

NEWS 09

Method adds up to weak students

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LEARNING maths lessons by heart is dragging Australian students down, with new international research showing that it could be the reason our students are falling behind their Asian counterparts.

The Organisation for Economic Co-operation and Development's Programme for International Student Assessment sent questionnaires to 15-year-old students in more than 40 countries asking how they study for maths.

They found while those who used memorisation as a learning strategy got by with easier maths questions, they had no chance when confronted with complex problems.

In fact, they were four times more likely to get difficult questions wrong.

"But if you think memorisation is most widely used in the East Asian countries that share a Confucian heritage and are 'known' for rote learning, think again," report author Alfonso Echazarra wrote.

Students from Australia, the UK, New Zealand, Canada, Ireland and the US were among those most reliant on parrot-fashion learning. Those from Hong Kong, China, Japan, Korea and Vietnam were the least likely to be.

Those who relied on memory when working on maths problems were more anxious, self-effacing, less interested and less motivated.

Girls were more likely to try

to memorise lessons than boys in every country investigated.

Australian Mathematical Sciences Institute director Geoff Prince said the results were worrying.

"I think it's a wake-up call, that's for sure," he said.

"Our positioning on that table – that's pretty concerning for me when I see that to indicate that a lot of Australian kids just aren't getting the sort of strategies they need for whatever reason."

Prof Prince said schools may be over-testing and he believed asking students to

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recall mathematical formulas from memory in an exam was a waste of time.

Instead, he said more open-book exams should be held in high schools, to allow students to relax and work out the answer with the formulas at hand.

"You need to have an understanding of process, which doesn't heavily rely on memory," he said.

Prof Prince said there should be a shift in the culture around teaching maths, starting with parents not complaining about how difficult it was to their children.