



## 16-19 Funding Formula Review

The Advisory Committee on Mathematics Education (ACME [www.acme-uk.org](http://www.acme-uk.org)) is an independent committee, based at the Royal Society and operating under its auspices, that aims to influence Government strategy and policies with a view to improving the outcomes of mathematics teaching and learning in England and so secure a mathematically enabled population. The response to this consultation has been informed by input from the mathematics community through the ACME Outer Circle, a group assembled to encompass a breadth of knowledge, support and influence which we consult on key issues. Our response is focused on mathematics.

### Introduction

We warmly welcome the recognition in the consultation that too few people study mathematics after the age of 16. This reflects a key message from ACME's recent *Mathematical Needs* reports<sup>1</sup>.

The notion of a 'coherent programme of learning' (referred to in the introduction to the consultation) is one that ACME strongly supports. Mathematics is an essential part of any coherent programme of post-16 study. Appropriate mathematical pathways are needed and the learners should be encouraged to select a suitable pathway for their likely future destination. In August 2010, ACME produced a position paper called *Post-16 in 2016*<sup>2</sup> which set out the different mathematical pathways that are needed to allow all young people to continue with the subject post-16. In particular we recommended the adoption of an overarching framework for a coherent programme of learning. These issues are described further in our response to the parallel consultation on Study Programmes for 16-19 year olds.

The issues of changes to post-16 funding and the need for appropriate pathways to exist are intertwined, and we welcome the move to undertake parallel consultations on these areas. In an ideal world, decisions by providers about the curriculum offered would be independent of the prevailing funding formula. Unfortunately, providers' offerings are very strongly influenced by the funding model (as well as the overall level of funding), and especially so in times of financial stringency.

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<sup>1</sup> ACME Mathematical Needs reports: *Mathematics in the workplace and in Higher Education* and *The Mathematical Needs of Learners*, June 2011: <http://www.acme-uk.org>

<sup>2</sup> Post-16 in 2016 : proposals for 16-19 Mathematics in anticipation of the review of qualifications scheduled for 2013 with resulting changes to be implemented from 2016: <http://www.acme-uk.org/media/4209/acme%20position%20paper%20-%20post-16%20in%202016.pdf>



ACME would like the Department for Education to consider and ensure that proposals aimed for vocational programmes are not applied uniformly to academic programmes and vice-versa.

### **Funding per learner**

We agree that the current funding system too often leads to schools and colleges encouraging students to accumulate large numbers of qualifications, rather than develop truly coherent programmes based on appropriate content and progression value. The Wolf report correctly recommended that funding for full time students age 16-19 should be on a programme basis, with a given level of funding per student, rather than per qualification.

The Wolf report also recommended that students who are under 19 and do not have GCSE A\*-C in English or mathematics should be required, as part of their programme, to pursue a course which either leads directly to these qualifications, or which provides significant progress towards future GCSE entry or success. However, neither the current system nor the new proposals allow flexibility for students to study GCSE (or an appropriate alternative) over different time periods with greater input in terms of hours; for example, some students may require 4 hours per week over one year and some 4 hours per week over 2 years.

### **Supporting enhanced and large programmes**

In principle, we believe that the most talented students should not be treated as ‘problems’ by the funding system – they should not be a financial burden on their college. However, there is no advantage to a learner to accumulate excessively large numbers of qualifications when a smaller number of what the Russell Group refers to as ‘facilitating subjects’ would be more appropriate<sup>3</sup>.

ACME recommends that the funding system should have some flexibility for larger programmes of study to be supported where appropriate, and noting in particular that Mathematics or Further Mathematics is often studied as a fourth or fifth AS/A-level.

Option 1 (Funding all full-time learners at the same rate) has the potential for a significant negative impact on Mathematics and Further Mathematics. These subjects are frequently studied by future mathematicians and scientists and it is important there are not significant disincentives to this as it can ensure that their study programme is coherent and appropriate to their destination. Proposals for funding should ensure that Further Mathematics can continue to be encouraged as part of a coherent programme of study – possibly by including an explicit provision of additional funding for students to supplement their study with additional ‘facilitating subjects’ such as Further Mathematics.

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<sup>3</sup> Russell Group: Informed choices: <http://www.russellgroup.ac.uk/informed-choices.aspx>

Of the three options presented for supporting enhanced and large programmes, ACME broadly supports Option 3 (Funding to recognise different programme sizes). However, we recommend that the definitions for *basic*, *enhanced* and *large* programme be revisited because the size ascribed to the large programmes in the proposals is too large (5 or 6 A-levels) and considers all subjects and qualifications to be of equal status. In addition, the suggestion that the additional funding for larger programmes should only be available to providers if the majority of their learners undertake such programmes should be seriously reconsidered. This could be particularly detrimental to mathematics as those taking Further Mathematics as part of a larger programme are unlikely to form a majority of the cohort.

The focus should be on ensuring that post-16 funding mechanism for schools and colleges does not inadvertently result in a drift away from offering facilitating subjects such as mathematics or from providing stretch and opportunities for achievement for their more able students.

Clarity is needed on whether two AS-levels are equivalent to one A-level for funding purposes, as this is not made clear in the consultation document. Nor is the status of General Studies or Critical thinking clear within the proposals.

### **Proposed changes to subject weightings**

We are pleased that there is a continuing recognition that some subjects are more costly to deliver than others, and that this needs to be reflected in subject weightings. However, we are concerned that the proposed simplification to the weighting system goes too far.

Removing the 12% uplift for lab-based subjects will impact on uptake of physics and chemistry at A-level, which in turn may reduce the numbers studying mathematics to support these subjects.

The proposed change would impact most on providers with high STEM participation – these are surely the institutions that the government is seeking to support<sup>4</sup>.

### **Success funding**

ACME acknowledges that the current element of the funding formula relating to success can create perverse incentives which encourage providers to make conservative or ‘strategic’ choices in their provision. Moreover, the current weighting given to success provides an incentive for a school or college to have as many passes as possible and therefore encourages a policy of ‘teaching to the test’ (which tends to limit understanding and does not provide a secure foundation for further study).

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<sup>4</sup> The Government White Paper, ‘The Importance of Teaching’, paragraph 4.25 (page 45).

We recognise that the proposals to modify the success factor aim to reduce or eliminate those perverse incentives, and consider each in turn:

- **Option 1 (Continue to recognise success):** Option 1 will allow institutions to retain provision but there is a risk that it will provide incentives for reduced quality of provision (for example by increasing class size or cutting class time). There would also be less incentive to support borderline students, which could contribute to narrow participation in mathematics, which is already often perceived as being only for the more able students.
- **Option 2 (Remove the success factor completely):** One of the advantages identified under Option 2 is that it would allow for the allocation of resources to providers with poor success rates, which would enable them to improve. ACME is concerned that this option does not include a proposal to assess the capacity of those institutions to improve. The removal of a financial incentive to improve could also allow other institutions to rest in mediocrity.
- **Option 3 (Remove the achievement element, but keep the retention element):** This option puts a premium on learner engagement, but possibly encourages recruitment to courses where difficulty is less apparent and away from those where there is more overt challenge, such as science and mathematics.

ACME believes that a suitably constructed success element could assist with curbing a drift towards larger programmes that are inappropriate or do not provide suitable progression for students. However, to achieve this, the current proposals would need to be modified to allow for a more subtle measure of success. This measure of success should bring together retention and achievement, as well as value (as determined by downstream link to further study/employment).

The measure of success should not dissuade providers from offering Mathematics or Further Mathematics A-level.

### **Cumulative impact of the proposals and the wider funding context**

ACME believes that the proposals should be viewed within the wider context of other previously announced funding reductions within the sector. Existing cuts include the reduction of entitlement funding (approximately 10% of the funding for an A-level student), reduction of the cap (leaving more large programmes not fully funded)<sup>5</sup>, the increase in VAT and other increased costs. Cuts already in train represent a 25% real terms reduction over the period 2008-13 in the Further Education (FE) and Sixth Form College (SFC) sectors (albeit not uniformly distributed across providers). Schools are also facing convergence of FE and SFC funding by 2015 which represent around 20% cut on average in 16-19 funding.

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<sup>5</sup> See also ACME's letter to Nick Gibb 14 July 2010: <http://www.acme-uk.org/media/3941/fe%20funding%20letter%20july%202010.pdf>



We believe that under the proposed changes, some institutions could be facing a *further* budget cut of up to 50%<sup>6</sup> from the cumulative effect of the proposals in this consultation. Although each of the current proposals is modelled in the appendices, we are concerned that there is no consideration of what the cumulative impact of the changes – this needs to be analysed thoroughly before any changes are introduced.

ACME is especially concerned that institutions with high level of participation in STEM subjects will suffer the most under these proposals.

**Advisory Committee on Mathematics Education  
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<sup>6</sup> Young People Learning Agency, Elizabeth Baines, Association of Colleges conference, 2<sup>nd</sup> November 2011.