Order of Australia for Peter Taylor

Emeritus Professor Peter Taylor was awarded an Order of Australia in the Queen's Birthday Honours on Monday 8 June.

Peter became an officer (AO) in the general division for 'distinguished service to education, and to youth, particularly through the development of mathematical competitions and challenges for students, as an academic, and to professional learning associations'.

Peter studied at the University of Adelaide for eight years, completing a PhD under the supervision of Ernie Tuck. His thesis involved some modelling of shallow water ship hydrodynamics, solving singular integral equations and matching asymptotic expansions. This later had some applications, for example at the Bougainville mines, where large ore carriers had to be moored in exposed positions.

On graduation, he obtained a job as an Assistant Lecturer at the Canberra College of Advanced Education (CCAE), now the University of Canberra, where he remained for 41 years. In the early days, CCAE was a rapidly growing teaching-only institution. Peter was kept busy, developing lecture materials. This led him to the Open University in 1978, where he worked with Oliver Penrose (brother of Sir Roger), developing materials for the Applied Mathematics courses, with a heavy accent on mathematical modelling. He co-authored with Oliver the first book on Differential Equations for this new course and was later contracted to write the book on Linear Programming. He also recorded the audiotape for the Differential Equations section. This relationship with the Open University continued until the early 1980s, by which time another interest had taken over.

Peter O'Halloran from CCAE had discussed with him in 1972 the mathematics competitions he had seen in Canada and the US, and how he would like to try the idea in Australia. Many students who don't necessarily go so well in the classroom, can discover talent by taking part in local enrichment activities. Although maths was not always a popular subject, it could be one that many excelled in, and competitions have helped many young people to realise this.

Together they decided to conduct a mathematics competition in Canberra in 1976. Over time, this expanded nationally. The questions in the Australian Mathematics

Competition were always moderated to ensure that as much as possible the mathematics needed in order to solve a problem was within the classroom curriculum, but the problems might be set in contexts which were quite new to the student, and designed to test the student's ability to adapt to that situation, as we all have to in everyday life. So an event like the AMC might identify different students than those who stand out in the confines of normal testing, and include those who might have greater creative ability and who may develop positively given the right circumstances. The AMC, despite careful checking of formal syllabus content, is a true competition rather than a test, in that it can be a major part of classroom preparation beforehand, and provide rich material for classroom discussion, on the judgement of the teacher, in the weeks following. This process is also commonly referred to as mathematical enrichment, and it is expected that the opportunity to participate in the AMC will provide a maturity which helps in later tertiary study or is useful in employment. Likewise the Olympiad programs give students who have demonstrated higher ability, or who wish to participate further on their own initiative, the opportunity to greatly broaden their mathematical knowledge beyond the syllabus without needing to go to a higher class to avoid boredom.

In 1992, the Australian Mathematics Trust was formally started as a merger between the Australian Mathematics Foundation Limited and the Australian Mathematical Olympiad Committee. Peter remained its executive director for 18 years. The AMC, AMOC, Tournament of Towns, and the activities of the Trust increasingly dominated his working life.

In 2002, together with Ed Barbeau of the University of Toronto, Peter was appointed co-editor of the International Commission on Mathematical Instruction's 16th Study, entitled Challenging Mathematics in and beyond the Classroom. It was initially designed to study the inter-relation between competitions and the normal education system, but ICMI gave it quite wide terms of reference to include any type of challenge, including for example exhibitions, mathematics days, maths camps, publications, etc. The study was completed in 2009, and consists of eight papers by 45 authors.

The Trust and its predecessors were founded explicitly in response to a need to add value to the school learning experience, not to replicate it nor write texts nor provide instruction within the curriculum. Nevertheless, Peter also has a longstanding interest in curriculum development. He chaired AMSI's Education Advisory Committee from its inception and was deeply involved in the planning and execution of the seminal workshops on 'Teacher Content Knowledge and Materials for Schools'. Peter guided this work and other early initiatives such as the first edition of the ICE-EM Mathematics books. He has also overseen AMSI's response to the Australian Curriculum; the creation of the teacher resource modules; the launch of the 'Maths: Make your career count' campaign; the collaboration with CSIRO to produce 'Maths by Email'; and the 'Mathematicians in Schools' program.

In short, he has been instrumental in developing enrichment activities and in helping thousands of students recognise their own talent for mathematics.