

National review of teacher registration

AMSI Submission

The Australian Mathematical Sciences Institute (AMSI) has a mission to deliver radical improvement of the mathematical sciences capacity and capability in the Australian community through:

- The support of high quality mathematics education for all young Australians;
- Improving the supply of mathematically well-prepared students entering tertiary education by direct involvement with schools;
- The support of mathematical sciences research and its applications including cross-disciplinary areas and public and private sectors;
- The enhancement of the undergraduate and postgraduate experience of students in the mathematical sciences and related disciplines.

AMSI achieves this through engagement activities across three program areas: Schools, Industry, and Research & Higher Education. Working with its membership and a dedicated professional team, AMSI has proven mathematical and pedagogic expertise to deliver education programs of the highest quality in urban, regional and remote areas of the country. AMSI was founded in 2002 and is an unincorporated joint venture based at the University of Melbourne, which acts as lead agent on its behalf. AMSI has an outstanding record in building partnerships with government, industry, schools and academia as evidenced by its membership base. Additionally, AMSI is the trusted advisor in mathematics to State, Territory and Commonwealth education policy makers. www.amsi.org.au

As per the Terms of Reference for this Review, in this submission AMSI will make particular comment on:

Many of the difficulties that have bedevilled school mathematics in Australia over the last 25 years are the unintended consequences of poor planning and uncoordinated decision making. The absence of data around the teaching workforce has been a major contributor. If the demographics of the teaching workforce were understood we would know the graduation rates of secondary mathematics teachers, the attrition rates and the geographic distribution of out-of-field teaching in one blow. This would have a significant impact on the strategic planning for the national revival of school mathematics.

1. How the current national registration framework is operating, including consideration of all elements of the framework, in terms of implementation, consistency, best practice and challenges and barriers.

Data collection – Teacher Qualifications

Understanding any system and how it functions cannot occur without data and analysis. This is particularly true of the teaching workforce. When a teacher graduates, the data collected about their qualifications is limited to their most recent area of study, which in most cases is a teaching qualification: a Graduate Diploma of Education, Bachelor of Education or the like. The underlying discipline qualification is not recorded, so we do not have a clear picture about any discipline area shortfalls, or the extent to which teachers not qualified to teach a particular subject (known as out-of-area teachers) are teaching it.

Australia does not have a picture of the extent of out-of-area teaching, particularly in hard-to-staff subjects like mathematics. Current numbers and geographic distribution of out-of-area teachers are unknown. Without this information, targeted national or jurisdictional programs to deliver professional development and qualifications to these teachers cannot be undertaken.

Anecdotally AMSI understands that hard-to-staff subjects, such as mathematics, are even more challenging in regional and remote areas, but the extent of this problem is generally unknown across the country.

AMSI would like to see such fine level of detail in the data collection so as to be able to make recommendations to students intending to be teachers and to the schools themselves about employment. We would like the teachers to describe their discipline specialty in detail nominating their top three discipline subjects and the percentage of the load that was taken in 1st, 2nd and 3rd year. Without this information national or jurisdictional measures to raise teacher graduation rates in hard to fill subject areas cannot be undertaken.

Professional Learning

AMSI would like to see Professional Learning tied to the subjects taught. We know that many teachers who are not considered mathematics faculty in their schools, but are nevertheless teaching mathematics, do not attend professional learning in mathematics. This puts them at a double disadvantage. If the teacher registration framework registered discipline specialities and maintained current records of subject taught the teachers and their principals can be kept up to date with professional learning opportunities, both for in-field and out-of-field teachers.

Early childhood educators

Since early childhood educators can teach students well into their primary school years, many schools employ such teachers. Some early childhood courses graduate teachers to teach to 8 years of age, which is well into primary school. Once in the school, the Year level taught can be outside of that



specified by the initial qualification and is never monitored. AMSI recommends that this also be documented.

AMSI also asks the question: Will the ATAR of 70 rule apply to early childhood registered teachers also?

2. The extent to which the Australian Professional Standards for Teachers (Teacher Standards) are used to drive teacher quality in the implementation of the 2011 national framework, and how this could be further strengthened.

What records are currently being kept with regard to the currency of discipline and pedagogy expertise?

3. Recommended improvements to the arrangements for teacher registration in Australia, with a focus on:

I. The current arrangements under which registration operates

II. Any enhancements required to embed the Teacher Standards and strengthen teacher quality.

What is needed is a comprehensive and current data set about the national performance in teacher qualifications. This data collection should be updated annually and include information about individual teacher's:

- Discipline specialisation(s)
- Pedagogy specialisation(s)
- Year of graduation
- Courses undertaken subsequent to undergraduate and initial teacher qualifications
- Subjects and Year levels taught
- Professional Learning (accredited and non-accredited) undertaken

4. Options for implementation of the recommendations, taking into account legislative, regulatory, administrative and resourcing contexts.

The AMSI Recommendations about data collection require very few administrative costs. The analysis would add the understanding jurisdictions have about the teaching workforce, and lead to structural improvements.

Will Australian Teacher Workforce Data Strategy (ATWDS) and unique student identifier [page 45 STEM Partnerships final report] address this? We are a long way off this material being collected, as our understanding is that this program will not begin until onto the future. AMSI recommends that the data collection be addressed immediately as a matter of national urgency.

5. Expected benefits and success measures of implementing the recommended reforms to teacher registration.

Knowing the workforce means that deployment of teachers can occur more efficiently. Most importantly shortfalls in numbers can be monitored, and encouragement can be made through incentivisation programs to encourage more students to undertake courses in hard to fill subject areas.

The current national framework does not allow for the exact qualifications, and therefore and shortcomings in the system, to be well understood. AMSI recommends data collection, collation, dissemination and analysis.

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