Australian Curriculum for Mathematics: Overdue Reform or Same Old Same Old
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Curriculum reform is always front-page news when it comes to a traditional disciplinary area such as mathematics.

While it might seem that the subject matter of mathematics is universal, highly procedural, and unquestionable in structure and rigour, changes to what and how mathematics is taught have been happening in many countries for some time now.

The proposed changes to the Australian curriculum for mathematics is in keeping with these changes.

One of the obvious dimensions to the issue of Australia and mathematics is the well-publicised decline in the performance of our students in the international comparative assessments such as PISA and TIMSS.

The continuing high performance of countries in international tests, including Singapore, the Canadian provinces, Estonia and South Korea, can be attributed to a number of factors which include giving more focus and time to understanding and developing students' capacity to solve problems and other transformational skills. Singapore's policy position of "teach less, learn more" is an example of the commitment to deeper learning such as that being enabled through the proposed Australian Curriculum.

While other subject areas have shifted over time in course structure, focus and content across the globe, powerful **stakeholders** in mathematics in Australia have successfully, in the main, kept things as they are for decades.

No other subject causes the kinds of anxieties, frustrations and disengagement that mathematics does or divides learners into those that get it – and actually enjoy it, those who manage and persevere, those who struggle through and those who readily drop it when that option is available.

The changes proposed by the Australian Curriculum, Assessment and Reporting Authority (ACARA) are logical and timely. Enabling deeper learning with an emphasis on understanding, and developing in students a “feeling for mathematics” are unapologetically aimed at improving the capability of all young Australians in mathematics through the curriculum.

For many young learners, memory gets you so far in mathematics but as the pages turn on the curriculum, or indeed the text book, understanding is needed, not simply memory, the simple parroting of times tables and the application of practised procedures.

Allowing deeper learning of the fundamentals of mathematics, rather than fast paced coverage of content, early in a child’s schooling is sound. This is because the “building blocks”, need to be secure before more abstract concepts are introduced.

One proposed change that has generated considerable debate is the emphasis given to problem solving in mathematics. While some do not support the proposed change, the reality is that developing students’ capacity to solve mathematical problems should be an unquestionable goal.

Some people, of course who love the subject deeply, marvel at its purity and beauty and refer to proof as “elegant”, however, the major reason we all need to learn mathematics is to solve and resolve problems.

For many who use mathematics in their day jobs there is a stark difference between what they know mathematics to actually be, and what students are taught in schools. In other words, there is real maths and there is school maths, largely framed over years by entrenched conventions.

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Problems in the real world are not like word problems in textbooks. Real problems require the capacity to select from several possible strategies, arise in both familiar and unfamiliar contexts, and often need to be framed in oral rather than written language.

It will be interesting to see what the final result is for the Australian Curriculum this time around. Getting the sign-off from the nine education ministers in Australia takes a deal of effort particularly when the proposed changes are seen as more than minimal.

Will the Ministers sign off a curriculum focused more on the competencies and jobs of the future, and in keeping with future schools? A curriculum aimed at bringing relevance to what is taught, increasing competency levels and engaging more students in mathematics, or will they buckle to convention and largely settle for same old same old? Time will tell.

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