



# 16 -19 Funding Formula Review

A SCORE response to the Department for Education consultation document

4 January 2011

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1. SCORE is a partnership of organisations, which aims to improve science education in UK schools and colleges by supporting the development and implementation of effective education policy. The partnership is currently chaired by Professor Graham Hutchings FRS and comprises the Association for Science Education, Institute of Physics, Royal Society, Royal Society of Chemistry and Society of Biology.
2. In summary, SCORE is concerned that the proposals to the funding formula are extremely likely to discourage 16-19 providers from offering science provision, thereby reducing the number of students in this age group who are able to progress further with science qualifications. Furthermore, where providers do offer science provision, the funding cuts are likely to reduce its quality. With its commitment to the importance of STEM subjects, the core principle should be enacted, namely that the Government should ensure there are strong drivers, not disincentives, to encourage institutions to offer high quality provision in priority subjects, including the sciences.
3. This response should be considered alongside the SCORE response to the Department for Education consultation on 16-19 study programmes.

### **Overview**

4. SCORE supports the case for change to the national funding formula, particularly in light of the recommendations from Professor Wolf on vocational education. A funding system should support (and act as a driver for) institutions to offer coherent and substantive study programmes for learners that offer real progression either into further learning or employment. It should be free from any perverse incentives.
5. However, this case for change should not adversely affect existing coherent and substantive study programmes. SCORE is strongly concerned that the changes proposed to the funding formula will affect the uptake and provision of A-levels in the sciences in 6th form colleges and 11-18 schools. This is not in line with the Government's agenda to increase the number of young people progressing in the sciences at Higher Education. We strongly recommend that there is consideration into the long-term impact any changes to the funding formula will have on already good science provision at 16-19.
6. The sciences are strategically important subjects for the UK and the country's economic competitiveness relies on increasing the quantity and quality of STEM graduates as well as employees with scientific and mathematical knowledge and skills. Therefore, any incentive that leads to a reduction in the number of students able to access science A-levels has to be classed as a perverse one.
7. Specifically, the changes to programme weighting for academic qualifications need to be reconsidered. The sciences are practical subjects and are therefore more expensive to offer than most other academic qualifications. The removal of the 12% weighting is likely to affect the offer providers are willing to make to learners. SCORE strongly believes the cost of running a subject should be reflected in its funding.
8. In the short term, the effects of the proposed changes may be relatively minor but in the long term the costs of running science courses in schools and sixth form colleges will

begin to affect choices and will discourage leaders in schools and colleges from offering science courses.

9. Where science A-levels are offered, there will be a pressure to reduce their costs by, for example, offering less practical work.

### **Funding per learner**

10. SCORE agrees with the principle of the recommendation made in the Wolf report that funding for full-time learners aged 16-19 should be on a programme basis, with a core level of funding per learner. This will remove the perverse incentive for providers to 'pile up' qualifications rather than develop genuinely full-time programmes that offer clear progression routes.
11. However, the funding formula should take into account (through weighting) larger study programmes where there is good educational reason for it being offered. For example, a common portfolio of an engineering undergraduate is physics, chemistry, mathematics and further mathematics A-level. Such subject combinations offer a coherent study programme and should not be discouraged by the funding formula.
12. Option 1 (Funding all full-time learners at the same rate) is likely to reduce the number of qualifications a provider is willing to offer a learner. SCORE agrees a learner should not be encouraged to accumulate an excessively large number of qualifications that offer little in terms of progression or coherency to the study programme. However, there are certain subject combinations of 4 or 5 A-levels that should continue to be funded for precisely the same reasoning that they do offer coherency. Mathematics and Further Mathematics AS and A-level are natural additional subjects for any science programme of study at 16-19 and it would be wrong (and we do not believe it is the Government's intention) to discourage a provider from offering these combinations. The consultation document states that study programmes should not exceed 600 guided learning hours (GLH) which again does not support those learners wishing to pursue more than 3 A-levels, particularly when it might be in their best interest to do so.
13. While Options 2 and 3 recognise that in some cases larger programmes of study will require additional funding, there is no distinction between the type and coherency of the programmes. They instead assume the International Baccalaureate (IB) and a programme of 5 or 6 A-levels are equivalent, contradicting previous Government policy on qualification equivalences. The IB serves a different purpose to A-level qualifications and should not be compared like for like. The consultation document also assumes that any subject combination at A-level is an appropriate programme of study.

### **Programme weighting**

14. SCORE is concerned that the proposed simplification goes too far and looks set to disadvantage two of the main providers of science A-levels: 11-18 schools and sixth form colleges.
15. On a purely financial basis, the removal of the 12% weighting for science academic qualifications is likely to drive schools and colleges away from offering the more costly

subjects. SCORE would instead like to see a (financial) driver that encourages rather than discourages qualification routes that the Government considers to be a priority.

16. The sciences are practical subjects and by this very nature are more expensive to run. Even if schools continue to offer science A-levels, the removal of the 12% weighting will determine the resources provided to the teaching departments. For example, science departments may cut teaching time; reduce the resourcing of practical work; or employ less experienced/cost-effective staff to deliver practical work.
17. The consultation document states that the majority of providers will see a decrease in funding of under 3% with the removal of the 12% programme weighting for certain academic qualifications. While such a change appears minimal, there will nevertheless be a significant impact on providers with high STEM participation, such as 11 – 18 schools and sixth form colleges. We strongly suggest further modelling is undertaken by the Department, looking at the impact the transition will have on different types of providers and any unintended consequences this may have. These should include the following providers:
  - A school/college with a large spread of A-levels that reflects the national averages. Should the reduced funding equate to half a member of staff, a minority subject is likely to be under threat. It is unlikely – though not impossible - that it would be one of the three main science disciplines that would be lost.
  - A school/college with a large A-level participation where one of the sciences is a minority subject. Again the funding cuts may equate to half a member of staff, which would place the minority science subject under threat. In England, there are one hundred sixth-form schools with more than 50 learners taking A-levels and fewer than 5 taking physics.
  - Small sixth forms with good A-level take-up in the sciences. Although the funding cut is likely to be smaller than the above providers, the reduced funding will most likely impact on the delivery of the course; for example, the amount of funding dedicated to purchasing equipment and consumables for practical work. There are about 60 schools that have sixth forms smaller than 50, each of which has more than 6 students taking A-level physics.
18. We welcome the further modelling of cumulative impact that has been carried out by the Young People's Learning Agency (YPLA) since the publication of this consultation. We urge the Government to make this information readily available.
19. It may well be that some easing during the transition (like phased implementation and transactional protection) will minimise the immediate effect on most providers. However, the biggest impact of the loss of the 12% weighting is the message that it sends in the long term. In five years' time, a school or college leader will not reflect on the transitional easing. Instead, they will be aware that a science course costs more to run but receives the same funding. Clearly, this funding shortfall will begin to affect decisions that they make about what A-levels they offer and at what point they decide that it is viable to run them. Both of these effects will reduce the number of schools that offer A-levels in the sciences.

20. SCORE is currently investigating the cost of teaching Biology, Chemistry and Physics A-level in comparison to other subjects at A-level to provide evidence to support a case for programme weighting for the sciences. We will inform the Department for Education of our findings.

### **Success rates**

21. SCORE acknowledges that the current success factor element in the funding formula can create perverse incentives which encourage providers to place young people on programmes that are perceived as easy in order to protect the provider's success rate. There should instead be incentives in place to drive up standards of provision. A funding formula modelled on success should work to ensure that providers offer appropriate programmes of study and that these are delivered to a high quality.

22. Again, SCORE is not convinced the necessary modelling has been conducted by the Department into the unintended consequences of the proposals. Without this modelling, SCORE is unable to make an informed judgement on which option will best eliminate perverse incentives (and indeed not allow for further unintended consequences). However, some issues to be considered are:

- **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 or reducing practical work in the sciences).
- **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. SCORE 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 the sciences and mathematics.

23. Furthermore, we urge the Department to consider the grading severity of subjects in any element of success it includes in the funding formula. There is much evidence that shows the sciences are graded more severely than many other subjects<sup>1</sup> and therefore, under the current funding formula, providers are likely to be less inclined to put learners through science programmes if there is a risk of poor attainment and low retention.

### **Cumulative impact**

24. SCORE notes that apart from the potential changes to funding outlined in the consultation document, providers are already undergoing funding reductions. These

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<sup>1</sup> CEM Centre 2008, *Relative Difficulty of examinations in different subjects*, research commissioned by SCORE

include the reduction of entitlement funding, reduction of the cap (leaving larger programmes not fully funded), 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 a 20% cut on average in 16-19 funding.

25. 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 will be on some institutions. The recent modelling from YPLA suggests that under the proposed changes some institutions could be facing up to a 50% budget cut. Inevitably this will affect the courses that are offered and the way those courses are provided; quality of provision and content will suffer. SCORE is especially concerned that institutions with high levels of participation in STEM subjects will suffer the most under these proposals. We would therefore recommend that the cumulative impact of the different models should be analysed thoroughly before any changes are introduced.