

Go figure: maths no longer in its prime

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MATHS education is in crisis, with the number of students enrolled in a mathematics major at Australian universities declining by 15 per cent since 2001 and the number of students taking advanced maths at high school dropping 27 per cent between 1995 and 2007.

And many primary school teachers, who had dropped maths in order to try for a better tertiary entry rank, had developed "mathematics phobia" which they were passing on to their pupils.

A review conducted for the Group of Eight leading universities found the state of maths in Australia had deteriorated to a dangerous level. It concluded that in the short term there were only two conceivable responses: more remedial programs for undergraduates and graduates leaving with weaker degrees.

Nalini Joshi, a professor of applied mathematics at the University of Sydney, said the situation was a "looming disaster".

"The trouble is the decline in the number of qualified teachers," she said. This led to a "lack of inspiration" for students who responded by turning their backs on the subject. "As a result, the pool of people available to replace those teachers is dropping ... [It's] a vicious cycle."

The review, chaired by the former University of Sydney vice-chancellor Professor Gavin Brown, found the proportion of year 12 students taking the lowest level of maths - elementary - had increased by almost 30 per cent between 1995 and 2007 while those doing intermediate and advanced levels both fell.

It also said that many maths teachers were underqualified - 40 per cent had not done three years of university study in maths (up from 30 per cent in 1999).

Maths and statistics graduates are employed in a range of fields, including environmental science, meteorology, psychology, health sciences, geography, economics, finance and business. But many students still felt maths was not "useful", the review found.

Already the CSIRO and the Bureau of Statistics have expressed concern about whether they will be able to recruit enough graduates to replace retiring staff, let alone to cover any growth in demand. And official government estimates have predicted demand for these graduates would grow at an annual rate of 3.5 per cent between 2006 and 2013.

The review's recommendations include introducing a maths component to primary school teacher training, increasing remedial programs and reviewing science teaching in universities.

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