# 3. Student performance

### Definition and measurement

Student performance is assessed through results from the OECD Programme for International Student Assessment (PISA). PISA is the most comprehensive international effort to measure the skills of students towards the end of the period of compulsory education. In the latest results, 15-year-old students across the OECD did tests in reading, mathematics and science in 2009. In PISA comparable tests are administered under independently supervised conditions in order to assess students' competencies. PISA tests are not tied to specific national curricula. Rather, students apply knowledge to situations they might encounter in the real word, such as planning a route, interpreting the instructions for an electrical appliance, or taking information from a chart. For each subject the average score across OECD countries is 500 for the first time it becomes a major domain in PISA. Thereafter the OECD average reflects the country performances.

PISA results from the 2009 wave in reading can be compared to those from the 2000 wave, which gives the longest period for consideration of time trends.

In addition to the mean test scores for students in each country, a measure of inequality in test scores within countries, the ratio of the score in to the top to the bottom decile (or 90/10 ratio), is also used.

Student performance at age 15 has long term implications for self-sufficiency of young people. Student performance in the PISA tests indicates the cumulative effect of educational inputs from family, schools, peers and the community up to age 15. Test score performance is not the only indicator of successful schooling, but it is a highly important measure.

Reading outcomes for 15 year-olds in 2009 are highest in Korea and Finland and lowest in Chile and Mexico (Panel A, SS3.1). Comparing 2000 with 2009, reading results show gains of over 20 points in Chile, Israel and Poland (Panel B, SS3.1). The largest falls were in Ireland, Sweden, the Slovak Republic and Australia.

Generally reading gains over 2000-09 have been stronger in countries with lower initial reading scores in 2000 (Panel B, SS3.1). The correlation between reading scores in 2000 and the change in reading scores to 2009 is –0.71 for the OECD countries. OECD countries are thus converging in reading attainment. Given Korea was already a strong reading performer in 2000, their 15 point improvement over the 2000-09 period is a remarkable one.

Countries which have a high average reading score in 2009 also tend to have a smaller gap between top and bottom scores (\$53.2). Low inequality in reading scores is a particular feature of Korea, where scores of the top decile are less than one and a half times that of the bottom decile, whereas in high inequality Israel the same ratio exceeds 1.9. Given their average scores, OECD reading score inequality was particularly high in New Zealand and low in Mexico.

The relationship between inequality of scores and average scores holds, even more strongly, for changes over 2000-09 (SS3.3). Those countries that had larger gains in average scores also had bigger falls in reading score inequality. Chile had the biggest falls in reading score inequality and the largest rise was in France.

#### **Further reading**

OECD (2010), PISA 2009 at a Glance, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264095298-en.

#### Figure note

Missing data for Austria in 2009. Missing data in 2000 for Estonia, Luxembourg, the Netherlands, the Slovak Republic, Slovenia, Turkey, the United Kingdom and Macao, China.

Information on data for Israel: http://dx.doi.org/10.1787/888932315602.

#### SS3.1. The biggest reading points gains between 2000 and 2009 are found in the lowest performing countries in 2000

Korea

Finland

Canada

New Zealand

Janan

Australia

Netherlands Belgium

Norway

Estonia

Switzerland

Poland

Iceland

United States

Sweden

Germany OECD

Ireland France Denmark

Hungary Portugal

Italy Slovenia

Greece Snain

Czech Republic

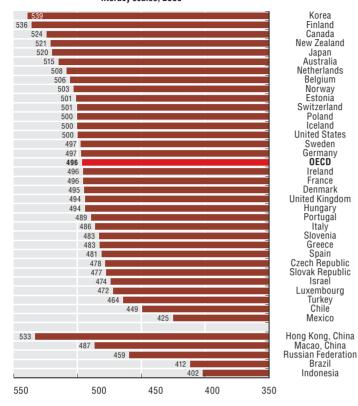
Luxembourg Turkey Chile

Mexico

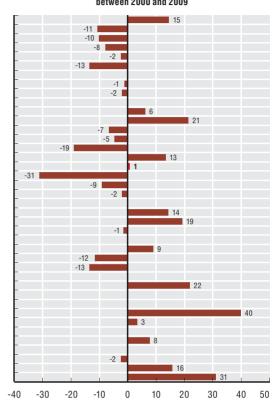
Brazil

Indonesia

Panel A. PISA mean scores on the reading literacy scales, 2009

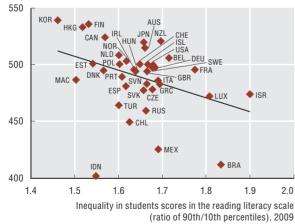


Panel B. Points difference in the mean reading literacy scale between 2000 and 2009



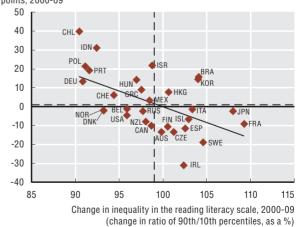
SS3.2. Higher reading scores goes with lower inequality in scores

Mean performance in the reading literacy scale, 2009 550



#### SS3.3. Growing average reading scores are strongly associated with falling inequality in scores

Change in the mean performance in the reading literacy scale, points, 2000-09



Source: OECD PISA 2000 and 2009 (www.pisa.oecd.org), OECD (2009), PISA 2009 Results: What Students Know and Can Do: Student Performance in Reading, Mathematics and Science (Vol. I), OECD Publishing, Paris.

StatLink http://dx.doi.org/10.1787/888932381817



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