



Foreword

One of the ultimate goals of policy makers is to enable citizens to take advantage of a globalised world economy. This is leading them to focus on the improvement of education policies, ensuring the quality of service provision, a more equitable distribution of learning opportunities and stronger incentives for greater efficiency in schooling.

Such policies hinge on reliable information on how well education systems prepare students for life. Most countries monitor students' learning and the performance of schools. But in a global economy, the yardstick for success is no longer improvement by national standards alone, but how education systems perform internationally. The OECD has taken up that challenge by developing PISA, the Programme for International Student Assessment, which evaluates the quality, equity and efficiency of school systems in some 70 countries that, together, make up nine-tenths of the world economy. PISA represents a commitment by governments to monitor the outcomes of education systems regularly within an internationally agreed framework and it provides a basis for international collaboration in defining and implementing educational policies.

The results from the PISA 2009 assessment reveal wide differences in educational outcomes, both within and across countries. The education systems that have been able to secure strong and equitable learning outcomes, and to mobilise rapid improvements, show others what is possible to achieve. Naturally, GDP per capita influences educational success, but this only explains 6% of the differences in average student performance. The other 94% reflect the potential for public policy to make a difference. The stunning success of Shanghai-China, which tops every league table in this assessment by a clear margin, shows what can be achieved with moderate economic resources in a diverse social context. In mathematics, more than a quarter of Shanghai-China's 15-year-olds can conceptualise, generalise, and creatively use information based on their own investigations and modelling of complex problem situations. They can apply insight and understanding and develop new approaches and strategies when addressing novel situations. In the OECD area, just 3% of students reach this level of performance.

While better educational outcomes are a strong predictor of economic growth, wealth and spending on education alone are no guarantee for better educational outcomes. Overall, PISA shows that an image of a world divided neatly into rich and well-educated countries and poor and badly-educated countries is out of date.

This finding represents both a warning and an opportunity. It is a warning to advanced economies that they cannot take for granted that they will forever have "human capital" superior to that in other parts of the world. At a time of intensified global competition, they will need to work hard to maintain a knowledge and skill base that keeps up with changing demands.

PISA underlines, in particular, the need for many advanced countries to tackle educational underperformance so that as many members of their future workforces as possible are equipped with at least the baseline competencies that enable them to participate in social and economic development. Otherwise, the high social and economic cost of poor educational performance in advanced economies risks becoming a significant drag on economic development. At the same time, the findings show that poor skills are not an inevitable consequence of low national income – an important outcome for countries that need to achieve more with less.

But PISA also shows that there is no reason for despair. Countries from a variety of starting points have shown the potential to raise the quality of educational outcomes substantially. Korea's average performance was already high in 2000, but Korean policy makers were concerned that only a narrow elite achieved levels of excellence in PISA. Within less than a decade, Korea was able to double the share of students demonstrating excellence in reading literacy. A major overhaul of Poland's school system helped to dramatically reduce performance variability among



schools, reduce the share of poorly performing students and raise overall performance by the equivalent of more than half a school year. Germany was jolted into action when PISA 2000 revealed a below-average performance and large social disparities in results, and has been able to make progress on both fronts. Israel, Italy and Portugal have moved closer to the OECD average and Brazil, Chile, Mexico and Turkey are among the countries with impressive gains from very low levels of performance.

But the greatest value of PISA lies in inspiring national efforts to help students to learn better, teachers to teach better, and school systems to become more effective.

A closer look at high-performing and rapidly improving education systems shows that these systems have many commonalities that transcend differences in their history, culture and economic evolution.

First, while most nations declare their commitment to education, the test comes when these commitments are weighed against others. How do they pay teachers compared to the way they pay other highly-skilled workers? How are education credentials weighed against other qualifications when people are being considered for jobs? Would you want your child to be a teacher? How much attention do the media pay to schools and schooling? Which matters more, a community's standing in the sports leagues or its standing in the student academic achievement league tables? Are parents more likely to encourage their children to study longer and harder or to spend more time with their friends or in sports activities?

In the most successful education systems, the political and social leaders have persuaded their citizens to make the choices needed to show that they value education more than other things. But placing a high value on education will get a country only so far if the teachers, parents and citizens of that country believe that only some subset of the nation's children can or need to achieve world class standards. This report shows clearly that education systems built around the belief that students have different pre-ordained professional destinies to be met with different expectations in different school types tend to be fraught with large social disparities. In contrast, the best-performing education systems embrace the diversity in students' capacities, interests and social background with individualised approaches to learning.

Second, high-performing education systems stand out with clear and ambitious standards that are shared across the system, focus on the acquisition of complex, higher-order thinking skills, and are aligned with high stakes gateways and instructional systems. In these education systems, everyone knows what is required to get a given qualification, in terms both of the content studied and the level of performance that has to be demonstrated to earn it. Students cannot go on to the next stage of their life – be it work or further education – unless they show that they are qualified to do so. They know what they have to do to realise their dream and they put in the work that is needed to achieve it.

Third, the quality of an education system cannot exceed the quality of its teachers and principals, since student learning is ultimately the product of what goes on in classrooms. Corporations, professional partnerships and national governments all know that they have to pay attention to how the pool from which they recruit is established; how they recruit; the kind of initial training their recruits receive before they present themselves for employment; how they mentor new recruits and induct them into their service; what kind of continuing training they get; how their compensation is structured; how they reward their best performers and how they improve the performance of those who are struggling; and how they provide opportunities for the best performers to acquire more status and responsibility. Many of the world's best-performing education systems have moved from bureaucratic "command and control" environments towards school systems in which the people at the frontline have much more control of the way resources are used, people are deployed, the work is organised and the way in which the work gets done. They provide considerable discretion to school heads and school faculties in determining how resources are allocated, a factor which the report shows to be closely related to school performance when combined with effective accountability systems. And they provide an environment in which teachers work together to frame what they believe to be good practice, conduct field-based research to confirm or disprove the approaches they develop, and then assess their colleagues by the degree to which they use practices proven effective in their classrooms.

Last but not least, the most impressive outcome of world-class education systems is perhaps that they deliver high-quality learning consistently across the entire education system, such that every student benefits from excellent learning opportunities. To achieve this, they invest educational resources where they can make the greatest difference, they attract the most talented teachers into the most challenging classrooms, and they establish effective spending choices that prioritise the quality of teachers.



These are, of course, not independently conceived and executed policies. They need to be aligned across all aspects of the system, they need to be coherent over sustained periods of time, and they need to be consistently implemented. The path of reform can be fraught with political and practical obstacles. Moving away from administrative and bureaucratic control toward professional norms of control can be counterproductive if a nation does not yet have teachers and schools with the capacity to implement these policies and practices. Pushing authority down to lower levels can be as problematic if there is not agreement on what the students need to know and should be able to do. Recruiting high-quality teachers is not of much use if those who are recruited are so frustrated by what they perceive to be a mindless system of initial teacher education that they will not participate in it and turn to another profession. Thus a country's success in making these transitions depends greatly on the degree to which it is successful in creating and executing plans that, at any given time, produce the maximum coherence in the system.

These are daunting challenges and thus devising effective education policies will become ever more difficult as schools need to prepare students to deal with more rapid change than ever before, for jobs that have not yet been created, to use technologies that have not yet been invented and to solve economic and social challenges that we do not yet know will arise. But those school systems that do well today, as well as those that have shown rapid improvement, demonstrate that it can be done. The world is indifferent to tradition and past reputations, unforgiving of frailty and complacency and ignorant of custom or practice. Success will go to those individuals and countries that are swift to adapt, slow to complain and open to change. The task of governments will be to ensure that countries rise to this challenge. The OECD will continue to support their efforts.

This report is the product of a collaborative effort between the countries participating in PISA, the experts and institutions working within the framework of the PISA Consortium, and the OECD Secretariat. The report was drafted by Andreas Schleicher, Francesca Borgonovi, Michael Davidson, Miyako Ikeda, Maciej Jakubowski, Guillermo Montt, Sophie Vayssettes and Pablo Zoido of the OECD Directorate for Education, with advice as well as analytical and editorial support from Marilyn Achiron, Simone Bloem, Marika Boiron, Henry Braun, Nihad Bunar, Niccolina Clements, Jude Cosgrove, John Cresswell, Aletta Grisay, Donald Hirsch, David Kaplan, Henry Levin, Juliette Mendelovitz, Christian Monseur, Soojin Park, Pasi Reinikainen, Mebrak Tareke, Elisabeth Villoutreix and Allan Wigfield. Volume II also draws on the analytic work undertaken by Jaap Scheerens and Douglas Willms in the context of PISA 2000. Administrative support was provided by Juliet Evans and Diana Morales.

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The development of the report was steered by the PISA Governing Board, which is chaired by Lorna Bertrand (United Kingdom), with Beno Csapo (Hungary), Daniel McGrath (United States) and Ryo Watanabe (Japan) as vice chairs. Annex C of the volumes lists the members of the various PISA bodies, as well as the individual experts and consultants who have contributed to this report and to PISA in general.

Angel Gurría
OECD Secretary-General



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