

# How a growth mindset helps disadvantaged kids do better

Help disadvantaged students believe that their own effort can improve performance, and then give them the skills to do so

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Singapore students once more did themselves and the country proud in the 2018 Programme for International Student Assessment (Pisa).

Pisa is an international study that assesses 15-year-old students' scholastic performance in mathematics, science and reading, and is conducted by the Organisation for Economic Cooperation and Development (OECD).

In the latest version, Singapore's 15-year-olds fared very well.

They were second in their average proficiencies in reading, mathematics and science – a dip, admittedly, from the No. 1 position in the 2015 study, but still better in each of these domains than 15-year-olds in 77 other countries and economies.

But there are more reasons to celebrate.

Students from the bottom 25 per cent of socio-economic status (SES) in Singapore performed better than the overall OECD average in all three domains. Equally heartening, almost half of Singapore's lower-SES students were identified

as “core-skills resilient”, as they attained at least a proficiency level of three in the three domains (the highest being level six), which means that they possess “necessary core competencies to participate fully in society”.

However, only one in 10 socio-economically disadvantaged students in Singapore was classified as a top performer in reading (proficiency level five or six), while four times as many socio-economically advantaged students reached these two highest proficiency levels.

As a group, disadvantaged students in Singapore scored 104 points (or around 17 per cent) lower on Pisa's reading test than their advantaged peers.

Although it is true that Singapore's top performers have set the bar high, things can be done to narrow this achievement gap.

Many policies are already in place to level the educational playing field for students from socio-economically disadvantaged families. There are programmes to support learning of primary school pupils from disadvantaged homes. The Ministry of Education set up an inter-agency task force in October 2018, called Uplifting Pupils in Life and Inspiring Families Taskforce (Uplift), to help children from disadvantaged families reach their potential.

Beyond policy programmes, there is scope to promote the right kind of mindset among students that will help them reach for greater achievements.

## GROWTH MINDSET AND ACADEMIC RESILIENCE

One illuminating finding of the 2018 Pisa is about students' mindsets and how these mindsets relate to the quality of their learning experience and progress.

Stanford psychology professor Carol Dweck found in her research that students vary in their mindsets or beliefs about their intellectual ability.

Students with a fixed mindset see intelligence as something that they cannot change, no matter how hard they try, while students with a growth mindset see intelligence as something that they can improve with effort and persistence.

Professor Dweck and her colleagues discovered that, compared with students with a fixed mindset, those with a growth mindset display a more resilient pattern of responses in the face of academic challenges and have greater well-being than those with a fixed mindset. This is precisely what the recent Pisa findings showed.

The 2018 Pisa asked students whether or not they agreed with the statement: “Your intelligence is something about you that you cannot change very much.”

Students were asked to respond on a four-point scale, ranging from “strongly disagree” to “strongly agree”. Their responses were then combined into a binary indicator of whether a student has a growth or

fixed mindset.

According to the results, six in 10 students in Singapore exhibited a growth mindset. These students scored 41 points more than their peers with a fixed mindset, after accounting for school and student socio-economic profiles.

What is particularly important is that the relationship between endorsing a growth mindset and reading performance was considerably stronger among disadvantaged students than it was among advantaged students.

Among students who lack socio-economic advantage, having a growth mindset is thus an important “soft” asset that they can harness to achieve and be more academically resilient. Indeed, the 2018 Pisa findings showed that students with a growth mindset tend to have greater motivation to learn and master tasks, more positive self-efficacy beliefs, greater clarity on the value of schooling, and lower fear of failure.

Unfortunately, the proportion of Singapore's disadvantaged students who held a growth mindset (51.8 per cent) was smaller than that of their advantaged counterparts (66.5 per cent).

This finding urges us to find ways to foster a growth mindset in our young, especially among our low-progress students from disadvantaged families.

While many of the policies and practices that provide educational opportunities for these students to thrive are systemic in nature, the Pisa findings suggest that it is also important for us to understand the psychology of our students, and for parents and teachers to nurture a growth mindset and foster resilience in our young.

## PROMOTING A GROWTH MINDSET

How might we promote a more positive-oriented growth mindset among students?

Educational intervention

programmes designed to develop a growth mindset often begin by providing students with scientific information about the malleability of human intelligence through neuroplasticity.

The purpose is to convince students that their brains can be trained to learn better through hard work and persistence. This is fundamental knowledge that we can instil in our students through science lessons.

Parents and teachers can also help to promote students' growth mindsets through subtle messages in the form of feedback and praise.

Prof Dweck's research has shown that, for the work that children do well, they are more likely to develop a growth mindset when adults praise their effort, strategies, focused attention and persistence, rather than their natural ability.

This helps children see the connection between their success and the factors responsible for it, and hence provides them with a “formula” to replicate in future.

However, telling children to work harder when their performance falls short of expectation is not enough to foster their growth mindset. A more effective strategy is to encourage them to ask themselves, “What did I do?” or “What can I do differently next?”.

Coaching children to pose these “metacognitive” questions helps them see the link between their performance and how they arrive at that performance and, in turn, develop a sense of control and ownership of their learning.

Interestingly, research also showed that teaching students study skills doesn't always effectively promote achievement when the students do not have the resilience that comes from a growth mindset to put their study skills into practice.

Similarly, highlighting the benefits of having a growth mindset without equipping

students with effective study skills will inculcate a sense of “unrealistic” optimism, which does not necessarily lead to improvement in performance.

So, students need both the mindset and the study skills, rather than one or the other.

As the adage has it, “no pain, no gain”. It is also important that parents and teachers share their own past struggles with the young. They need to learn that it takes determination to succeed.

Discussing with them real-life, local stories about disadvantaged students who initially failed and struggled, but later on beat the odds by thriving in school and their jobs, can be inspirational too.

These trailblazers serve as a role model for underperforming disadvantaged students and leave them with the message: “When others with a background similar to mine could do it, maybe I can do it too.”

Having a growth mindset gives students a sense of optimism to face their future by helping them see that improvement is possible, and effort plays an important part in attaining it. In turn, students are more likely to value schooling, find schoolwork meaningful, and experience joy in learning.

Underperforming disadvantaged students often find it hard to imagine how far they can go in life, owing to a lack of role models who can inspire and show them the paths to take. Cultivating a growth mindset in our young helps them see life's possibilities and lends itself to the effort of uplifting the bottom.

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