



Conclusions and Policy Implications

The design of PISA does not just allow for a comparison of the relative standing of countries in terms of their learning outcomes; it also enables each country to monitor changes in those outcomes over time. Such changes indicate how successful education systems have been in developing the knowledge and skills of 15-year-olds. Indeed, some countries have seen impressive improvements in performance over the past decade, in some cases exceeding the equivalent of an average school year's progress for the entire student population. Some of these countries have been catching up from comparatively low performance levels while others have been advancing further from already high performance levels. All countries seeking to improve their results can draw encouragement — and learn lessons — from those that have succeeded in doing so in a relatively short period of time.

However, changes in student performance can also signal changes in demographic conditions and in the socio-economic composition of student populations. For example, in some countries, the growth of disadvantaged populations could translate into a general decline in learning outcomes, to the extent that socio-economic background and learning outcomes are related. These countries will need to focus on improving learning among disadvantaged students in order to avoid a long-term weakening of their performance.

PISA also shows important changes in the proportion of high- and low-performing students, the variability of student performance, performance differences between the genders, the relationship between performance and socio-economic background, and changes in the conditions that affect learning, such as students' attitudes and the disciplinary climate.

CHANGING CONDITIONS FOR LEARNING

The media often report that the conditions for teaching and learning are becoming more difficult, as schools have to compete with many different factors influencing young people's lives, some of which may detract from learning. PISA results show a mixed picture. On the one hand, enjoyment of reading tends to have deteriorated, especially among boys, signalling the challenge for schools to engage students in reading activities that 15-year-olds find relevant and interesting. On the other hand, changes in student-teacher relations and classroom climate have generally been favourable or, at least, they have not deteriorated as many would have expected. Generally, students have become more confident that they can get help from their teachers. Overall, aspects of classroom discipline have also improved, although in some countries where students were reportedly least likely to listen to what teachers say, this situation has deteriorated further. But there is no evidence to justify the notion that students are becoming progressively more disengaged from school.

PROGRESS TOWARDS RAISING PERFORMANCE AND LEVELLING THE PLAYING FIELD

The trends in student performance in each country are different, but the changes show that the profile of performance in reading is not set in stone. In both absolute and relative terms, educational results can improve, and they cannot be regarded either as part of fixed “cultural” differences between countries or as inevitably linked to each country’s state of economic development. Overall, between 2000 and 2009:

- Average reading scores rose significantly in 13 countries and fell in 4 countries with comparable data.
- In many countries, improvements in results were largely driven by improvements at the bottom end of the performance distribution, signalling progress in improving equity. Among OECD countries, variation in student performance fell by 3%. On the other hand, gender differences widened or stayed the same rather than narrowing. In nine countries, the advantage of girls rose further. While the proportion of boys with low proficiency fell in seven countries, it rose in eight countries.
- Across OECD countries, the percentage of students with an immigrant background increased by an average of two percentage points between 2000 and 2009. However, the situation of students with an immigrant background improved in many countries. The reading performance gap between students without and with an immigrant background narrowed in six countries, while it widened in only two countries. Similarly, while the gap between students who speak the same language at home as the language of assessment and those who speak a different language narrowed in four countries, it grew in only three others. Despite these positive developments, in most countries students with an immigrant background — even second-generation students — still lag behind those students who are not from immigrant backgrounds.

To understand what has been achieved, it is useful to look more closely at the countries that have improved in terms of quality and/or equity.

Korea was able to raise its already-high reading performance even further by more than doubling the percentage of students reaching Level 5 or higher. Poland and the partner country Liechtenstein are countries that performed below the OECD average in 2000 but advanced to an above-average level of performance in 2009. Portugal, Hungary and Germany advanced from below-average to average. While Israel and the partner country Latvia still perform below the OECD average, they raised their scores substantially, bringing their performance closer to that of most OECD countries. Chile, which saw substantial improvements over the past nine years, is also now closer to the OECD average. Peru, Albania, Indonesia and Brazil also raised their reading performance, albeit from a low level.

Those countries that have improved the fastest — Chile and the partner countries Peru, Albania and Indonesia — have several key features in common. All had mean scores far below the OECD average in 2000. Each of these countries improved its average score by between 31 and 43 points – around half a proficiency level or roughly the equivalent of an average school year – by 2009, a significant improvement by any standard over a nine-year period. They achieved this partly by reducing the proportion of students at the lowest proficiency levels. In Chile, for example, the proportion of students performing below Level 2 fell from nearly half (48%) to below one-third (31%). In Albania, Indonesia and Peru the share of students performing at Level 2 and above fell by 14 to 15 percentage points. In all four countries, the performance of relatively high-achieving students also improved, although Chile was the only country that showed an increase in the share of students who attained Level 5 or 6. In addition, in Albania, Chile and Indonesia the relationship between socio-economic background and learning outcomes has weakened. This shows that improving outcomes among low achievers does not have to come at the expense of high achievers and can be accompanied by improvements in equity. In contrast, overall improvements in Peru did not lead to greater equity in education.

Poland and the partner country Liechtenstein, which advanced from below-average to above-average, Germany, Hungary and Portugal, which moved from below-average to average, and Latvia, which improved to just below the OECD average, have one important feature in common: in all six countries, the proportion of students performing below Level 2 decreased while the number of high-performing students at Level 5 or above remained unchanged. This is reflected in an overall decline in performance variation. In Portugal, the proportion of students performing below Level 2 declined from 26% to 18%, and in Latvia it declined from 30% to 18%. This represents a substantial improvement among low achievers in each of these countries. In addition, Latvia and Poland saw improvements in equity among schools, which can be associated with reforms that postponed the selection of students into academic or vocational programmes. The link between socio-economic background and student performance also weakened



in Germany. In response to the large inequities that the PISA 2000 assessment had revealed, German schools and states had invested heavily in disadvantaged students, including those from immigrant backgrounds.

In Korea and Brazil, and to some extent in Israel, the observed improvement in performance was largely due to better scores among top performers. In all three countries, the proportion of students performing at Level 5 or above doubled. Korea already showed high performance levels in 2000 and a very small number of low-performing students; but only a relatively small proportion of students demonstrated excellence in reading literacy. By more than doubling the proportion of high performers to 13%, Korea has caught up with the best-performing countries. Israel showed a significant increase in the proportion of high-performing students, although that share is still below the OECD average. Improvement in Brazil has been led by its high-achieving students, even though the proportion of high performers in Brazil is small compared with that in OECD countries.

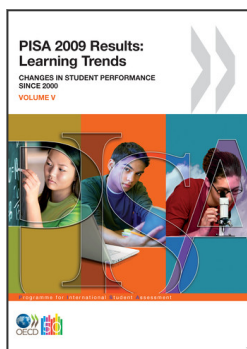
These overall changes mask significant differences between improvements among boys and girls. Since 2000, boys' reading performance has improved in only five countries, while performance among girls has improved in 13 countries. As noted earlier, girls continue to outperform boys in reading in all countries, as they had in 2000, but in 2009, they do so by an even wider margin. In eight countries the percentage of boys who do not attain baseline Level 2 in reading increased, while it decreased in seven countries. Boys, especially those from socio-economically disadvantaged backgrounds, are also more apt not to read for enjoyment or report negative attitudes towards reading. While the need to raise the level of engagement in reading among boys, particularly those from disadvantaged backgrounds, was recognised in 2000, the latest PISA results suggest that little progress has been made on this front.

PISA also makes it possible to compare student performance in mathematics and science over time, although these are observed over a shorter periods. In mathematics, students in Mexico, Turkey, Greece, Portugal, Italy, Germany and the partner countries Brazil and Tunisia improved their scores considerably since 2003. Mexico reduced the share of students performing below the baseline Level 2 in mathematics by 15 percentage points since 2003, from 66% to 51%, and Turkey from 52% to 42% over the same period. Greece, Italy, Portugal and the partner countries Brazil and Tunisia also reduced the share of students performing below Level 2 in mathematics. In Portugal, the percentage of students performing at Level 5 or above in mathematics increased by four percentage points, while the share of these top performers increased by almost two percentage points in Italy and Greece.

In science, 11 of the 56 countries that have comparable results in the 2006 and 2009 assessments show improvements in student performance. Turkey, for example, saw a 30-score-point increase, nearly half a proficiency level, in just three years. Science performance also improved in the OECD countries Portugal, Korea, Italy, Norway, the United States and Poland, and in partner countries Qatar, Tunisia, Brazil and Colombia. Turkey, Portugal, Chile, the United States, Norway, Korea and Italy all saw reductions in the share of their lowest performers in science by around five percentage points or more, as did the partner countries Qatar, Tunisia, Brazil and Colombia. Turkey reduced this share from 47% to 30%. In the partner country Qatar, the share of students who did not reach Level 2 decreased by 14 percentage points, even if almost two-thirds of students in Qatar still perform below proficiency Level 2 in science.

Several countries improved across different assessment areas. Korea attained very high levels not only in reading, but also in science. Poland also improved both in reading and in science. Germany improved in reading and mathematics. Portugal improved across all assessment areas. Several countries that still perform below the OECD average in reading saw improvements in other assessment areas.

Overall, the message is that countries from a variety of starting points have shown the potential to improve performance, both raising average levels of reading proficiency and reducing inequities in outcomes without seeing a deterioration among the most able students. In some, but not all, cases these improvements have also had a positive effect on social equity. However, the gender gap in reading performance remains large and presents a growing challenge for most countries, including those with very high performance levels.



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