OECD countries.

## 4. School characteristics

### Climate

- Compared to other OECD students, students from Italy have:
  - less favourable disciplinary climate.
  - less favourable teachers’ morale and commitment.
  - close to average teacher-related factors affecting the school climate.

### Resources

- Compared to other OECD students, students from Italy have:
  - lower quality of the schools’ physical infrastructure.
  - more teacher shortage.

## 5. System characteristics

### School autonomy

| Percentage of students attending schools with at least some responsibility for: |
|---------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------|------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                 | Student disciplinary policies | Budget allocation | Textbooks used | Student assessment policies | Student admissions | Formulating school budget | Courses offered | Course content | Apportioning teachers | Dismissing teachers | Teachers’ salary increases | Teachers’ starting salaries |
| **Italy**                       | 100                           | 57                          | 100             | 100                          | 63                | 94                        | 22              | 93              | 10              | 11              | 1               |
| **OECD**                        | 95                            | 94                          | 92              | 89                           | 84                | 76                        | 71              | 69              | 61              | 54              | 26              | 23              |

### Performance advantage in reading literacy of students...

- who control their learning.
- with interest in reading.
- who believe in their own efficacy.

### Relationship between student performance in reading literacy and schools...

- where students have the highest sense of belonging.
- where students have highest participation.

### Performance advantage in schools with a more positive climate...

- in terms of student-related factors.

### Performance advantage in schools with... better educational resources...

- PISA score points 0 20 40 60 80 100 120

### Performance advantage in schools with... improved student-related factors...

- PISA score points 0 20 40 60 80 100 120

### Correlation

- Positive correlation
- Correlation

### System characteristics

- Percentage of students attending schools with at least some responsibility for:
  - Student disciplinary policies.
  - Budget allocation.
  - Textbooks used.
  - Student assessment policies.
  - Student admissions.
  - Formulating school budget.
  - Courses offered.
  - Course content.
  - Apportioning teachers.
  - Dismissing teachers.
  - Teachers’ salary increases.
  - Teachers’ starting salaries.
1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Japan</strong></td>
<td>522</td>
<td>10</td>
<td>10</td>
<td>86</td>
<td>557</td>
<td>550</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

Engagement at school

- In Japan:
  - 38% of students have a low sense of belonging, compared to 25% on average in OECD countries.
  - 4% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Japan have:
- more favourable Disciplinary climate
- more favourable Teachers’ morale and commitment
- more favourable Teacher-related factors affecting the school climate

Resources

Compared to other OECD students, students from Japan have:
- lower Quality of the schools’ physical infrastructure
- less Teacher shortage

5. System characteristics

School autonomy

<table>
<thead>
<tr>
<th>Percentage of students attending schools with at least some responsibility for:</th>
<th>Japan</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student disciplinary policies</td>
<td>100</td>
<td>95</td>
</tr>
<tr>
<td>Budget allocation</td>
<td>91</td>
<td>94</td>
</tr>
<tr>
<td>Textbooks used</td>
<td>99</td>
<td>92</td>
</tr>
<tr>
<td>Student assessment policies</td>
<td>100</td>
<td>89</td>
</tr>
<tr>
<td>Student admissions</td>
<td>100</td>
<td>84</td>
</tr>
<tr>
<td>Formulating school budget</td>
<td>98</td>
<td>76</td>
</tr>
<tr>
<td>Courses offered</td>
<td>100</td>
<td>71</td>
</tr>
<tr>
<td>Courses content</td>
<td>99</td>
<td>69</td>
</tr>
<tr>
<td>Appointing teachers</td>
<td>33</td>
<td>61</td>
</tr>
<tr>
<td>Dismissing teachers</td>
<td>32</td>
<td>54</td>
</tr>
<tr>
<td>Teachers’ salary increases</td>
<td>32</td>
<td>26</td>
</tr>
<tr>
<td>Teachers’ starting salaries</td>
<td>32</td>
<td>23</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.

2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
PISA 2000 Profile for Korea

1. Student performance

In reading literacy

<table>
<thead>
<tr>
<th>Mean score</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>525</td>
<td>6</td>
<td>70</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

Mean score in mathematical literacy

<table>
<thead>
<tr>
<th>Mean score</th>
<th>% of variation between schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>37</td>
</tr>
<tr>
<td>OECD</td>
<td>35</td>
</tr>
</tbody>
</table>

Mean score in scientific literacy

<table>
<thead>
<tr>
<th>Mean score</th>
<th>% of variation between schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>547</td>
</tr>
<tr>
<td>OECD</td>
<td>552</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

Reading score vs. Socio-economic status

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Korea have:

- below average confidence in their own learning efficacy.
- below average confidence in their own reading ability.
- below average confidence in their own mathematical ability.

Performance advantage in reading literacy of students...

...who control their learning...

...who believe in their own efficacy...

4. School characteristics

Climate

Compared to other OECD students, students from Korea have:

- more favourable Disciplinary climate
- less favourable Teachers' morale and commitment
- more favourable Teacher-related factors affecting the school climate

Performance advantage in schools with a more positive climate...

Resources

Compared to other OECD students, students from Korea have:

- lower Quality of the schools' physical infrastructure
- less Teacher shortage

Performance advantage in schools with better educational resources...

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th></th>
<th>Student disciplinary policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointing teachers</th>
<th>Dismissal teachers</th>
<th>Teachers' salary increases</th>
<th>Teachers' starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>100</td>
<td>95</td>
<td>99</td>
<td>99</td>
<td>97</td>
<td>88</td>
<td>93</td>
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<td>22</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>OECD</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
<td>23</td>
</tr>
</tbody>
</table>
1. Student performance

In reading literacy

<table>
<thead>
<tr>
<th>Country</th>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luxembourg</td>
<td>441</td>
<td>2</td>
<td>35</td>
<td>100</td>
<td>31</td>
<td>446</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Luxembourg have:

- Below average confidence in their own learning efficacy.
- Above average confidence in their own reading ability.
- Close to average confidence in their own mathematical ability.

Engagement at school

In Luxembourg:

- 28% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 13% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Luxembourg have:

- More favourable disciplinary climate.
- Close to average teacher morale and commitment.
- Less favourable teacher-related factors affecting the school climate.

Resources

Compared to other OECD students, students from Luxembourg have:

- Lower quality of the schools' physical infrastructure.
- Close to average teacher shortage.

Performance advantage in reading literacy of students...

Performance advantage in schools with a more positive climate...

Performance advantage in schools with... better educational resources...

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

- Student disciplinary policies.
- Budget allocation.
- Textbooks used.
- Student assessment policies.
- Student admissions.
- Formulating school budget.
- Courses offered.
- Course content.
- Appointing teachers.
- Dismissing teachers.
- Teachers' salary increases.
- Teachers' starting salaries.

Luxembourg OECD average

Performance advantage in schools with...
**PISA 2000 Profile for Mexico**

### 1. Student performance

#### In reading literacy

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level 5</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mexico</strong></td>
<td>422</td>
<td>1</td>
<td>44</td>
<td>86</td>
<td>53</td>
<td>387</td>
<td>422</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

### 2. Socio-economic status (SES)

#### The socio-economic gradient

- **Reading score**
  - Level IV
  - Level III
  - Level II
  - Level I
  - Below Level I

#### Socio-economic status of participating students

<table>
<thead>
<tr>
<th></th>
<th>Mean socio-economic status</th>
<th>Percentage of explained variation in student performance</th>
<th>Difference in reading literacy score if students had the average OECD SES (score points)</th>
<th>Length of the gradient</th>
<th>Slope of the gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mexico</strong></td>
<td>-1.24</td>
<td>23</td>
<td>38</td>
<td>4.4</td>
<td>35</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>0.00</td>
<td>20</td>
<td>0</td>
<td>3.0</td>
<td>41</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.

2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.

### 3. Student characteristics

#### Approaches to learning

- Compared to other OECD students, students from Mexico have:
  - above average confidence in their own learning efficacy.
  - close to average confidence in their own reading ability.
  - above average confidence in their own mathematical ability.

#### Engagement at school

- In Mexico:
  - 22% of students have a low sense of belonging, compared to 25% on average in OECD countries.
  - 23% of students have low participation (attendance), compared to 20% on average in OECD countries.

### 4. School characteristics

#### Climate

- Compared to other OECD students, students from Mexico have:
  - more favourable Disciplinary climate.
  - more favourable Teachers’ morale and commitment.
  - less favourable Teacher-related factors affecting the school climate.

#### Resources

- Compared to other OECD students, students from Mexico have:
  - lower Quality of the schools’ physical infrastructure.
  - more Teacher shortage.

### 5. System characteristics

#### School autonomy

<table>
<thead>
<tr>
<th>Student discipline policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions policies</th>
<th>Formulate school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Recruiting teachers</th>
<th>Dismissing teachers</th>
<th>Teachers' salary increases</th>
<th>Teachers' starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mexico</strong></td>
<td>99</td>
<td>77</td>
<td>81</td>
<td>92</td>
<td>86</td>
<td>68</td>
<td>58</td>
<td>59</td>
<td>48</td>
<td>28</td>
<td>26</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>

Performance advantage in reading literacy of students...

- who control their learning...
- with interest in reading...
- who believe in their own efficacy...

Performance advantage in reading literacy and schools...

- where students have the highest sense of belonging...
- where students have highest participation...

Performance advantage in schools with a more positive climate...

- ... in terms of student-related factors...

Performance advantage in schools with... better educational resources...

- ... in terms of student-related factors...

Relationship between student performance in reading literacy and schools...

---

© OECD 2004

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© OECD 2004
### 1. Student performance

#### In reading literacy

<table>
<thead>
<tr>
<th></th>
<th>New Zealand</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean score</td>
<td>529</td>
<td>500</td>
</tr>
<tr>
<td>% at reading level</td>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td>Standard deviation of reading literacy scores</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>% of variation between schools</td>
<td>108</td>
<td>100</td>
</tr>
<tr>
<td>Mean score in mathematical literacy</td>
<td>537</td>
<td>500</td>
</tr>
<tr>
<td>Mean score in scientific literacy</td>
<td>528</td>
<td>500</td>
</tr>
</tbody>
</table>

**New Zealand**

<table>
<thead>
<tr>
<th></th>
<th>New Zealand</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean score</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>% at reading level</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Standard deviation of reading literacy scores</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>% of variation between schools</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Mean score in mathematical literacy</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>Mean score in scientific literacy</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

### 2. Socio-economic status (SES)

#### The socio-economic gradient

**Reading score**

- Level IV
- Level III
- Level II
- Level I
- Below Level I

#### Social-economic status of participating students

<table>
<thead>
<tr>
<th></th>
<th>New Zealand</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean socio-economic status</td>
<td>0.16</td>
<td>0.00</td>
</tr>
<tr>
<td>Percentage of explained variation in student performance</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>Difference in reading literacy score if students had the average OECD SES (score points)</td>
<td>-6</td>
<td>0</td>
</tr>
<tr>
<td>Length of the gradient</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Slope of the gradient</td>
<td>45</td>
<td>41</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.

2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.

### 3. Student characteristics

#### Approaches to learning

- Close to average confidence in their own learning efficacy.
- Above average confidence in their own mathematical ability.

#### Engagement at school

- 21% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 27% of students have low participation (attendance), compared to 20% on average in OECD countries.

### 4. School characteristics

#### Climate

- Close to average disciplinary climate
- More favourable teacher morale and commitment

#### Resources

- Close to average quality of the school's physical infrastructure
- More teacher shortage

### 5. System characteristics

#### School autonomy

#### Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th></th>
<th>New Zealand</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student disciplinary policies</td>
<td>100</td>
<td>95</td>
</tr>
<tr>
<td>Budget allocation</td>
<td>100</td>
<td>94</td>
</tr>
<tr>
<td>Textbooks used</td>
<td>100</td>
<td>89</td>
</tr>
<tr>
<td>Student assessment policies</td>
<td>94</td>
<td>84</td>
</tr>
<tr>
<td>Student admissions</td>
<td>98</td>
<td>76</td>
</tr>
<tr>
<td>Formulating school budget</td>
<td>100</td>
<td>71</td>
</tr>
<tr>
<td>Courses offered</td>
<td>87</td>
<td>69</td>
</tr>
<tr>
<td>Course content</td>
<td>100</td>
<td>61</td>
</tr>
<tr>
<td>Appointing teachers</td>
<td>99</td>
<td>54</td>
</tr>
<tr>
<td>Dismissing teachers</td>
<td>41</td>
<td>26</td>
</tr>
<tr>
<td>Teachers' salary increases</td>
<td>17</td>
<td>23</td>
</tr>
</tbody>
</table>

**New Zealand**

0.2 0.4 0.6 0.8 1

**Correlation**

**Performance advantage in reading literacy of students...**

**...with interest in reading**

**...who control their learning**

**...who believe in their own efficacy**

**Performance advantage in reading literacy and schools...**

**...where students have the highest sense of belonging**

**...where students have highest participation**

**Performance advantage in reading literacy and schools...**

**...where students have the highest sense of belonging**

**...where students have highest participation**

**Performance advantage in schools with a more positive climate...**

**...in terms of student-related factors**

**Performance advantage in schools with...**

**...better educational resources**

**Performance advantage in schools with...**

**...better educational resources**

**New Zealand**

**OECD average**
1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level 5</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>505</td>
<td>11</td>
<td>17</td>
<td>104</td>
<td>11</td>
<td>499</td>
<td>500</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

**Approaches to learning**

Compared to other OECD students, students from Norway have:

- close to average confidence in their own learning efficacy.
- close to average confidence in their own reading ability.
- close to average confidence in their own mathematical ability.

**Engagement at school**

In Norway:

- 21% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 18% of students have low participation (attendance), compared to 20% on average in OECD countries.

**Socio-economic status**

The socio-economic gradient

<table>
<thead>
<tr>
<th>Mean socio-economic status</th>
<th>Percentage of explained variation in student performance</th>
<th>Difference in reading literacy score if students had the average OECD SES (score points)</th>
<th>Features of the socio-economic gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>0.52</td>
<td>-17</td>
<td>Length of the gradient¹ Overall Within schools Between schools</td>
</tr>
<tr>
<td>OCD</td>
<td>0.00</td>
<td>20</td>
<td>2.9 42 38 60</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.

2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.

4. School characteristics

**Climate**

Compared to other OECD students, students from Norway have:

- less favourable disciplinary climate
- close to average teachers’ morale and commitment
- less favourable teacher-related factors affecting the school climate

**Resources**

Compared to other OECD students, students from Norway have:

- lower quality of the school’s physical infrastructure
- more teacher shortage

**Relationship between student performance in reading literacy and schools**

- Where students have the highest sense of belonging
- Where students have highest participation

**Performance advantage in reading literacy of students**

- Who control their learning
- With interest in reading
- Who believe in their own efficacy

**Performance advantage in schools with a more positive climate**

- In terms of student-related factors

**Performance advantage in schools with better educational resources**

- More PISA score points

- More PISA score points
1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>Mean score in reading literacy</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
<th>% of variation between schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>479</td>
<td>6</td>
<td>100</td>
<td>63</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>35</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

Engagement at school

- 41% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 26% of students have low participation (attendance), compared to 20% on average in OECD countries.

Climate

Compared to other OECD students, students from Poland have:
- more favourable Disciplinary climate
- less favourable Teachers’ morale and commitment
- close to average Teacher-related factors affecting the school climate

Resources

Compared to other OECD students, students from Poland have:
- lower Quality of the schools’ physical infrastructure
- less Teacher shortage

4. School characteristics

Performance advantage in schools with a more positive climate...

Relationship between student performance in reading literacy and schools...

- where students have the highest sense of belonging
- where students have highest participation

...where students have the highest sense of belonging

<table>
<thead>
<tr>
<th>Correlation</th>
<th>0.2</th>
<th>0.4</th>
<th>0.6</th>
<th>0.8</th>
<th>1</th>
</tr>
</thead>
</table>

Socio-economic status of participating students

<table>
<thead>
<tr>
<th>Mean socio-economic status</th>
<th>Percentage of explained variation in student performance</th>
<th>Difference in reading literacy score if students had the average OECD SES (score points)</th>
<th>Features of the socio-economic gradient</th>
<th>Slope of the gradient¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>-0.35</td>
<td>17</td>
<td>16</td>
<td>3.2</td>
</tr>
<tr>
<td>OECD</td>
<td>0.00</td>
<td>20</td>
<td>16</td>
<td>3.2</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
1. Student performance

In reading literacy

<table>
<thead>
<tr>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>470</td>
<td>4</td>
<td>26</td>
<td>97</td>
<td>37</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
</tr>
</tbody>
</table>

Mean score in reading literacy: 470 for Portugal, 500 for OECD

Mean score in mathematical literacy: 37 for Portugal, 35 for OECD

Mean score in scientific literacy: 454 for Portugal, 500 for OECD

Engagement at school

In Portugal:
- 21% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 20% of students have low participation (attendance), compared to 20% on average in OECD countries.

2. Socio-economic status (SES)

The socio-economic gradient

Reading score: 600

Socio-economic status:
- Level IV
- Level III
- Level II
- Level I
- Below Level I

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from Portugal have:
- close to average confidence in their own learning efficacy.
- close to average confidence in their own reading ability.
- below average confidence in their own mathematical ability.

Performance advantage in reading literacy of students...

...who control their learning...
...with interest in reading...
...who believe in their own efficacy...

PISA score points: 0 to 120

Correlation:
- 0.2
- 0.4
- 0.6
- 0.8
- 1

Engagement at school

In Portugal:
- 21% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 20% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from Portugal have:
- close to average disciplinary climate.
- less favourable teachers’ morale and commitment.
- less favourable teacher-related factors affecting the school climate.

Performance advantage in schools with a more positive climate...

Resources

Compared to other OECD students, students from Portugal have:
- close to average quality of the schools' physical infrastructure.
- close to average teacher shortage.

Performance advantage in schools with better educational resources...

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th>Student disciplinary policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointing teachers</th>
<th>Dismissing teachers</th>
<th>Teachers’ salary increases</th>
<th>Teachers’ starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portugal</td>
<td>92</td>
<td>95</td>
<td>100</td>
<td>88</td>
<td>85</td>
<td>89</td>
<td>54</td>
<td>20</td>
<td>13</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>OECD</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.

2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
1. Student performance

<table>
<thead>
<tr>
<th>In reading literacy</th>
<th>Mean score</th>
<th>% at reading level</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>493</td>
<td>4</td>
<td>16</td>
<td>85</td>
<td>21</td>
<td>476</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

- Level IV
- Level III
- Level II
- Level I
- Below Level I

<table>
<thead>
<tr>
<th>Socio-economic status of participating students</th>
<th>Percentage of explained variation in student performance</th>
<th>Features of the socio-economic gradient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean socio-economic status</td>
<td>Difference in reading literacy score if students had the average OECD SES (score points)</td>
<td>Length of the gradient¹</td>
</tr>
<tr>
<td>Spain</td>
<td>-0.24</td>
<td>12</td>
</tr>
<tr>
<td>OECD</td>
<td>0.00</td>
<td>20</td>
</tr>
</tbody>
</table>

3. Student characteristics

Engagement at school

- 24% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 34% of students have low participation (attendance), compared to 20% on average in OECD countries.

Relationship between student performance in reading literacy and schools...

- Where students have the highest sense of belonging
- Where students have highest participation

Correlation: 0.2 0.2 0.4 0.6 0.8 1

4. School characteristics

Climate

- Compared to other OECD students, students from Spain have:
  - less favourable disciplinary climate
  - less favourable teachers’ morale and commitment
  - more favourable teacher-related factors affecting the school climate

Resources

- Compared to other OECD students, students from Spain have:
  - higher quality of the schools’ physical infrastructure
  - less teacher shortage

Performance advantage in schools with a more positive climate...

PISA score points: 0 20 40 60 80 100 120

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th>Student disciplinary policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointing teachers</th>
<th>Dismissing teachers</th>
<th>Teachers’ salary increases</th>
<th>Teachers’ starting salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>99</td>
<td>98</td>
<td>100</td>
<td>97</td>
<td>89</td>
<td>90</td>
<td>54</td>
<td>86</td>
<td>38</td>
<td>39</td>
<td>9</td>
</tr>
<tr>
<td>OECD</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
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<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>

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2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.
**1. Student performance**

In reading literacy

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level 5</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sweden</strong></td>
<td>516</td>
<td>11</td>
<td>13</td>
<td>92</td>
<td>10</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sweden</strong></td>
<td>510</td>
<td>512</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

**Engagement at school**

In Sweden:

- 18% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 24% of students have low participation (attendance), compared to 20% on average in OECD countries.

**2. Socio-economic status (SES)**

The socio-economic gradient

**3. Student characteristics**

**Approaches to learning**

Compared to other OECD students, students from Sweden have:

- above average confidence in their own learning efficacy.
- close to average confidence in their own reading ability.
- above average confidence in their own mathematical ability.

**Performance advantage in reading literacy of students...**

- who control their learning
- with interest in reading
- who believe in their own efficacy

**Engagement at school**

Relationship between student performance in reading literacy and schools...

- **...where students have the highest sense of belonging**
- **...where students have highest participation**

--

**Socio-economic status of participating students**

<table>
<thead>
<tr>
<th>Mean socio-economic status</th>
<th>Percentage of explained variation in student performance</th>
<th>Difference in reading literacy score if students had the average OECD SES (score points)</th>
<th>Length of the gradient(^1)</th>
<th>Slope of the gradient(^2)</th>
<th>Overall</th>
<th>Within schools</th>
<th>Between schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sweden</strong></td>
<td>0.36</td>
<td>-12</td>
<td>2.7</td>
<td>36</td>
<td>30</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>0.00</td>
<td>20</td>
<td>3.0</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. This shows the socio-economic variation of the middle 90% of students and therefore the gap between the 5 per cent most disadvantaged and the 5 per cent most advantaged students.
2. Score point difference associated with one unit increase of SES. Steeper slopes indicate a greater inequality.

**4. School characteristics**

**Climate**

Compared to other OECD students, students from Sweden have:

- less favourable Disciplinary climate
- more favourable Teachers’ morale and commitment

**Performance advantage in schools with a more positive climate...**

**Resources**

Compared to other OECD students, students from Sweden have:

- close to average Quality of the schools’ physical infrastructure
- more Teacher shortage

**Performance advantage in schools with...**

**5. System characteristics**

**School autonomy**

Percentage of students attending schools with at least some responsibility for:

<table>
<thead>
<tr>
<th>Student disciplinary policies</th>
<th>Budget allocation</th>
<th>Textbooks used</th>
<th>Student assessment policies</th>
<th>Student admissions</th>
<th>Formulating school budget</th>
<th>Courses offered</th>
<th>Course content</th>
<th>Appointment of teachers</th>
<th>Dismissal of teachers</th>
<th>Teachers’ salary increases</th>
<th>Teachers’ salary salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sweden</strong></td>
<td>100</td>
<td>99</td>
<td>100</td>
<td>97</td>
<td>54</td>
<td>85</td>
<td>76</td>
<td>88</td>
<td>99</td>
<td>83</td>
<td>74</td>
</tr>
<tr>
<td><strong>OECD</strong></td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>89</td>
<td>84</td>
<td>76</td>
<td>71</td>
<td>69</td>
<td>61</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>

© OECD 2004
PISA 2000 Profile for Switzerland

1. Student performance

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>% at reading level 5</th>
<th>% at reading level 1 or below</th>
<th>Standard deviation of reading literacy scores</th>
<th>% of variation between schools</th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>494</td>
<td>9</td>
<td>20</td>
<td>102</td>
<td>43</td>
<td>529</td>
<td>496</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>9</td>
<td>18</td>
<td>100</td>
<td>35</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

- 21% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 16% of students have low participation (attendance), compared to 20% on average in OECD countries.

3. Student characteristics

**Approaches to learning**

Compared to other OECD students, students from Switzerland have:
- close to average confidence in their own learning efficacy.
- above average confidence in their own reading ability.
- below average confidence in their own mathematical ability.

**Engagement at school**

In Switzerland:
- students have the highest sense of belonging.
- students have highest participation.

4. School characteristics

**Climate**

Compared to other OECD students, students from Switzerland have:
- more favourable disciplinary climate.
- more favourable teachers’ morale and commitment.
- more favourable teacher-related factors affecting the school climate.

**Resources**

Compared to other OECD students, students from Switzerland have:
- higher quality of the schools’ physical infrastructure.
- less teacher shortage.

5. System characteristics

**School autonomy**

Percentage of students attending schools with at least some responsibility for:

- student disciplinary policies
- student assessment policies
- student admissions
- formulating school budget
- courses offered
- student attendance
- appointing teachers
- dismissing teachers
- teachers’ salary increases
- teachers’ starting salaries

Switzerland

<table>
<thead>
<tr>
<th>Percentage of students attending schools with at least some responsibility for:</th>
<th>Switzerland</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student disciplinary policies</td>
<td>98</td>
<td>95</td>
</tr>
<tr>
<td>Budget allocation</td>
<td>87</td>
<td>94</td>
</tr>
<tr>
<td>Textbooks used</td>
<td>51</td>
<td>92</td>
</tr>
<tr>
<td>Student assessment policies</td>
<td>75</td>
<td>89</td>
</tr>
<tr>
<td>Student admissions</td>
<td>82</td>
<td>84</td>
</tr>
<tr>
<td>Formulating school budget</td>
<td>54</td>
<td>76</td>
</tr>
<tr>
<td>Courses offered</td>
<td>34</td>
<td>71</td>
</tr>
<tr>
<td>Student attendance</td>
<td>29</td>
<td>69</td>
</tr>
<tr>
<td>Appointing teachers</td>
<td>93</td>
<td>61</td>
</tr>
<tr>
<td>Dismissing teachers</td>
<td>82</td>
<td>54</td>
</tr>
<tr>
<td>Teachers’ salary increases</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>Teachers’ starting salaries</td>
<td>13</td>
<td>23</td>
</tr>
</tbody>
</table>
1. Student performance

- **In reading literacy**
  - Mean score: 523
  - % at reading level: 16
  - Standard deviation of reading literacy scores: 13
  - % of variation between schools: 100
  - Mean score in mathematical literacy: 21
  - Mean score in scientific literacy: 529

- **OECD**
  - Mean score: 500
  - % at reading level: 9
  - Standard deviation of reading literacy scores: 18
  - % of variation between schools: 100
  - Mean score in mathematical literacy: 35
  - Mean score in scientific literacy: 500

2. Socio-economic status (SES)

- **The socio-economic gradient**

3. Student characteristics

**Approaches to learning**

- Compared to other OECD students, students from Scotland have:
  - above average confidence in their own learning efficacy.
  - above average interest in reading.
  - above average confidence in their own reading ability.
  - above average confidence in their own mathematical ability.

**Engagement at school**

- In United Kingdom:
  - 17% of students have a low sense of belonging, compared to 25% on average in OECD countries.
  - 15% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

**Climate**

- Compared to other OECD students, students from United Kingdom have:
  - close to average Disciplinary climate
  - close to average Teachers’ morale and commitment
  - close to average Teacher-related factors affecting the school climate

**Resources**

- Compared to other OECD students, students from United Kingdom have:
  - low Quality of the schools’ physical infrastructure
  - low Teacher shortage

5. System characteristics

**School autonomy**

- Percentage of students attending schools with at least some responsibility for:
  - Student disciplinary policies: United Kingdom 99, OECD 95
  - Budget allocation: United Kingdom 100, OECD 94
  - Textbooks used: United Kingdom 100, OECD 92
  - Student assessment policies: United Kingdom 66, OECD 89
  - Student admissions: United Kingdom 92, OECD 84
  - Formulating school budget: United Kingdom 76, OECD 71
  - Courses offered: United Kingdom 94, OECD 69
  - Course content: United Kingdom 99, OECD 61
  - Appointing teachers: United Kingdom 89, OECD 54
  - Dismissing teachers: United Kingdom 70, OECD 26
  - Teachers’ salary increases: United Kingdom 72, OECD 23
  - Teachers’ starting salaries: United Kingdom 72, OECD 23
1. Student performance

In reading literacy

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean score</td>
<td>504</td>
<td>500</td>
</tr>
<tr>
<td>% at reading level 1 or below</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Standard deviation of reading literacy scores</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>% of variation between schools</td>
<td>105</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean score in mathematical literacy</th>
<th>Mean score in scientific literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>493</td>
<td>499</td>
</tr>
<tr>
<td>OECD</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

2. Socio-economic status (SES)

The socio-economic gradient

3. Student characteristics

Approaches to learning

Compared to other OECD students, students from United States have:

- above average confidence in their own learning efficacy.
- above average confidence in their own reading ability.
- above average confidence in their own mathematical ability.

Engagement at school

In United States:

- 25% of students have a low sense of belonging, compared to 25% on average in OECD countries.
- 20% of students have low participation (attendance), compared to 20% on average in OECD countries.

4. School characteristics

Climate

Compared to other OECD students, students from United States have:

- close to average disciplinary climate.
- close to average teachers’ morale and commitment.
- close to average teacher-related factors affecting the school climate.

Resources

Compared to other OECD students, students from United States have:

- higher quality of the schools’ physical infrastructure.
- less teacher shortage.

5. System characteristics

School autonomy

Percentage of students attending schools with at least some responsibility for: