

As technology evolves, so must support for adult skills

A survey shows that skill levels among Singapore's adults are uneven, and some skills start deteriorating early. Training is key.



Lim Sun Sun

If there was ever a time that entire countries had to swiftly upskill their citizens, especially in the digital realm, it was during the Covid-19 pandemic that is now a hazy memory. And yet that period offers us some invaluable lessons about skills preparedness. In Singapore, we had to learn how to verify our identity using Singpass and TraceTogether, engage in online banking and online shopping, take classes via Zoom and attend work meetings and even social gatherings over Teams. This abrupt shift to online platforms and transactions was fairly smooth for Singapore, but also revealed striking competency gaps.

In interviews of less privileged households that I conducted with the support of fellow academics and social workers in Singapore, we discovered how digital disadvantage compounds. Wealthier families were well positioned to quickly raise their digital literacy as they already owned the latest devices and had healthy exposure to online services. Their prior experience with technology enabled them to adapt nimbly to new innovations. Many of them were employed in roles reliant on information and communication technology (ICT), which vested them with additional training and organisational support to address any digital skills gaps. As a result, advancing their technological proficiency was relatively seamless, even during that tumultuous period.

In contrast, individuals from digitally excluded households tended to possess few or outdated devices, did not always have frequent internet access, and held jobs with little to no ICT exposure. Within their family and social networks, it was also more difficult to find relatives and friends with ICT knowledge to guide or advise them. This left them with a fragile foundation for ramping up their digital literacy. One critical lesson from that period, therefore, is that bridging all skill gaps, and not just digital skills, necessitates a deeper appreciation of socio-economic differences in how skills are acquired, fostered, retained and strengthened.

To this end, the recent announcement of Singapore's standing in the Organisation for Economic Cooperation and Development's (OECD) Survey of Adult Skills (SAS) – developed under the OECD Programme for the International Assessment of Adult Competencies (PIAAC) – has shone useful light on the state of Singapore adults' competencies. Readers may be more familiar with the OECD's Programme for International Student Assessment or the Pisa test of 15-year-olds' competencies, run every three years. For that test, Singapore's secondary school students have historically performed well and, during the last assessment in 2022, were ranked top in maths, science and reading.

The adult counterpart to that test, PIAAC, run every 10 years, is an international study examining the skill levels of adults aged 16 to 65 in literacy, numeracy and adaptive problem-solving. Singapore has participated in both Cycle 1 (2014-2015) and Cycle 2 (2022-2023) of PIAAC, thus allowing us to identify broad trends in adult competencies over this time period.

The OECD has just launched the results of Cycle 2, in which 31 countries participated, in its report titled "Do Adults Have The Skills They Need To Thrive In A Changing World? Survey Of Adult



Skills 2023". Correspondingly, SkillsFuture has also shared its analysis of Singapore's performance in this survey and there were some salient takeaways.

In a nutshell, Singapore's adults have done well, though not nearly as well as its 15-year-olds. Their performance in numeracy, literacy and adaptive problem-solving is encouraging. But some of their skills seem to deteriorate very early in life and there are noticeable differences in the skills of adults, depending on their education levels.

To fully appreciate the implications of the survey findings, it is imperative to consider the utility of the skills it tests. Literacy helps people interact with various types of content, while numeracy is crucial for tasks like interpreting data and making financial decisions. Adaptive problem-solving allows individuals to respond and adjust to new situations. These skills facilitate personal and professional growth, and equip people to deal with the complexities of everyday life.

The survey ranks adults' skills from levels below Level 1 to Level 5, with Level 5 indicating top performers.

By assessing differences in these competencies across individuals and countries, the survey seeks to discern how these skills influence personal and societal outcomes on social and economic fronts.

Additionally, it evaluates the effectiveness of educational and training programmes in fostering these skills, and identifies policy measures that could enhance competency levels.

WHERE SINGAPORE STANDS

The report card for Singapore's adults is fairly reassuring. First, we achieved the greatest improvement in numeracy among participating countries, tying with Finland as the most improved, ranking 10th overall. In literacy, too, our scores remained stable and there was an improvement in our ranking from the previous cycle. For adaptive problem-solving, Singapore's performance was average, placing it 14th globally. Our younger adults, aged 16 to 34, performed especially well, scoring above the OECD average in all three skill domains, reflecting the robustness of our formal education system.

However, one concerning trend for Singapore is that the effects of ageing on literacy skills kick in

However, one concerning trend for Singapore is that the effects of ageing on literacy skills kick in earlier than in many other countries, with noticeable declines starting as early as 27 to 34 years old. This is perhaps unsurprising since literacy and numeracy skills are taught and tested more systematically at school whereas in the workplace, a narrower range of skills may be exercised. Those skills which are unused or underused then atrophy.

earlier than in many other countries, with noticeable declines starting as early as 27 to 34 years old. This is perhaps unsurprising since literacy and numeracy skills are taught and tested more systematically at school whereas in the workplace, a narrower range of skills may be exercised. Those skills which are unused or underused then atrophy.

Nevertheless, the knowledge that skills deteriorate as early as the late 20s suggests that upskilling and reskilling should not be viewed as something people embark on mid-career but something that should be undertaken sooner. This is especially pertinent to an employment landscape like Singapore's marked by rapid digitalisation.

In the last two years for example, knowledge workers have had to adapt to the emergence of generative artificial intelligence by learning to use suitable prompts, while also understanding how these large language models have inherent limitations in the form of biases and hallucinations. This recent experience demonstrates how the literacy skills of our working adults are constantly stretched and offers a glimpse into how future technological disruptions will further challenge our workforce.

Given that skills decline can commence early in one's career, we must consider greater investment in training programmes that are flexible and cost-efficient, thus enabling more learners to engage in upskilling on their own time. These should be modular, part-time or online to facilitate the ease of incorporation into work schedules.

We should also actively leverage educational technology that allows adult learners to engage in self-directed learning and that customises learning experiences based on individual learner profiles. Such investment should reap dividends since the survey found that more than 50 per cent of respondents who participated in job-related training were motivated by the goals of enhancing their job performance or improving career prospects.

Employers can also invest more in upskilling and reskilling their workers, including through learning at the workplace and on-the-job training. This will also help these employers reap the dividends of a better skilled workforce to drive business goals. Another key takeaway is that across the participating countries,

skill proficiency gaps exist between adults of different education levels.

For Singapore, adults with tertiary education (275 points) outperformed those with upper secondary education (226 points) by 48 points in the literacy score. This was well above the OECD average gap of 33 points. Similarly, those with upper secondary education scored 59 points higher than those with less than upper secondary education, also above the OECD average gap of 43 points. Again, this finding is illuminating and suggests where interventions to close skill gaps can be focused.

Indeed, the OECD noted in its accompanying "insights and interpretations" report that the literacy proficiency of adults with lower than upper secondary education has fallen in most countries.

It postulates that shifts in reading habits at both work and home, along with greater use of digital and social media, may have an influence. Moreover, social prejudice towards individuals with lower education levels may contribute to diminished self-esteem and fewer opportunities for intellectual growth. Given such insights, community or workplace-based programmes to support the maintenance of literacy and numeracy skills may be especially helpful for those with low education.

The PIAAC results are encouraging but sobering. They remind us that our education system has delivered results but needs constant refinement in view of the shifting employment landscape.

Rapid technological advancements also require adaptations in continuing education and training so that the numeracy, literacy and adaptive problem-solving skills keep pace with emerging information infrastructures and disruptive forms of content production. Critically, we must concertedly and creatively narrow the skills gap between those with low and high education to enhance employability for more workers across the socio-economic spectrum. With appropriate interventions in upskilling and reskilling, disadvantage need not and should not compound.

• Lim Sun Sun is vice-president, partnerships and engagement, and Lee Kong Chian professor of communication and technology at Singapore Management University. She is a member of the SkillsFuture Research Advisory Panel.

The OECD Programme for the International Assessment of Adult Competencies' results for Singapore's adults are encouraging but sobering. They are a reminder that the Republic's education system has delivered results but needs constant refinement in view of the shifting employment landscape, the writer says. ST FILE PHOTO