Global Education Episode 12: Dr Sue Thomson discusses PISA 2015

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Hello, you're listening to a special episode of Teacher *magazine's Global Education podcast – I'm Rebecca Vukovic.*

The Programme for International Student Assessment, more popularly referred to as PISA, measures how well 15-year-olds are prepared to use their science, reading and mathematics skills in real-life situations. More than half a million students from 72 countries and partner economies took part in the 2015 test cycle and the results have just been released. The Australian report, PISA 2015: A first look at Australia's results*, from the Australian Council for Educational Research, doesn't make for pleasant reading. Dr Sue Thomson, ACER Director of Educational Monitoring and Research and lead author of the report, joins me to discuss the results.*

Rebecca Vukovic: Dr Sue Thomson, welcome to *Teacher* magazine.

Sue Thomson: Thank you

RV: As with the 2015 TIMSS results (that's the Trends in International Mathematics and Science Study), released the week before PISA, a lot of the headlines have focused on who's beating who. We'll look at the international comparisons in a moment but I want to start with Australia's performance over time. For me, one thing that really jumped out of your report was that while Australia's average scores are declining in all three domains – that's scientific literacy, reading literacy and mathematical literacy – the proportion of low performing students is increasing. Given that these tests are for 15-year-olds, some of whom are about to enter the workforce, what does this mean?

ST: Well, what it means is, according to the OECD terms, these kids aren't really well prepared for life and work as it was in the 21st century. So they don't necessarily have the skills they'll need to succeed in maths and science, or the skills in reading that they'll need to be able to participate completely in life.

RV: We've also got a problem at the other end haven't we? The proportion of high performing students is declining and, again, a big chunk of those 15-year-olds will progress into further study.

ST: That's true. In all three subject areas, the proportion of students at that high end of the distribution has decreased, in some areas more than others, and that is a concern because it also means that we're preparing fewer students to go into maths and science teaching so we have fewer people who are going to be capable of going into teaching and teaching those subjects.

RV: You've also analysed the results in terms of student background.

There are some big disparities there, particularly between Indigenous and non-Indigenous students and those from high and low socioeconomic backgrounds.

ST: Those are, I think, the most important differences that we see both in this report and in the TIMSS report, but probably more starkly in this report because it's measured differently. The difference between affluent and poor students is around three years of schooling, it equates to about three years of schooling in each maths, science and reading literacy – that is really, very concerning. The one between Indigenous and non-Indigenous students is also very large and very concerning. And the other one that goes in with those three is the difference between students in metropolitan schools and students in rural and remote schools. So if we have Indigenous students who are from a low socio-economic background, as we know about 55 per cent are, that are living in rural and remote areas, they're three times behind the eight ball.

RV: Onto international comparisons, Singapore tops the rankings in science, reading and mathematics. Several countries previously on a par with or below Australia have recorded significant improvements in their performance – and now they've moved ahead of Australia.

ST: That's true. And so, countries … we see New Zealand in reading literacy that were previously achieving at the same level as us, that are now achieving at a higher level than us. The United Kingdom which was previous behind us and is now ahead of us. So yes, that is a real problem because not only are we moving backwards compared to ourselves, but other countries are also improving and doing better. Some countries have also declined, but not as much as Australia has over this time.

RV: Finally then, back to Australia – where do we go to from here?

ST: I think where we go from here is that we have to take stock of what we're doing. Nothing is going to change unless we change the structural issues that are there and to me, the structural issues that are there are those we've highlighted in this talk. So low-SES versus high-SES, Indigenous students versus non-Indigenous and metro versus rural and remote. We have to look at ways to address those things and try to improve the achievement levels of those students in order to lift the performance of the whole system. And to do that, we need to look at why those are occurring, what we can do to stop them and look at things like teacher output and things like that.

RV: Your team is preparing the second PISA report on equity in education, students' science motivation and beliefs, and the school learning environment. You're also working on data from the PISA 2015 cognitive assessment, which included collaborative problem solving, and another test students undertook on financial literacy and I understand those reports are due to be published in 2017. It would be great to catch up with you again for an update, but for now, Dr Sue Thomson, thanks very much for sharing your expertise with *Teacher*.

ST: My pleasure.

That's all for this episode of Global Education. For more on PISA 2015, check out the podcast transcript and related reading at our website, www.teachermagazine.com.au. To download all of our podcasts for free, visit acer.ac/teacheritunes or www.soundcloud.com/teacher-acer.