PIAAC: an overview

William Thorn, Senior Analyst
OECD
Note on statistical data for Israel
The statistical data for Israel are supplied by and are under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
# Survey of Adult Skills

## Skills assessed

### “Key information-processing skills”

<table>
<thead>
<tr>
<th>Domain</th>
<th>The ability to</th>
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</thead>
<tbody>
<tr>
<td>Literacy</td>
<td><strong>Understand, evaluate, use and engage with written texts.</strong></td>
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<tr>
<td></td>
<td>Literacy encompasses a range of skills from the decoding of written words and</td>
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<tr>
<td></td>
<td>sentences to the comprehension, interpretation and evaluation of complex texts.</td>
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<tr>
<td>Numeracy</td>
<td><strong>Access, use, interpret and communicate mathematical information and ideas</strong></td>
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<tr>
<td></td>
<td>Numeracy involves managing a situation or solving a problem in a real context,</td>
</tr>
<tr>
<td></td>
<td>by responding to mathematical content/information/ideas represented in multiple</td>
</tr>
<tr>
<td>Problem Solving In Technology-rich Environments</td>
<td><strong>Use digital technology communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks.</strong></td>
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<td></td>
<td>The assessment focuses on the abilities to solve problems for personal, work</td>
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<tr>
<td></td>
<td>and civic purposes by setting up appropriate goals and plans, and accessing</td>
</tr>
<tr>
<td></td>
<td>and making use of information through computers and computer networks.</td>
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</tbody>
</table>
# The Survey of Adult Skills: two rounds of data collection

<table>
<thead>
<tr>
<th></th>
<th>Round 1</th>
<th>Round 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of countries/economies</td>
<td>24 (of which 22 from the OECD)</td>
<td>9 (of which 6 from the OECD)</td>
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<tr>
<td>Data collection</td>
<td>August 2011 to November 2012</td>
<td>April 2014 to March 2015</td>
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<tr>
<td>Participating countries</td>
<td>Australia, Austria, Canada, Cyprus(^1), the Czech Republic, Denmark, England (UK), Estonia, Finland, Flanders (Belgium), France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Northern Ireland (UK), Norway, Poland, the Russian Federation, the Slovak Republic, Spain, Sweden and the United States</td>
<td>Chile, Greece, Israel, Jakarta (Indonesia), Lithuania, New Zealand, Singapore, Slovenia and Turkey</td>
</tr>
</tbody>
</table>

\(^1\) Note regarding Cyprus

**Note by Turkey**
The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

**Note by all the European Union Member States of the OECD and the European Union**
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.
PROFICIENCY IN INFORMATION PROCESSING SKILLS

• Wide variation in the proficiency of the adult population between countries/economies
• In almost all countries, a significant proportion of the population has low skills
• The extent of inequality in the distribution of proficiency also varies
• High performance and greater equality in performance tend to go together
• The quantum and direction of changes in the proficiency of adults between IALS, ALL and PIAAC varies considerably
• For younger cohorts there is a close relationship between their proficiency as measured in PIAAC and their performance in PISA
Literacy proficiency of adults

Literacy score
Numeracy proficiency of adults

Numeracy score

Chile, Indonesia, Turkey, Spain, Italy, Israel, Greece, United States, France, Ireland, Singapore, Slovenia, UK, Poland, England (UK), OECD average, Korea, Cyprus, Canada, Lithuania, Australia, Russian Federation, New Zealand, Germany, Estonia, Austria, Czech Republic, Slovak Republic, Denmark, Norway, Sweden, Flanders (Belgium), Finland, Japan.
Problem solving by level of performance

- New Zealand
- Sweden
- Finland
- Netherlands
- Norway
- Denmark
- Australia
- Singapore
- Canada
- Germany
- England (UK)
- Japan
- Flanders (Belgium)
- Czech Republic
- Austria
- United States
- OECD average
- Korea
- Northern Ireland (UK)
- Estonia
- Israel
- Russian Federation
- Slovak Republic
- Slovenia
- Ireland
- Poland
- Lithuania
- Chile
- Greece
- Turkey

Proportion of the population

- Below Level 1
- Level 1
- Level 2
- Level 3
Changes in literacy: from IALS and ALL to PIAAC

Literacy score

- PIAAC Score (2012-2015)
- IALS score (1994-98)
- ALL score (2003-2007)
Reading and numeracy practices

PIAAC collects information about the reading, writing, numeracy and ICT practices of adults at work and in everyday life.

• This represents another dimension of literacy and numeracy in addition to proficiency
Reading, writing and numeracy in everyday life
Slovenia and OECD

Most frequent use = 5

Less frequent use = 1
Reading, writing and numeracy at work: Slovenia and OECD

Most frequent use = 5

Index of use

<table>
<thead>
<tr>
<th>Activity</th>
<th>Slovenia</th>
<th>OECD average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Writing</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Numeracy</td>
<td>2.6</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Less frequent use = 1
Information processing skills are closely related to socio-demographic characteristics such as:

- educational attainment
- age
- parental education
- gender, and
- immigration background.
Literacy and socio-demographic characteristics: a summary

Differences in literacy score

- Slovenia
- OECD average

Gender
- Men - Women

Immigrant background
- Native born / native language - Foreign born / foreign language

Parents’ education
- At least one parent attained tertiary - Neither parent attained upper secondary

Educational Attainment
- Tertiary - Less than upper secondary (adults aged 25-65)
- 25-34 year-olds - 55-65 year-olds
Skill proficiency and age: Slovenia

Score

OECD literacy
OECD numeracy
Slovenia literacy
Slovenia numeracy

Age

15 20 25 30 35 40 45 50 55 60 65
Proficiency and labour market and social outcomes

- Workers with higher proficiency in information processing skills are more likely to be employed (in some countries), earn higher wages (in most countries) and have better social outcomes (in all countries).
- Workers who read more frequently in their jobs are also more likely to earn higher wages.
Effect of education, literacy proficiency and reading use at work on wages

Percentage change in wages associated with a one standard deviation increase in years of education, proficiency in literacy and reading use at work

Statistically significant differences are marked in a darker tone
Literacy proficiency and positive social outcomes: Slovenia

Percentage point difference between Level 4 or 5 and Level 1 or below

- High levels of trust
- High levels of political efficacy
- Participation in volunteer activities
- High levels of health

Non significant statistics are shown in a lighter tone
Low skills

- In almost all countries, a significant proportion of the population has low literacy and numeracy skills
- Proportion of adults with low skills reflects overall performance
- Low skills does not necessary equal exclusion
Low performers in literacy and/or numeracy

At or below Level 1
- in both literacy and numeracy
- in literacy only
- in numeracy only

Proportion of the population
Average literacy score and % of the population with low proficiency

PIAAC literacy score

% of population at level 1 or below

R² = 0.9522
Employment rates: all adults and adults with low literacy (25-65 year olds)

Proportion of employed among adults

OECD average
Australia
Flanders (Belgium)
Netherlands
Denmark
Austria
Germany
Canada
New Zealand
Estonia
Chile
Korea
United States
Slovenia
Slovak Republic
Turkey
Finland
Ireland
Spain
Poland
Lithuania
Greece

Proportion of employed among low skilled adults

R² = 0.3022
What to do about low literacy and numeracy skills?

SUPPLY SIDE

Flows (young people entering adulthood)
• Quantity – increase the level of educational attainment of young cohorts
• Quality – increase the proficiency of young people leaving education

Stocks (adults who have made the transition)
• Upgrading
• Maintenance

DEMAND SIDE

• Literate environment
• Design of websites, forms, processes, etc
Mean literacy proficiency in PISA and in the Survey of Adult Skills:
PIAAC (PISA 2006 cohorts) and PISA 2006

PIAAC literacy score vs. PISA 2006 literacy score

R² = 0.6351
Education and literacy proficiency among young adults

% of 25-34 year olds with less than upper secondary education

Average proficiency: 25-34 year olds

R² = 0.4016
Participation in all education and training, by literacy level (Adults aged 25-65 years)
PIAAC Analysis: some of the major themes

Aging
Adult learning
Adults with low skills
Economic returns to education and skills
Health
ICT skills
Immigration
Inequality
Methodology
Participation in education
Skills match/mismatch
OECD Skills Strategy Diagnostic Reports published for
- 2014: Norway, Austria
- 2015: Korea, Portugal and Spain

Diagnostic phase now underway in
- Netherlands, Slovenia, Italy, Mexico and Peru

Moving from diagnosis to action in
- Norway (2014), Korea (2016)
Data products

Data Explorer
Public Use Files (all countries except Australia)
Background Questionnaire
Codebook
SAS and STATA tools
IEA Data Analyser
Technical Report
Education and Skills On-line
Find Out More About PIAAC at:

OECD

www.oecd.org/site/piaac
All national and international publications

The complete micro-level database

Email
william.thorn@oecd.org

Thank you