



Foreword

The OECD Programme for International Student Assessment (PISA), created in 1997, represents a commitment by the governments of OECD countries to monitor the outcomes of education systems, in terms of student achievement, within a common, internationally agreed framework. PISA is a collaborative effort, bringing together scientific expertise from the participating countries/economies and steered jointly by their governments on the basis of shared policy interests. Experts from participating countries also serve on working groups that are charged with linking the PISA policy objectives with the best available substantive and technical expertise in the field of internationally comparable assessments. Through involvement in these expert groups, countries ensure that the PISA assessment instruments are internationally valid and take into account the cultural and curricular context of the PISA-participating countries and economies.

PISA 2015 is the sixth cycle of the triennial assessment. For the first time, PISA 2015 delivers the assessments of all subjects – science, reading, mathematics, financial literacy and the additional domain, collaborative problem solving – via computer. However a paper-based assessment instrument, consisting only of trend items, is provided for countries/economies that choose not to test their students on computer.

As in 2006, scientific literacy is the main focus of this survey. The framework for assessing science was fully revised for the PISA 2015 assessment and introduces a refined notion of “knowledge about science” that has been split into two components – procedural knowledge and epistemic knowledge. In addition, the construct “Support for scientific enquiry” has been changed to “Valuing scientific approaches to enquiry”, which is essentially a change in terminology to better reflect what is measured. In addition, the contexts in PISA 2015 have been changed from “personal, social and global” in the 2006 assessment to “personal, local/national and global” to make the headings more coherent across the domains.

The framework for assessing reading was revised for PISA 2009 while the frameworks for assessing mathematics and financial literacy were revised for PISA 2012. These frameworks remained unchanged in PISA 2015. The analytic framework on which the development of the various questionnaires was based was also redeveloped for PISA 2015. This revised edition includes the framework that was developed for assessing collaborative problem solving for the first time in PISA 2015.

This publication presents the guiding principles behind the PISA 2015 assessment, and the framework for assessing collaborative problem solving was developed by the collaborative problem solving expert group, which are described in terms of the knowledge and competencies students need to acquire and use to solve scientific problems, the contexts in which knowledge and competencies are applied, and students’ attitudes towards science. Sample tasks are also included.

The framework for assessing science was developed by the scientific literacy expert group with the guidance of John de Jong, Rose Clesham, Christine Rozunick, Peter Foltz, Mark Robeck and Catherine Hayes from Pearson. The scientific literacy expert group was chaired by Jonathan Osborne from Stanford University. The collaborative problem solving expert group was chaired by Art Graesser, University of Memphis.

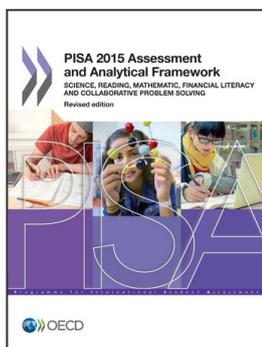


The framework for the PISA 2015 questionnaires was developed by the questionnaire expert group with the guidance of Eckhard Klieme from the German Institute for International Educational Research (DIPF) in Germany. The questionnaire expert group was chaired by David Kaplan from the University of Wisconsin, United States. Other experts who contributed to the development of the questionnaire framework are Sonja Bayer, Jonas Bertling, Bieke de Fraine, Art Graesser, Silke Hertel, Nina Jude, Franz Klingebiel, Susanne Kuger Patrick Kyllonen, Leonidas Kyriakides, Katharina Müller, Manfred Prenzel, Christine Sälzer, Tina Seide, Anja Schiepe-Tiska, Svenja Vieluf and Nadine Zeidler.

The frameworks have also been reviewed by expert panels in each of the participating countries. The chapters were drafted by the respective expert groups under the direction of their chairs. The members of the expert groups are listed in Annex B.

The publication was prepared by the OECD Secretariat, principally by Sophie Vayssettes, Marilyn Achiron, Sophie Limoges and Hélène Guillou. Miyako Ikeda and Jeffrey Mo were responsible for the additional framework for collaborative problem solving. Rose Bolognini oversaw the production of this revised edition and Fung Kwan Tam designed the publication.

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