Stronger Smarter Institute
Research & Impact Footprinting
Reading Review - Summary

TIMSS 2015 and PISA 2015

Thomson, S., Wernert, N., O'Grady, & Rodrigues, S. (2017). TIMSS 2015: Reporting Australia's results. Australian Council for Educational Research.

Thomson, S., De Bortoli, L, & Underwood, C. (2017). PISA 2015: Reporting Australia's results. Australian Council for Educational Research.

This Reading Review provides a summary and review of two reports released by the Australian Council for Education Research (ACER) in 2017

▶ The Trends in International Mathematics and Science Study (TIMSS) is an international comparative study of student achievement.

▶ The Programme for International Student Assessment (PISA) is an international comparative study of student achievement directed by the Organisation of Economic Cooperation and Development(OECD). PISA measures how well 15 year olds are prepared to use knowledge and skills in particular areas to meet real-life opportunities and challenges.

In Australia, Indigenous students have significantly higher awareness of environmental issues, and more knowledge of how science beliefs are constructed compared to non-Indigenous students. And yet, when it comes to performance in standardised testing, Indigenous students achieve at lower levels than non-Indigenous students. Disadvantaged students and students in low socio-economic schools also perform at lower levels. In this review, we have concentrated on the factors impacting on the performance of disadvantaged and Indigenous students.

The data shows that the following have positive impacts on student performance – or can contribute to resilience (disadvantaged students who achieve in schools).

Contributing to resilience

Students

▶ Self confidence

▶ Expectations, motivation and aspirations

▶ Sense of identity and belonging at school

▶ Teachers who are interested in their learning

▶ Attendance (but only at extreme levels)

School

▶ Leadership with clear goals

▶ Positive school climate and collaboration

▶ Engaging and supportive teachers

▶ School emphasis on academic success

▶ Safe, orderly schools

▶ School resources (up to a certain level)

Family

▶ More books at home

▶ Parental engagement in schooling

▶ For Indigenous students – high family emphasis on traditional knowledge

Stronger Smarter Recommendations and Provocations

Implications for policy makers and educational systems

It is time to stop talking about the achievement gap and to start addressing the underlying causes. Innovative school models are needed to provide education that is relevant and recognises the diverse learning needs of students.

Metastrategies 1 and 2: Positive student identity and embracing Indigenous leadership

PISA data suggests Indigenous students have a high understanding and value of environmental and scientific issues. Indigenous parents value cultural education for their children. And yet, Indigenous students are not attending school, perhaps because they can get a better cultural education with their families. When they do attend school, they lack motivation because they don't see the relevance of studies to their future lives. They don't expect to go to university, or to get jobs that require maths and science.

If our education system is always trying to address the 'gap' with remedial, watered-down curriculum, then it will not deliver for our Indigenous and disadvantaged students. The research tells us that what is needed is to address student engagement, teacher support, positive student identity, and culturally-responsive pedagogies, and working with local Indigenous communities to provide the best support for students.

Metastrategy 3: High-expectations relationships

Schleicher (2017a) suggests that teachers often expect less of students from lower socio-economic background even if the students show similar levels of achievements. And those students and their parents may expect less too. Schleicher says it is unlikely that school systems will achieve performance parity with the best-performing countries until they accept that, with enough effort and support, all children can achieve at very high levels.

The 2016 OECD report says that training and development programs for school leaders need to emphasise the type of leadership that fosters expectations of high academic achievement for all students in their schools (OECD, 2016, p.193).

Metastrategies 4 and 5: Innovative school models and staffing models

There are significant implications for how we use school funding. Peter Adams, senior manager at PISA at the OECD, (interviewed by Chelsea Attard in Education HQ Australia) says that more teachers with the aim of smaller class sizes may not necessarily help, but providing more support, giving teachers more preparation time, and more professional development is more likely to help. Schleicher (2017a) agrees that the highest performing education systems in PISA focus resourcing on attractive teacher working conditions and careers, ongoing professional development and working balance, rather than on smaller class sizes. Riddle (2016) says that resourcing needs to go to more teacher aides, counsellors and community liaison, whole-school pedagogical approaches, parent engagement, targeted interventions and programs, as well as adjusting curriculum for the diverse learning needs of different students.