PISA 2009
Evaluating systems to improve education

Maciej Jakubowski
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PISA 2009 in brief

- Over half a million students...
  - representing 28 million 15-year-olds in 74* countries/economies

- took an internationally agreed 2-hour test...
  - Goes beyond testing whether students can reproduce what they were taught...
  - to assess students’ capacity to extrapolate from what they know and creatively apply their knowledge in novel situations

- and responded to questions on...
  - their personal background, their schools and their engagement with learning and school

- Parents, principals and system leaders provided data on...
  - school policies, practices, resources and institutional factors that help explain performance differences.

* Data for Costa Rica, Georgia, India, Malaysia, Malta, Mauritius, Venezuela and Vietnam will be published in December 2011
PISA 2009 in brief

- **PISA seeks to...**
  - ... Support governments to prepare students...
    - ... to deal with more rapid change than ever before...
    - ... for jobs that have not yet been created...
    - ... using technologies that have not yet been invented...
    - ... to solve problems that we don’t yet know will arise
  - ... Provide a basis for policy dialogue and global collaboration in defining and implementing educational goals, policies and practices
    - Show countries what achievements are possible
    - Help governments set policy targets in terms of measurable goals achieved elsewhere
    - Gauge the pace of educational progress
    - Facilitate peer-learning on policy and practice.
How the demand for skills has changed
Economy-wide measures of routine and non-routine task input (US)

The dilemma of schools:
The skills that are easiest to teach and test are also the ones that are easiest to digitise, automate and outsource
What 15-year-olds can do
Students at Level 5 can handle texts that are unfamiliar in either form or content. They can find information in such texts, demonstrate detailed understanding, and infer which information is relevant to the task. They are also able to critically evaluate such texts and build hypotheses about them, drawing on specialised knowledge and accommodating concepts that may be contrary to expectations.

Some tasks at Level 2 require students to locate one or more pieces of information, which may need to be inferred and may need to meet several conditions. Others require recognising the main idea in a text, understanding relationships, or construing meaning within a limited part of the text when the information is not prominent and the reader must make low level inferences.
What students know and can do

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May 2011

Average performance of 15-year-olds in reading - extrapolate and apply

... 17 countries perform below this line

High reading performance

Low reading performance

Korea
Finland
Hong Kong-China

Singapore
New Zealand
Japan

Australia

Belgium
Poland
Switzerland
United States
Germany
Sweden

France
Ireland
United Kingdom

Macao-China

Slovenia

Slovak Republic
Czech Republic
Luxembourg
Israel

Austria

Slovenia

Dubai (UAE)

Russian Federation

Chile

Serbia

440,000

460,000

480,000

500,000

520,000

540,000

560,000
Figure 2.1a

Reading performance and GDP

\[ y = 0.0034x + 479.77 \]
\[ R^2 = 0.06509 \]

Source: OECD (2010), PISA 2009 Results, Volume I, Table I.2.20.
StatLink: http://dx.doi.org/10.1787/888932366836

Figure 2.1b

Reading performance and spending on education

\[ y = 0.0002x + 476.8 \]
\[ R^2 = 0.09036 \]

Source: OECD (2010), PISA 2009 Results, Volume I, Table I.2.20.
StatLink: http://dx.doi.org/10.1787/888932366836

Figure 2.1c

Reading performance and parents’ education

\[ y = 1.3609x + 451.67 \]
\[ R^2 = 0.46574 \]

Source: OECD (2010), PISA 2009 Results, Volume I, Table I.2.20.
StatLink: http://dx.doi.org/10.1787/888932366836

Figure 2.1d

Reading performance and share of socio-economically disadvantaged students

\[ y = -1.1306x + 510.23 \]
\[ R^2 = 0.46407 \]

Share of students whose PISA index of economic, social and cultural status is below -1

Source: OECD (2010), PISA 2009 Results, Volume I, Table I.2.20.
StatLink: http://dx.doi.org/10.1787/888932366836
Trends: monitoring performance over time

- Monitoring reading performance since 2000
  - Similar reading assessment frameworks
    - Reading framework was only slightly updated since 2000 to include digital reading
  - A pool of test questions common to all PISA assessments
    - 39 identical items were used in both 2000 and 2009
    - 26 identical items were used across all reading assessments
  - Identical sampling procedures
  - Additional checks to assure comparability of the results
    - Results adjusted for demographic changes and sampling modifications give nearly identical results
    - Results are consistent with non-scaled student responses (percentage of correct answers)

- Trends in mathematics performance since 2003

- Trends in science performance since 2006
Performance trends in PISA

<table>
<thead>
<tr>
<th>Year</th>
<th>Reading</th>
<th>Mathematics</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Reading</td>
<td>Mathematics</td>
<td>Science</td>
</tr>
<tr>
<td>2003</td>
<td>Reading</td>
<td>Mathematics</td>
<td>Science</td>
</tr>
<tr>
<td>2006</td>
<td>Reading</td>
<td>Mathematics</td>
<td>Science</td>
</tr>
<tr>
<td>2009</td>
<td>Reading</td>
<td>Mathematics</td>
<td>Science</td>
</tr>
</tbody>
</table>
Change in reading performance between 2000 and 2009

Reading performance improved

Reading performance declined
How countries perform in reading and how reading performance has changed since 2000

- Score point change in reading between 2000 and 2009 is statistically significant

Mean performance in reading 2009

Score point change in reading performance between 2000 and 2009
Percentage of students below proficiency Level 2 in reading between 2000 and 2009

- 2009 higher than 2000
- 2009 lower than 2000
○ Not statistically significant difference

Percentage of students below proficiency Level 2 in reading between 2000 and 2009.
What students know and can do

Maciej Jakubowski

May 2011

Percentage of top performers in reading between 2000 and 2009

2009 higher than 2000
2009 lower than 2000
Not statistically significant difference

Percentage of top performers in reading between 2000 and 2009

New Zealand    -
Finland    -
Japan    +
Korea    +
Australia    -
Canada    -
Hong Kong-China    +
Belgium    -
United States    -
France    -
Sweden    -
Iceland    +
Norway    -
Switzerland    +
Germany    -
Israel    -
Poland    -
Ireland    -
Hungary    -
Italy    -
Greece    -
Czech Republic    -
Portugal    -
Denmark    -
Liechtenstein    -
Spain    -
Russian Federation    -
Latvia    -
Bulgaria    -
Brazil    -
Chile    -
Argentina    -
Romania    -
Peru    -
Mexico    -
Thailand    -
Albania    -
Indonesia    -

2000
2009
Changes in reading performance between 2000 and 2009

- Observed score point change
- Score point change adjusted for socio-demographic changes

Score point change

- Peru
- Chile
- Albania
- Indonesia
- Latvia
- Israel
- Poland
- Portugal
- Brazil
- Korea
- Hungary
- Germany
- Greece
- Hong Kong-China
- Switzerland
- Mexico
- OECD average-26
- Belgium
- Bulgaria
- Italy
- Denmark
- Norway
- Russia
- United States
- Japan
- Romania
- Iceland
- New Zealand
- France
- Thailand
- Canada
- Finland
- Spain
- Australia
- Sweden
- Czech Republic
- Australia
- Argentina
Closer look at improving countries

Change in the percentage of students

<table>
<thead>
<tr>
<th>Change in mean score since 2000</th>
<th>Low performers</th>
<th>Top performers</th>
</tr>
</thead>
<tbody>
<tr>
<td>+40</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+31</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+43</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+36</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+26</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+19</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+21</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+22</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+17</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+16</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+14</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+13</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
<tr>
<td>+15</td>
<td>Yellow Bar</td>
<td>Purple Bar</td>
</tr>
</tbody>
</table>

Mean score 2009

<table>
<thead>
<tr>
<th>Country</th>
<th>Mean score 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>449</td>
</tr>
<tr>
<td>Indonesia</td>
<td>402</td>
</tr>
<tr>
<td>Peru</td>
<td>370</td>
</tr>
<tr>
<td>Albania</td>
<td>385</td>
</tr>
<tr>
<td>Latvia</td>
<td>484</td>
</tr>
<tr>
<td>Portugal</td>
<td>489</td>
</tr>
<tr>
<td>Poland</td>
<td>500</td>
</tr>
<tr>
<td>Israel</td>
<td>474</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>499</td>
</tr>
<tr>
<td>Brazil</td>
<td>412</td>
</tr>
<tr>
<td>Hungary</td>
<td>494</td>
</tr>
<tr>
<td>Germany</td>
<td>497</td>
</tr>
<tr>
<td>Korea</td>
<td>539</td>
</tr>
</tbody>
</table>
Change in the share of boys and girls who are low performers in reading between 2000 and 2009

- Share of students below proficiency Level 2 increased
- Share of students below proficiency Level 2 decreased

OECD average
Different patterns of performance change among boys and girls

Score point change between 2000 and 2009

- Chile
- Poland
- Korea

Girls vs Boys
What students know and can do

Maciej Jakubowski
May 2011

High average performance
Large socio-economic disparities

High reading performance

Low reading performance

Socially equitable distribution of learning opportunities

High average performance
High social equity

Strong socio-economic impact on student performance

Low average performance
Large socio-economic disparities

High reading performance

Low average performance
High social equity
Low reading performance

High reading performance

Low average performance

High average performance

Large socio-economic disparities

Strong socio-economic impact on student performance

Socially equitable distribution of learning opportunities

Leading countries:
- Singapore
- New Zealand
- Australia
- Japan
- Korea
- Finland
- Canada
- Netherlands
- Norway
- Switzerland
- Germany
- Sweden
- China
- United States
- Hungary
- United Kingdom
- France
- Austria
- Israel
- Czech Republic
- Slovack Republic
- Luxembourg
- Portugal
- Greece
- Italy
- Spain
- Croatia
- Lithuania
- Turkey
- Russian Federation
- Chile
- Serbia
- Uruguay
- Romania
- Mexico
- Thailand
- Trinidad and Tobago
- Brazil
- Colombia
- Montenegro
- Jordan
- Tunisia
- Indonesia
Low reading performance

High reading performance

High average performance

Large socio-economic disparities

Low average performance

Large socio-economic disparities

High social equity

Socially equitable distribution of learning opportunities
What students know and can do

Maciej Jakubowski
May 2011

Low reading performance
Low average performance
Large socio-economic disparities

High average performance
Large socio-economic disparities
High social equity

Socially equitable distribution of learning opportunities

High reading performance
Other rapid improvers in reading:
Peru, Brazil, Indonesia
Rapid improvers in mathematics:
Mexico, Brazil, Turkey, Greece, Portugal, Italy and Germany
Rapid improvers in science:
Qatar, Turkey, Portugal, Korea, Brazil, Colombia, Italy, Norway, United States, Poland
Average performance of 15-year-olds in mathematics—extrapolate and apply

21 countries perform below this line:

- Australia
- Belgium
- China
- Czech Republic
- Croatia
- Denmark
- Estonia
- Finland
- France
- Germany
- Hungary
- Iceland
- Ireland
- Italy
- Japan
- Liechtenstein
- Lithuania
- Luxembourg
- Macao
- Malaysia
- Mauritius
- Netherlands
- New Zealand
- Norway
- Poland
- Portugal
- Russian Federation
- Slovakia
- Slovenia
- South Korea
- Spain
- Sweden
- Switzerland
- Taiwan
- Turkey
- United Kingdom
- United States
- Venezuela
How countries perform in mathematics and how mathematics performance has changed since 2003

- Score point change in mathematics between 2003 and 2009 is statistically significant

The chart shows the mean performance in mathematics for different countries in 2009, categorized into high performance (increasing and declining), low performance (increasing and declining), and countries with score points changes. The x-axis represents the score point change in mathematics performance between 2003 and 2009, while the y-axis shows the mean performance in mathematics for these years.
Average performance of 15-year-olds in science - extrapolate and apply

... 20 countries perform below this line
Change in science performance between 2006 and 2009

Science performance improved

Science performance declined

Score point change

Qatar, Turkey, Portugal, Korea, Tunisia, Brazil, Colombia, Italy, Norway, United States, Poland, Romania, Argentina, Chile, Japan, Kyrgyzstan, Serbia, Mexico, Hong Kong-China, Singapore, Colombia, Japan, Korea, Qatar, Bermuda, Israel, China.

Science performance declined

United Kingdom, Russian Federation, Russian Federation, Ukraine, Hungary, Luxembourg, Netherlands, Greece, Belgium, Japan, Canada, Croatia, Slovenia, Sweden, Azerbaijan, Montenegro, Indonesia, China,

Score point change
How countries perform in science and how science performance has changed since 2006

- Score point change in science performance between 2006 and 2009 is statistically significant

**Mean performance in science 2009**
- High performance
  - Increasing
  - Declining
- Low performance
  - Declining

**Score point change in science performance between 2006 and 2009**
- High performance
  - Increasing
  - Declining
- Low performance
  - Declining

Countries and their performance:
- Finland
- Chinese Taipei
- Slovenia
- Poland
- United States
- Czech Republic
- Norway
- Germany
- Italy
- Portugal
- Turkey
- Montenegro
- Jordan
- Indonesia
- Mexico
- Argentina
- Tunisia
- Russia
- Japan
- South Korea
- Brazil
- Colombia
- Norway
- China
- Hong Kong
- Mexico
- Venice
- Canada
- New Zealand
- Australia
- Japan
- Sweden
- Hungary
- Liechtenstein
- Luxembourg
- Netherlands
- Greece
- Estonia
- Belgium
- Canada
- Jordan
- Croatia
- Spain
- Japan
- Korea
- Norway
- Macao
- Brazil
- Colombia
- Indonesia
- China
- Mexico
- Argentina
- Tunisia
- United States
- Turkey
- Montenegro
- Croatia
- Sweden
- United States
- Russia
- Japan
- South Korea
- Brazil
- Colombia
- Finland
- Chinese Taipei
- Slovenia
- Poland
- United States
- Czech Republic
- Norway
- Germany
- Italy
- Portugal
- Turkey
- Montenegro
- Jordan
- Indonesia
- Mexico
- Argentina
- Tunisia
- Russia
- Japan
- South Korea
- Brazil
- Colombia
- Finland
- Chinese Taipei
- Slovenia
- Poland
- United States
- Czech Republic
- Norway
- Germany
- Italy
- Portugal
- Turkey
- Montenegro
- Jordan
- Indonesia
- Mexico
- Argentina
- Tunisia
- Russia
- Japan
- South Korea
- Brazil
- Colombia
- Finland
Does it all matter?
Increased likelihood of postsec. particip. at age 19/21 associated with PISA reading proficiency at age 15 (Canada) after accounting for school engagement, gender, mother tongue, place of residence, parental, education and family income (reference group PISA Level 1)
Quality differences between schools
Variability in student performance between and within schools

Performance differences between schools

Performance variation of students within schools
How do social background and learning outcomes interact?
Measures of the relationship between socio-economic background and reading performance

Strength of the gradient (% of variance explained by ESCS)

OECD average

United Kingdom

United States
Measures of the relationship between socio-economic background and reading performance

Slope of the gradient

(average increase in performance per unit increase in ESCS)
Measures of the relationship between socio-economic background and reading performance

Length of the gradient
(difference between 95th and 5th percentile in ESCS)

- OECD average
- United Kingdom
- United States
What students know and can do

Maciej Jakubowski

May 2011

Std. Dev. of SES and student outcomes, OECD

Std. Dev. of student performance

Std. Dev. of socio-economic background

Std. Dev. of SES and student outcomes, OECD

AUS
AUT
BEL
CAN
CHE
CZE
DEU
DNK
ESP
FIN
FRA
GBR
GRC
HUN
IRL
ISL
ITA
JPN
KOR
LUX
NLD
NOR
NZL
POL
SVK
SWE
USA
Gini coefficients of student outcomes vs. Gini coefficients of income inequalities for OECD countries.

Countries included: AUS, AUT, BEL, CAN, CHE, CZE, DEU, DNK, ESP, FIN, FRA, GBR, GRC, HUN, IRL, ISL, ITA, JPN, KOR, LUX, MEX, MEX, NLD, NOR, NZL, POL, PRT, SVK, SWE, TUR, USA.
Impact of social background on learning outcomes

within schools

between schools
School performance and socio-economic background
United Kingdom

- School performance and schools’ socio-economic background
- Student performance and students’ socio-economic background within schools

## PISA Index of socio-economic background

- Private school
- Public school in rural area
- Public school in urban area
Percentage of resilient students among disadvantaged students

Resilient student: Comes from the bottom quarter of the socially most disadvantaged students but performs among the top quarter of students internationally (after accounting for social background)

More than 30% resilient students among disadvantaged students

Between 15%-30% of resilient students among disadvantaged students

Less than 15% resilient students among disadvantaged students
Performance of students with an immigration background
Characteristics of schools attended by students with and without an immigrant background

Percentage of students with an immigrant background

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD average</td>
<td>10.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10.6</td>
</tr>
<tr>
<td>United States</td>
<td>13.8</td>
</tr>
</tbody>
</table>

Percentage of schools with more than 25% of students with an immigrant background

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD average</td>
<td>13.8</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>12.6</td>
</tr>
<tr>
<td>United States</td>
<td>30.7</td>
</tr>
</tbody>
</table>
Immigrants and reading performance

- Native Students
- Second-generation students
- First-generation students

Mean reading performance

Countries: Finland, Hong Kong-China, Singapore, Canada, New Zealand, Australia, Netherlands, Belgium, Norway, Estonia, Switzerland, United States, Liechtenstein, Sweden, Germany, Ireland, France, Denmark, United Kingdom, Hungary, OECD average, Portugal, Macao-China, Italy, Slovenia, Greece, Spain, Czech Republic, Croatia, Israel, Luxembourg, Austria, Dubai (UAE), Russian Federation, Serbia, Mexico, Brazil, Montenegro, Jordan, Argentina, Kazakhstan, Qatar, Panama, Azerbaijan, Kyrgyzstan.
What students know and can do

Maciej Jakubowski
May 2011

Percentage of students, by immigrant status and language spoken at home

<table>
<thead>
<tr>
<th>Score point differences</th>
<th>Students who speak the language of assessment at home perform better</th>
</tr>
</thead>
<tbody>
<tr>
<td>Another language at home perform better</td>
<td>Qum who speak another language at home perform better</td>
</tr>
</tbody>
</table>

Students who speak the language of assessment at home perform better
Student engagement with school
Students' views of their teacher-student relations

- I get along well with most of my teachers.
- Most of my teachers are interested in my well-being.
- Most of my teachers really listen to what I have to say.
- If I need extra help, I will receive it from my teachers.

OECD average

United Kingdom

Percentage of students
Students’ view of climate for learning
The following things happen never, rarely or only in some lessons...

- Students do not start working for a long time after the lesson begins
- Students cannot work well
- The teacher has to wait a long time for the students to quieten down
- There is noise and disorder
- Students do not listen to what the teacher says

Graph comparing responses from the United Kingdom, Japan, Germany, and the OECD average.
School principals’ reports of their involvement in school matters
Index of schools principal’s leadership based on school principals’ report (part 1/2)

Professional development activities of teachers in accordance with the teaching goals of the school
I ensure that teachers work according to the school’s educational goals
I observe instruction in classrooms
I use student performance results to develop the school’s educational goals
I give teachers suggestions as to how they can improve their teaching
I monitor students’ work
When a teacher has problems in his/her classroom, I take the initiative to discuss matters

OECD average  United Kingdom

Professional development activities of teachers in accordance with the teaching goals of the school
I ensure that teachers work according to the school’s educational goals
I observe instruction in classrooms
I use student performance results to develop the school’s educational goals
I give teachers suggestions as to how they can improve their teaching
I monitor students’ work
When a teacher has problems in his/her classroom, I take the initiative to discuss matters

%
School principals’ views of their involvement in school matters

Index of schools principal’s leadership based on school principals’ report (part 2/2)

- **OECD average**
  - I inform teachers about possibilities for updating their knowledge and skills
  - I check to see whether classroom activities are in keeping with our educational goals
  - I take exam results into account in decisions regarding curriculum development
  - I ensure that there is clarity concerning the responsibility for coordinating the curriculum
  - When a teacher brings up a classroom problem, we solve the problem together
  - I pay attention to disruptive behaviour in classrooms
  - I take over lessons from teachers who are unexpectedly absent

- **United Kingdom**

![Bar chart showing comparison between OECD average and United Kingdom for various leadership roles.](chart.png)
Students' views of how well teachers motivate them to read

Index of teachers' stimulation of students' reading engagement based on students' reports

- The teacher asks students to explain the meaning of a text
- The teacher asks questions that challenge students to get a better understanding of a text
- The teacher gives students enough time to think about their answers
- The teacher recommends a book or author to read
- The teacher encourages students to express their opinion about a text
- The teacher helps students relate the stories they read to their lives
- The teacher shows students how the information in texts builds on what they already know

United Kingdom

OECD average

0 25 50 75 100

%
System- and school-level policies
### Policies and practices

#### Learning climate

- Discipline
- Teacher behaviour
- Parental pressure
- Teacher-student relationships

#### Dealing with heterogeneity

- Grade repetition
- Prevalence of tracking
- Expulsions
- Ability grouping (all subjects)

#### Standards / accountability

- Nat. examination

---

*Policy*

*System*

*School*

*Equity*
What students know and can do

OECD Programme for International Student Assessment

High average performance

Large socio-economic disparities

Low average performance

High social equity

High average performance

Large socio-economic disparities

High average performance

High social equity

Strong socio-economic impact on student performance

Socially equitable distribution of learning opportunities

Early selection and institutional differentiation

High degree of stratification

Low degree of stratification
How much autonomy individual schools have over resource allocation

Selecting teachers for hire, OECD average
- United Kingdom

Firing teachers, OECD average
- United Kingdom

Establishing teachers' starting salaries, OECD average
- United Kingdom

Determining teachers' salaries increases, OECD average
- United Kingdom

Formulating the school budget, OECD average
- United Kingdom

Deciding on budget allocations within the school, OECD average
- United Kingdom

- Only "regional and/or national education authority"
- Both "principals and/or teachers" and "regional and/or national education authority"
- Only "principals and/or teachers"
How much autonomy individual schools have over curricula and assessment

- Establishing student assessment policies, OECD average
  - United Kingdom

- Choosing which textbooks are used, OECD average
  - United Kingdom

- Determining course content, OECD average
  - United Kingdom

- Deciding which courses are offered, OECD average
  - United Kingdom

Legend:
- Only "regional and/or national education authority"
- Both "principals and/or teachers" and "regional and/or national education authority"
- Only "principals and/or teachers"
School autonomy, accountability and student performance

Impact of school autonomy on performance in systems with and without accountability arrangements

Schools with more autonomy
Schools with less autonomy

493
490
480

Systems with more accountability
Systems with less accountability

500
498
495
489

School autonomy in resource allocation

PISA score in reading

OECD Programme for International Student Assessment

What students know and can do

Maciej Jakubowski
May 2011
Beyond schooling
Performance difference between students who had attended pre-primary school for more than one year and those who did not.
Parental support at the beginning of primary school

Score point difference between students whose parents often do (weekly or daily) and those who do not:

"read books"

Score point difference

Lithuania
Hong Kong-China
Macao-China
Croatia
Portugal
Italy
Panama
Chile
Korea
Denmark
Hungary
Qatar
Germany
New Zealand
Parental support at the beginning of primary school

Score point difference between students whose parents often do (weekly or daily) and those who do not: "talk about what they had done"
Parental support at age 15

Score point difference between students whose parents often do (weekly or daily) and those who do not: "discuss books, films or televisions programmes"

Score point difference between students whose parents often do (weekly or daily) and those who do not: "discuss books, films or televisions programmes"
PISA 2009 results

- Five volumes released in December
  - Volume I, What Students Know and can Do: Student Performance in Reading, Mathematics and Science
  - Volume II, Overcoming Social Background: Equity in Learning Opportunities and Outcomes
  - Volume III, Learning to Learn: Student Engagement, Strategies and Practices
  - Volume V, Learning Trends: Changes in student Performance since 2000

- One volume to be released in June 2011
  - Volume VI, Students On Line: Reading and Using Digital Information
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Thank you!

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