

The Hon Julia Gillard MP  
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Dear Prime Minister

Demand for mathematics and statistics graduates is predicted to grow in Australia by 3.5 per cent annually until 2013. Recently, however, the Group of Eight Universities published a review which revealed a 27 per cent decline in the number of high school students taking advanced mathematics studies between 1995–2007 and a 15 per cent decline in the number of students enrolled in mathematics majors in universities during 2001–2007.

Mathematics is critical to modern life. In recognition of this, countries such as the UK and USA are implementing action to reverse similar declines in their countries. In the USA, President Barack Obama announced a national STEM (science, technology, engineering, and mathematics) initiative in November 2009 and earlier legislation established a program called "10,000 Teachers, 10 Million Minds" to improve the education of mathematics and science teachers.

The discussions surrounding the *Australian Curriculum: Mathematics* have highlighted some significant challenges confronting mathematics teachers in schools and universities, school leaders and mathematics and numeracy co-ordinators, mathematics teacher educators and researchers, and policy makers. These challenges include:

- the shortage of mathematics graduates entering teaching;
- the numbers of those teaching mathematics at junior secondary level who neither studied university mathematics nor mathematics pedagogy;
- the wide diversity of mathematics achievement among students;
- the over representation of particular groups of students in those who are not successful, especially Indigenous, low income background, and rural and remote students;
- focussing the mathematics and numeracy curriculum for the needs of the 21st century; and
- ways of structuring teaching to maximise the learning of all students.

The development and implementation of the *Australian Curriculum: Mathematics* provides an ideal opportunity for governments to take steps to address such issues.

We recommend that the newly elected Australian Government immediately establish an expert group, including representation from our associations, to advise on specific government initiatives to:

- attract more suitable mathematics graduates to teaching;
- reverse the decline in students studying mathematics at post compulsory years and at university;
- structure and fund programs to educate those currently teaching mathematics who have not been trained for that;
- plan teacher learning initiatives that address the key issues facing Australian students, particular those focusing on educating all students, and overcoming barriers faced by particular groups of students.

We recognise that there have been some important initiatives previously but they have either lacked the funding or government commitment, and much more positive action must be taken to address this situation. This expert group would identify the aspects of the problem most amenable to action, advise on scope and funding of initiatives, and determine targets for success for those initiatives.

Yours sincerely,



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