General Findings Pisa 2012

Math, Reading and Science

•Shanghai-China and Singapore have the highest scores in mathematics, with mean scores of 613 points and 573, respectively - more than 79 points above the OECD average, or the equivalent of nearly 2 years of schooling or more. Hong Kong-China, Chinese Taipei and Korea are the next three highest-performing countries and economies.

•On average across OECD countries, 12.6% of students are top performers in mathematics, meaning that they are proficient at Level 5 or 6.

•Boys perform better than girls in mathematics in 38 out of the 65 countries and economies that participated in PISA 2012, and girls outperform boys in 5 countries.

•Shanghai-China, Hong Kong-China, Singapore, Japan and Korea are the five highest-performing countries and economies in reading.

•Across OECD countries, 8.4% of students are top performers in reading, meaning that they are proficient at Level 5 or 6. Shanghai-China has the largest proportion of top performers.

•Shanghai-China, Hong Kong-China, Singapore, Japan and Finland are the top five performers in science in PISA 2012.

•Across OECD countries, 8.4% of students are top performers in science and score at proficiency Level 5 or 6.

Equity

PISA defines equity in education as providing all students, regardless of gender, family background or socio-economic status, with opportunities to benefit from education. Defined in this way, equity does not imply that everyone should have the same results. It does mean, however, that students' socio-economic status or the fact that they have an immigrant background has little or no impact on their performance, and that all students, regardless of their background, are offered access to quality educational resources and opportunities to learn.

•Across OECD countries, a more socio-economically advantaged student scores 39 points higher in mathematics - the equivalent of nearly one year of schooling - than a less-advantaged student.

•Of the 39 countries and economies that participated in both PISA 2003 and PISA 2012, Mexico, Turkey and Germany improved both their mathematics performance and their levels of equity in edu.

•Australia, Canada, Estonia, Finland, Hong Kong-China, Japan, Korea, Liechtenstein, Macao-China and the Netherlands achieve high levels of performance and equity in education opportunities as assessed in PISA 2012.

•The concentration of immigrant students in a school is not, in itself, associated with poor performance.

•Across OECD countries, students who reported that they had attended pre-primary school for more than one year score 53 points higher in mathematics - the equivalent of over one year of schooling - than students who had not attended pre-primary education.

Students Engagement

Students' engagement, drive and self-beliefs not only play a central role in shaping students' ability to master academic subjects, they are also valuable attributes that will enable students to lead full lives, meeting challenges and making the most of available opportunities along the way. In other words, much more is required of students - and adults - than just cognitive proficiency.

•Four out of five students in OECD countries agree or strongly agree that they feel happy at school or that they feel like they belong at school.

•Although the vast majority of students reported a strong sense of belonging, more than one in three students in OECD countries reported that they had arrived late for school in the two weeks prior to the PISA test; and more than one in four students reported that they had skipped classes or days of school during the same period.

•Students who are more perseverant and more open to problem solving perform at higher levels in mathematics.

•Across most countries and economies, socio-economically disadvantaged students not only score lower in mathematics, they also have lower levels of engagement, drive, motivation and self-beliefs. Resilient students, i.e. disadvantaged students who achieve at high levels, break this pattern.

•PISA results show that even when girls perform as well as boys in mathematics, they report less openness to problem solving than boys, on average.

•Teacher-student relations are strongly associated with students' engagement with and at school.

Policies and Practices

Resources, policies and practices are related to education outcomes. As in other organisations, decisions taken at one level in a school system are affected by decisions taken at other levels. For example, what happens in the classroom is influenced by decisions taken at the school level; and decisions taken at the school level are affected by the decisions taken by district, regional and/or national education administrations - particularly those concerning resources, policies and practices.

•Stratification in school systems, which is the result of policies like grade repetition and selecting students at a young age for different programmes or "tracks", is negatively related to equity; and students in highly stratified systems tend to be less motivated than those in less-stratified systems.

•How resources are allocated in education is just as important as the amount of resources available to be allocated.

•High-performing countries and economies tend to allocate resources more equitably across socio-economically advantaged and disadvantaged schools.

•Students in 2012 were more likely than their counterparts in 2003 to have attended at least one year of pre-primary education.

•In 37 participating countries and economies, students who attend private schools (either government-dependent or government-independent schools) are more socio-economically advantaged than those who attend public schools.

•Schools in high-performing systems tend to have more responsibility over curricula and assessments.

•Between 2003 and 2012 there was a clear trend towards schools using student assessments to compare the school's performance with district or national performance and with that of other schools.

Problem Solving

In modern societies, all of life is problem solving. Changes in society, the environment, and in technology mean that the content of applicable knowledge evolves rapidly. Adapting, learning, daring to try out new things and always being ready to learn from mistakes are among the keys to resilience and success in an unpredictable world.

•Students in Hong Kong-China, Korea, Macao-China, Shanghai-China, Singapore and Chinese Taipei perform strongest on problems that require understanding, formulating or representing new knowledge, compared to other types of problems.

•In Malaysia, Shanghai-China and Turkey, more than one in eight students attend a vocational study programme, and these students show significantly better performance in problem solving, on average, than students with comparable performance in mathematics, reading and science but who are in general study programmes.

•Boys outperform girls in problem solving in 23 countries/economies, girls outperform boys in five countries/economies, and in 16 countries/economies, there is no significant difference in average performance between boys and girls.

•The impact of socio-economic status on problem-solving performance is weaker than it is on performance in mathematics, reading or science.