



The Mathematical Association
Supporting Mathematics in Education

On the issue of **Subject Knowledge** we say ...

- *Excellent subject knowledge and pedagogic subject knowledge is essential for all teachers of mathematics, whether in Primary, Secondary or Post-16 institutions*
- *An immediate national initiative to improve the subject knowledge of Primary teachers and non-specialist Secondary and Post-16 teachers is imperative*

The Mathematical Association believes it is essential that all teachers of mathematics possess deep, comprehensive and robust subject knowledge and pedagogic subject knowledge that extends well beyond the level at which they teach. A sense of the interconnectivity between apparently disparate strands of mathematics and a thorough understanding of the diversity of its applications can equip teachers to inspire and enthuse their pupils and allow them to pass on a lifelong love for the subject.

The importance of developing mathematically fluent, confident and knowledgeable Primary practitioners cannot be overstated as they are responsible for the formative mathematical education of all young people up to the age of 11. We welcome the decision to award higher bursaries to Primary trainees with a good grade in A Level mathematics who become mathematics specialists and aspire to the time when every Primary school has access to such expertise. Unfortunately, even though the new Primary curriculum is associated with increased demand, a training place in England can still be secured with no formal mathematics qualification beyond GCSE grade C and a Numeracy Test pass. There is a pressing need for a higher minimum expectation for English Primary trainees and an immediate step in the right direction would be to follow the example set by the Welsh and Scottish Governments and introduce a GCSE grade B requirement (or equivalent). Once the new Core Maths qualifications have become established, it may be appropriate to introduce a post-16 mathematics requirement for all Primary trainees.

Rapid change is producing pressure on every phase of education. The combination of a new curriculum, GCSE and A Level Reform, the introduction of Core Maths and alterations to Post-16 funding is certain to create an increase in demand for new mathematics teachers and it is vital that this growth is well managed so that the quality of the workforce is not diluted.

In an ideal world every new Secondary mathematics teacher would hold a good degree in mathematics or a subject with a high mathematical content. The policy of offering attractive bursaries and scholarships to these graduates has not yet been sufficient to recruit the numbers required so it is essential that rigorous Subject Knowledge Enhancement courses continue to be provided where appropriate. It would be cost-effective for the Government to encourage, and over time expect, non-specialist teachers of mathematics to upskill by fully funding similar courses specifically designed for this purpose. Deep reflective engagement with professional demands enhances teacher commitment and job satisfaction and therefore their retention: this is a critical issue in mathematics education.

We note that Secondary mathematics training bursaries are now being offered to numerate graduates with third class honours and ordinary degrees and Teach First Secondary mathematics training places allocated to graduates who have not studied the subject at all beyond A Level. It is essential that teachers following these pathways are offered additional support and opportunities to improve their subject knowledge as their careers develop.

