Mixed results for Indigenous students in international maths, science study

An international study of the mathematics and science achievement of Year 4 and 8 students has revealed that Australia’s Indigenous students have made improvements in some areas but still lag behind their non-Indigenous classmates.

Australian results from the Trends in International Mathematics and Science Study (TIMSS 2002/03) were released overnight by the Australian Council for Educational Research (ACER) to coincide with the release of an international report comparing mathematics and science standards in 46 countries.

The report shows that overall the achievement of Indigenous students at both Year 4 and Year 8 was significantly lower than that of non-Indigenous students.

Indigenous students did not perform as well as non-Indigenous students in mathematics at either Year 4 or Year 8. The average scores of Indigenous students in mathematics at both year levels were also significantly below the international average.

A multilevel analysis of factors influencing mathematical achievement found that Indigenous status was the second strongest influence on achievement in a negative direction.

The scores of Indigenous students at both year levels in science were also significantly lower than those of non-Indigenous students and the international average.

In Year 4 science the gap in achievement scores between Indigenous students and non-Indigenous students has worsened slightly since the round of TIMSS testing in 1994/95.

The situation is more encouraging in Year 8 science where the gap between Indigenous students and non-Indigenous students has decreased substantially since 1994/95.

The study involved around 10 000 Australian students from 414 schools across Australia. Five per cent of the Year 4 students and three per cent of the Year 8 students were Indigenous.

Indigenous results from TIMSS 2002/03 and trends in achievement since 1994/5 will be investigated further by ACER researchers and published in a separate report at a later date.

Last week ACER chief executive Professor Geoff Masters called for additional support for struggling Indigenous students after the OECD Programme for International Student Assessment (PISA) showed Indigenous 15-year-olds performing well below non-Indigenous students in mathematical, reading and scientific literacy and problem-solving.

“It is important for Indigenous students to continue to receive additional support to raise their performance levels,” Professor Masters said.

Australia’s results from TIMSS 2002/03 are reported in two volumes Summing it up: Mathematics achievement in Australian schools in TIMSS 2002 and Examining the evidence: Science achievement in Australian schools in TIMSS 2002 both by Sue Thomson and Nicole Fleming. The reports can be downloaded from the ACER website at www.acer.edu.au

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