

## Submission to House of Representatives Inquiry into Teacher Education

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### **Inquiry Term of Reference 1: *Criteria for selecting students for teacher training courses***

Most Australian universities specify a minimum level of school mathematics achievement in their admissions criteria for primary teacher training courses (typically in Victoria it is a “pass” in a year 11 mathematics subject). However, school mathematics subjects vary greatly in content and standard and such prerequisites do not provide fine detail about mathematics subject matter knowledge that it is essential for *primary teachers* to possess.

It is mandatory in the United Kingdom for teacher education courses to provide evidence of secure subject knowledge of students during their training (Teacher Training Agency, 2003) and all beginning teachers must pass a numeracy test (as well as literacy and information and communication technology tests) to gain qualified teacher status by the end of their induction period. Some states in the US use professional assessments of reading, mathematics and writing for beginning teachers as part of their teacher licensure process (Gitmer, Latham & Ziomek, 1999; Study Guide for the Pre-professional Skills Test, 2003).

Accordingly, it may be of interest to the Committee to know that ACER has recently developed, in conjunction with the Department of Science and Mathematics Education at the University of Melbourne, a test that can be used both as a tool to aid selection into primary teacher training courses and as a test of the “basic skills” of entrants to such courses. The *ACER Teacher Education Mathematics Test* (TEMT) (Ryan & McCrae, submitted) can provide an alternative means of satisfying the mathematics entry prerequisites for primary teacher training course for both Year 12 students and others (e.g., graduate and mature age applicants who have not recently attended secondary school).

TEMT is designed to test the mathematical attainment of prospective and beginning primary trainee teachers, *and* to uncover errors, misconceptions and strategies in order to provide diagnostic feedback. A “primary teacher mathematics curriculum” was first constructed from a consideration of State curricula, *Mathematics - A Curriculum Profile for Australian Schools* (Curriculum Corporation, 1994) and the UK *Initial Teacher Training National Curriculum* (Department for Education and Employment, 1998; Teacher Training Agency, 2003). Next, a “framework” for TEMT was developed to assess both substantive and syntactic knowledge of the constructed curriculum. This framework can be used to produce multiple versions of the test.

TEMT is a multiple-choice test. This facilitates the wide coverage of material and rapid scoring of student responses. Each item has three or four distracters, with diagnostic coding for most distracters. A range of mathematics education research on children’s and teachers’ knowledge and errors informed the specification of the TEMT items and distracters.

**References**

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- Ryan, J. & McCrae, B. (submitted). Subject matter knowledge: Mathematical errors and misconceptions of beginning pre-service teachers. Paper submitted for presentation at the 28<sup>th</sup> Annual Conference of the Mathematical Education Research Group of Australasia (Melbourne, July 2005).
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