

THE ESSENTIAL SKILLS BULLETIN

An Overview of PIAAC

On October 8th, 2013, the Organization for Economic Cooperation and Development (OECD) released results from its First Survey of Adult Skills or Programme for the International Assessment of Adult Competencies (PIAAC). Conducted in 2011-12, PIAAC sampled 166,000 adults aged 16-65 in 24 countries, including over 27,000 adult Canadians.

As part of the organization's commitment to understanding the challenges of low-skilled and low-wage individuals, researchers at Essential Skills Ontario have been using the OECD's public database to unpack and analyze PIAAC results in Canada and Ontario. Apart from developing an understanding of the results in each domain, Essential Skills Ontario strives to identify various patterns and trends in the data which may be useful for policy-makers, practitioners and programming purposes.

While this bulletin covers some of the key findings of PIAAC, Essential Skills Ontario will be releasing a series of bulletins that analyze the rich data found in the PIAAC background questionnaire, such as labour force status, participation in education and training, income and performance among various age groups and the relationship of skills and levels of educational attainment. We hope these bulletins

will prompt and inform discussions in the employment and training community.

What does PIAAC measure?

The primary purpose of PIAAC is to assess proficiency in literacy, numeracy and problem solving in technology-rich environments (PS-TRE) - three key information processing competencies which are considered essential for adults in various social and work-related contexts (OECD, 2013). All three domains are designed to evaluate a respondent's ability to understand and use written texts, mathematical information, and digital technology and communication tools to solve "real world" problems (OECD, 2013). Complete definitions of these three domains can be found in the OECD Skills Outlook 2013.

PIAAC differs from the two previous OECD international surveys of adult competencies (the International Adult Literacy Survey and the Adult Literacy and Life Skills survey) in several regards: firstly, PIAAC combines both prose and document literacy in its literacy domain as opposed to assessing these separately. PIAAC also includes a

PS-TRE assessment which was not included in previous surveys.

Key Findings from PIAAC

There are strong correlations between skill levels and quality of life: Evidence from the PIAAC data suggests that higher PIAAC scores are associated with a host of positive social and economic outcomes that impact various facets of an individual's life. For example, the OECD reports that scoring at high levels of proficiency in literacy increases the likelihood of an individual reporting good to excellent health, being employed, high levels of trust, participating in volunteer activities and higher wages.

More specifically, the OECD estimates that a 46 point increase in literacy (one standard deviation) is associated with an 8% increase in wages, 20% increase in the probability of participating in the labour market and a 10% increase in the probability of being employed (OECD, 2013). The same results holds true for numeracy: a separate but a recent study found that a one standard deviation increase in numeracy score (54 points across the OECD and 58 points in Canada) is associated with an 18% increase in wages across OECD countries and 19% in Canada (Hanushek et al; 2013). Conversely, those with low literacy skills are more than twice as likely to be unemployed than those with higher levels of proficiency in literacy (OECD, 2013). Thus, in many ways, skill levels are related to an individual's general quality of life.

Ontario may have a numeracy challenge: Ontario adults performed below the OECD average in the numeracy domain: the average score is three points below the OECD average. Furthermore, while a large portion of the population finished at the highest proficiency levels in numeracy, 26% of the population performed at or below level one. These results are especially disconcerting given the fact that the PISA (the Programme for International Student Assessment) survey which aims to evaluate

education systems worldwide by testing the skills and knowledge of 15-year-old students) results show that numeracy skills among Ontario 15 year-olds have been declining over the past nine years.

This seeming trend is problematic considering the large impact that numeracy skills have on labour market outcomes. For instance, a recent study shows that the wage returns of numeracy skills on wages is much larger than those of literacy skills. Hanushek et al (2013) found that a standard deviation increase in numeracy scores is associated with a 19% increase in hourly wages in Canada. This is more than twice the impact of one standard deviation increase in literacy scores on hourly wages, which the OECD estimates is around 9%.

Education and training clearly matters: The PIAAC data confirms the long-standing notion that 'education matters.' Education and training have a significant impact on an individual's skill level which, in turn, impacts subsequent life opportunities. From the PIAAC data, the OECD estimates that a one year increase in schooling is associated with a seven score point increase in literacy scores (OECD, 2013). This highlights the need to engage low skilled individuals in meaningful education and training; however, the PIAAC data also reveals that those with lower levels of proficiency are less likely to participate in education and training (OECD, 2013). Though the OECD has demonstrated this result internationally, analysis of the Ontario data shows that the lack of engagement in education and training among lower skilled adults is also prevalent in Ontario. This issue will be the subject of the next Essential Skills Bulletin.

Inequality and bifurcation of skills: Another theme to emerge from the Canadian and Ontario results is the high degree of inequality between high and low performing individuals. In each domain there are large proportions of the population at the lowest and highest levels, and there are large score point differences between the lowest and highest

performing respondents in the literacy and numeracy domains. The results show a sharp divide between those performing at the highest proficiency levels and those struggling to demonstrate basic levels of proficiency, with large segments of the population at each end. The PIAAC data could be used to understand the challenges faced by lower-skilled individuals in order to design effective and meaningful interventions which help individuals succeed in an increasingly competitive and technologically complex world.

Bibliography

Hanushek, Eric A. Guido, Schwerdt. Wiederhold, Simon. Woessman, Ludger (2013). *Returns to skills around the world: Evidence from PIAAC*. OECD Education Working Papers, No. 101, OECD Publishing. <http://dx.doi.org/10.1787/5k3tsjqmvtq2-en>

OECD (2013). *OECD skills outlook 2013: First results from the survey of adult skills*. OECD Publishing. <http://dx.doi.org/10.1787/9789264204256-en>

Statistics Canada (2013). *Skills in Canada: First results from the programme for the international assessment of adult competencies (PIAAC)*. Catalogue no. 89-555-X.

Thorn, William. (2012). *What we can expect from the survey of adults skills (PIAAC) – in 2013 and in the years to come?* Nordic PIAAC Network 2013-2014. Presentation Transcript.

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