



PISA for Development: Enhancement of the cognitive instruments

- The overall performance of 15-year-old students in all of the middle-income countries that participated in PISA 2012, except Viet Nam, was lower than that of students in OECD countries, and varies widely.
- To make PISA more relevant for low- and middle-income countries, PISA for Development (PISA-D) enhances the assessment to better measure the competencies of 15-year-olds performing at lower levels of proficiency while maintaining comparability with PISA.
- PISA-D cognitive instruments have a greater number of test items at the baseline level of proficiency and below to give a fine-grained indication of the knowledge and skills of lower-performing 15-year-olds – valuable information for designing quality-improving programmes.

The overall quality of learning outcomes in low- and middle-income countries has been studied extensively in recent decades, drawing on various international and regional large-scale assessments as well as national assessments. The general finding is that the quality of learning outcomes in low- and middle-income countries, assessed at every level from primary through to upper secondary school, is often poor. However, variations in learning outcomes are large, and there are well-performing low- and middle-income countries and well-performing schools within these countries.

The OECD analyses reported in the PISA 2012 volumes show that the overall performance of 15-year-old students in all of the middle-income countries participating in PISA 2012, except Viet Nam, was lower than that of students in OECD countries, and varies widely. Performance is also concentrated at the lower levels of the PISA proficiency scales.

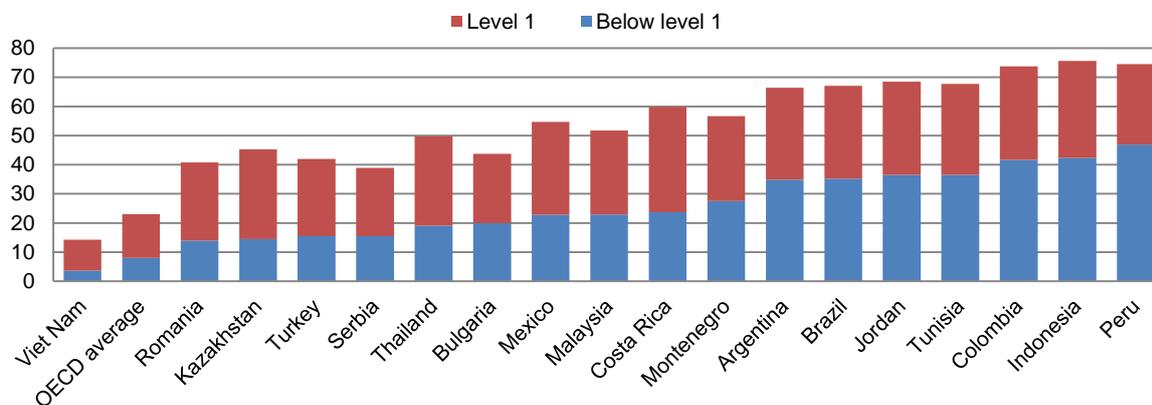
PISA-D includes more test items at the PISA baseline level of proficiency and below.

PISA has six proficiency levels, with Level 6 the highest and Level 1 and below the lowest. Level 2 is a particularly important threshold, as this marks the baseline level of proficiency at which students begin to demonstrate the competencies that will enable them to participate effectively and productively in life as continuing students, workers and citizens. For more than half the participating middle-income countries participating in PISA 2012, scores on the mathematics test are concentrated at Level 1 or below (see figure).

To better reflect the levels of performance in low- and middle-income countries, PISA-D includes more cognitive items at Level 2 and below. In PISA 2018, 22% of the items will be at Level 2 and below compared with 65% of the items in PISA-D. The aim of PISA-D is to provide a wider and more fine-grained picture of what 15-year-olds in low- and middle-income countries know and can do at these lower levels of performance. This broader set of information about performance at and below the baseline level of proficiency will be directly relevant to curriculum planners, teacher educators and other education professionals in low- and middle-income countries in designing improvement plans and policies.



Percentage of students scoring at level 1 and below in mathematics in 18 low- and middle-income countries, PISA 2012



Source: OECD (2014), *PISA 2012 Results: What Students Know and Can Do (Volume I, Revised edition, February 2014): Student Performance in Mathematics, Reading and Science*, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264208780-en>.

While the PISA-D test design and items target the lower levels of performance, the assessment links to the whole of the PISA framework for comparability. This link is established using data from the PISA 2015 paper-based trend items. PISA-D further differentiates the lower end of the proficiency scale for each subject tested (reading, mathematics and science) while maintaining measurement of the higher levels. Each student participating in the PISA-D test will respond to two hours of cognitive items, as in the main PISA test.

PISA-D cognitive test items will undergo a field trial prior to the main data collection in 2017.

The PISA-D international contractors and a network of international experts evaluated the pool of potential items to be used for the PISA-D cognitive test based on:

- Data quality, including the psychometric quality of items and scoring reliability
- Expert reviews of the degree to which items relate to specific aspects of the measurement framework and jointly represent the different aspects of the framework in a balanced way (construct coverage), content appropriateness and factors affecting difficulty.

Approximately 75 items related to each of the three subjects to be tested were selected for the field trial of the PISA-D cognitive tests. The PISA-D field trial is being conducted in 2016 in seven countries: Cambodia, Ecuador, Guatemala, Honduras, Paraguay, Senegal and Zambia. The results will be used to determine if revisions to the assessment instruments are required prior to the main data collection study in 2017.

For more information

Contact Michael.Ward@oecd.org, Catalina.Covacevich@oecd.org or Kelly.Makowiecki@oecd.org

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| <p>Visit</p> <p>www.oecd.org/pisa/aboutpisa/pisaforddevelopment.htm</p> | <p>Coming next month</p> <p><i>PISA-D: Enhancements to the contextual questionnaires</i></p> |
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