

CHAPTER 1

Introduction to the OECD's Programme for International Student Assessment (PISA)

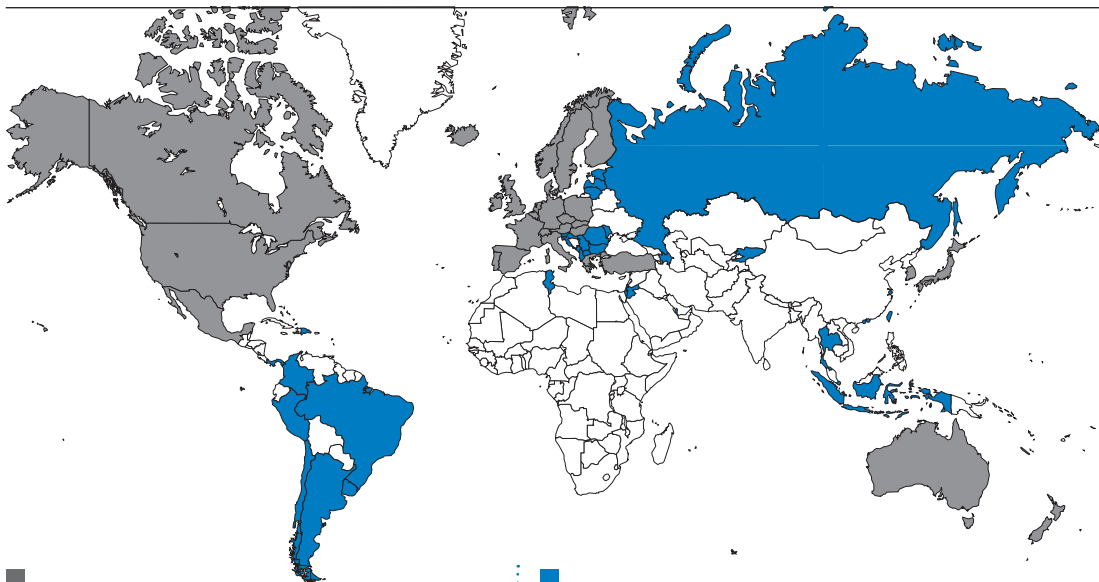
THE AIMS OF PISA

PISA aims to measure how far students approaching the end of compulsory education have acquired some of the knowledge and skills essential for full participation in the knowledge society. PISA surveys are carried out every three years in a large number of countries, that together make up close to 90% of the world economy. The first PISA survey was carried out in 2000 in 43 countries, the second in 2003 in 41 countries and the most recent survey was carried out in 2006 in 57 countries. The next assessments will take place in 2009, 2012 and 2015. The primary objective is monitoring the outcomes of education systems in terms of student achievement to provide empirically grounded information which will inform policy decisions. PISA is steered by representatives from participating countries through the PISA Governing Board. The Directorate for Education at the Organisation for Economic Co-operation and Development (OECD) manages PISA and draws on the knowledge of a rich network of international experts.

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Figure 1.1

A map of PISA countries and economies



■ OECD countries

Australia	Hungary	Norway
Austria	Iceland	Poland
Belgium	Ireland	Portugal
Canada	Italy	Slovak Republic
Czech Republic	Japan	Spain
Denmark	Korea	Sweden
Finland	Luxembourg	Switzerland
France	Mexico	Turkey
Germany	Netherlands	United Kingdom
Greece	New Zealand	United States

■ Partner countries & economies

Albania	Hong Kong-China	Peru
Argentina	Indonesia	Qatar
Azerbaijan	Israel	Republic of Montenegro
Brazil	Jordan	Republic of Serbia
Bulgaria	Kyrgyz Republic	Romania
Chile	Latvia	Russian Federation
China (Shanghai)	Liechtenstein	Singapore
Chinese Taipei	Lithuania	Slovenia
Columbia	Macao-China	Thailand
Croatia	Former Yugoslav Rep. of Macedonia	Tunisia
Estonia	Panama	Uruguay

THE PISA SURVEYS

PISA tests 15-year-old students in reading, mathematics and science as well as measuring a wider range of factors including students' interest, attitudes and motivation. The assessment focuses on young people's ability to use their knowledge and skills to meet real-life challenges, rather than merely on the extent to which they have mastered a specific school curriculum. This approach is called 'literacy'. The definitions of literacy in reading, mathematics and science are explained in Chapters 2, 3 and 4 respectively. In order to test students' literacy in reading, mathematics and science, experts in different countries design assessment frameworks and questions that represent these frameworks. These questions are then carefully piloted in all countries before a final test is constructed that is appropriate and valid across the participating countries. Once the final booklets with test questions are created, they are given to students at a number of randomly selected schools in each country. Tests are typically administered to between 4,500 and 40,000 students in each country. The questions in the booklet are grouped into units. A unit consists of stimulus material such as texts, tables and/or graphs, followed by questions on various aspects of the text, table or graph. The questions use different formats: some are multiple choice, some require a short answer and some a longer constructed response. Students have two hours to answer these questions. In addition students are given a separate questionnaire containing questions about their families and different aspects of their learning, including their attitudes, aspirations and learning strategies.

THE PISA RESULTS

Scorers look at the PISA tests and use a detailed scoring guide to give no credit, partial credit or full credit for each answer. The results obtained in this way are analysed to provide many interesting insights. In addition to the performance of students in different countries, results are also analysed with regard to other factors such as gender, socio-economic background and differences between schools. In this way, PISA has produced an unprecedented comparative knowledge base of school systems and their outcomes, and allows these outcomes to be monitored over time. One of the key features of PISA is its policy orientation, with design and reporting methods determined by the need of governments to draw policy lessons. It is not possible to link the different information collected from students and school principals as the direct causes of PISA results, but it is possible to compare the degree of association of various factors in different countries with educational outcomes. These policy lessons are published by the OECD in numerous reports which can be found on www.pisa.oecd.org. A list of OECD PISA publications can be found in Annex D. Many participating countries also produce national reports and in some cases regional reports.

THE PISA QUESTIONS

This book presents all the publicly available questions used in the PISA surveys, as well as questions used in developing and trying out the surveys. Other questions have to remain confidential because they will be used in future PISA surveys to ensure comparability of the results over time. The next three chapters present the questions for the reading, mathematics and science tests respectively and Annex B provides country results for the different questions. Each chapter presents an overview of what exactly the questions assess. The second section of each chapter presents questions which were used in the PISA surveys, that is, the actual PISA tests for which results were published. The third section presents questions used in developing and trying out the surveys. These questions were not used in the actual surveys, but they are nevertheless illustrative of the kind of question PISA uses. The final section shows all the answers along with brief comments on each question. For the questions used in PISA surveys, the answer section includes a comment box showing the percentage of students who answered correctly across OECD countries, the difficulty of the question expressed in score points and which competency is being assessed. For other questions, the data

on the percentage of students who answered correctly across OECD countries and the score points are not available or not considered reliable enough to be presented here. Therefore, the comment box states only which competency is being assessed.

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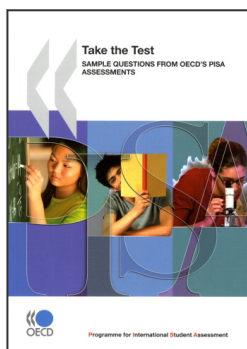
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