



National system for the accreditation of pre-service teacher education programs - Proposal for consultation:

A response from the Australian Association of Mathematics Teachers

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Summary

The Australian Association of Mathematics Teachers (AAMT) supports the development of these national standards as another component of the emerging national 'architecture'. It is pleased to respond to the Consultation Proposal and its main comments summarised as follows:

- the Graduate Standards are too detailed and set unrealistic expectations;
- entry standards based on year 12 performance in mathematics are welcome, but need to be more rigorously applied – the AAMT does not support the proposal that programs need only to demonstrate that their graduates meet the entry requirement at the end of the program;
- the expectation for discipline study in mathematics for primary and middle school pre-service teachers is also welcome, but further work needs to be done to elaborate the appropriate mathematics for these programs; and
- forming partnerships with professional associations should be considered for inclusion in the Program Standards.

Introduction

The AAMT welcomes the opportunity to provide input to the shape of a national system for the accreditation of pre-service teacher education programs. Most of the proposed system relates directly to the university sector. Whilst a number of AAMT members work in that sector and will doubtless have views on the matters raised in the Consultation Paper, this response focuses on the relatively small number of matters in the document that relate directly to the interests and concerns of our members.

Graduate Standards

General comment

The AAMT provided feedback on the Draft National Professional Standards released for consultation earlier in 2010. We note that some changes have occurred since that consultation period.

The AAMT has some fundamental concerns with the form of the standards being developed currently. One of these is that the number of descriptors (37) leads to a representation of teaching that is 'atomistic'. This is at odds with the complexity and interconnectedness of teaching.

Further, the insistence that there be a descriptor at each level is not helpful. In the case of the Graduate Standards this leads to some clear problems. In a number of cases, Standards 3, 4 and 5 (Professional Practice) go beyond what can reasonably be guaranteed within a teacher's pre-service education. For example, in the course of a few relatively short practicum placements it does not seem possible to expect that someone can "Understand and apply effective approaches to manage challenging behaviour" (4.3) in any meaningful way.

As a consequence, the expectations identified in the Graduate Standards would appear to be challenging for established teachers, let alone those at the graduate level. We note that AITSL is undertaking a validation of the standards that is designed to identify these issues of feasibility. We would urge that the

number of descriptors be decreased significantly to include only those that are vital for the career stage, and achievable for graduates.

Program Standards

Standard 3: Program entry requirements

Paragraphs 3.1 & 3.2

The AAMT agrees that a minimum entry standard in mathematics is desirable and applauds the establishment of national uniformity. However, it is well known that there is a wide variety in the standard of course in mathematics in current Year 12 offerings. Efforts to identify 'equivalent scores' need to be mindful of this.

Whilst it is not in place yet, Course B is the appropriate course in the proposed Australian Curriculum: Mathematics in which the 70th percentile cut-off would be appropriate. Course B has been specifically designed for further studies in education, where mathematical knowledge facilitates problem solving and decision making. As it covers the key content strands that appear in the draft K-10 Australian Curriculum: Mathematics, it would form a sound basis for all pre-service teachers. This could be used as a guide to the work that needs to be undertaken.

It is of great concern that a program will be deemed satisfactory if students who are given entry with scores below the cut-off can be shown to meet the entry requirements on graduation. Having minimum standards for Mathematics (and English) indicates that some facility in these subjects is necessary to begin the teacher education courses. Hence the program standard should be that students who do not meet the requirement in Mathematics on entry should do so before they start the course proper.

Bridging or similar programs will have to be provided by those universities that choose to accept students below the benchmark level of achievement in Year 12 Mathematics (or its equivalent). For the participants to reach the equivalent of the original entry requirements, these programs would need to be of sufficient rigour and length. It may be possible to integrate such programs within the coursework.

Paragraph 3.3

The entry requirement of a 'discipline specific qualification' can be liberally interpreted. There needs to be careful consideration given to the content of the graduate's previous study when granting status for entry. The relevance of a graduate's mathematics background to his or her prospective role in schools is critical, and of particular concern in the secondary setting.

Are there practical and effective means for ensuring that entrants "have demonstrated an aptitude and a commitment to teaching"? Having this sort of 'screening' on entry would seem to be a very good idea, if it can be done efficiently and fairly.

Standard 4: Program structure and content

Paragraph 4.3

The AAMT applauds the expectation that primary pre-service teachers will undertake "tertiary study in the (English and) Mathematics disciplines". This raises the question of what that mathematics should be. The work of Brown et al¹ identifies that it is not *how much mathematics* a primary teacher knows, but *how they know it* that influences their capacity to teach the subject well. Thus the content and orientation of these tertiary studies in Mathematics need to be explicit for each level of schooling.

¹ Brown, M., Askew, M. etc...Kings College study...(Ref)

We note that there will be supplementary materials developed to support the effective implementation of these Standards. The AAMT believes that well-grounded advice about the content and focus of the mathematics that primary pre-service teachers study should form part of that advice, and would be pleased to contribute to the work to develop this advice.

The mention of teachers with “specialist requirements” raises the possibility that pre-service primary teachers may undertake further discipline studies in mathematics to become specialist primary mathematics teachers. This is a development that has been mooted in some quarters as a way of improving the quality of mathematics teaching in primary schools. The level of these further studies should be equivalent to at least a minor study (second year level; as identified in the section on secondary teachers). Again, these studies should be designed to be appropriate for the end destination, and therefore would not necessarily be (in fact almost certainly not) the same as secondary pre-service teachers might study.

The requirements for those preparing to teach Mathematics in a secondary school seem appropriate. We note the intention for the lesser requirement in a second discipline or minor study. This is only acceptable if such teachers are restricted to teaching mathematics in the junior secondary years (up to year 10). The content and orientation of any minor study should also be explicitly related to the requirements of teachers of middle and junior secondary teachers.

This identification of a minor study as the prerequisite for teaching in the junior secondary years brings into question the suggested requirement for those preparing to teach in a middle school setting. Since these teachers will, presumably, be teaching mathematics in Years 7-9 they should also undertake discipline studies in Mathematics at the minor study level. Again, these studies should not necessarily be the same as those undertaken by pre-service secondary teachers, and the content and orientation of the mathematics must be relevant to the level at which they intend to teach.

Standard 5: School partnership

General comment

This is a general comment that identifies a component of good programs that may have been overlooked. In a very real sense, professional associations provide a sustainable professional network that teachers can be part of and contribute to throughout their careers. There should be ongoing links between students and teachers through the professional associations during their pre-service preparation and beyond.

The AAMT is aware of programs that currently establish partnerships with professional associations. These relationships provide pre-service teachers with important connections to the professional community they intend to enter. The AAMT would hope that this sort of expectation could be included in the Standards.