Gender difference emerges in Year 8 science achievement

A major international study of student achievement in mathematics and science has revealed a gender gap in favour of boys in the study of science at Year 8 in Australia.

Findings 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 launch of the international reports in Boston by the International Association for the Evaluation of Educational Achievement (IEA).

TIMSS 2002/03 tested students in Year 4 and Year 8 in mathematics and science achievement including just over 10 000 Australian students.

In science at Year 8 boys were found to be outscoring girls by a significant 20 points. This represents a shift from the results of the previous TIMSS study in 1994/95 when no significant gender difference was found at Year 8.

The previous TIMSS study found there was a gender gap in achievement in Year 4 science. However this gap is no longer evident.

“It appears that there are no longer gender differences in science at Year 4,” said ACER’s chief executive Professor Geoff Masters. “However, at Year 8, boys now significantly outperform girls.”

In contrast, TIMSS 2002/03 revealed no gender difference in mathematics at either year level, which is the same as the position in TIMSS 1994/95.

In other findings, only a third of Australian Year 8 students place a high value on science, almost half that of the international average. In Australia, valuing science was positively related to science achievement.

The study also found gender differences in students’ attitudes towards mathematics and science. Males enjoyed mathematics to a greater extent than females, and they showed higher levels of self-confidence, at both Year 4 and Year 8. Similarly males enjoyed learning science more than females did at both Year 4 and Year 8, however self-confidence did not appear to become an issue until students were in lower secondary school, with no differences in self-confidence in relation to science at Year 4 but higher levels of self-confidence at Year 8 amongst males.

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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