



Consultation on Study Programmes for 16-19 year olds

Response from the London Mathematical Society

General remarks

"The document is designed (para 2.1) "to implement key recommendations of Professor Alison Wolf's review of vocational education".

This is an important task. But despite the general title "Study programmes for 16-19 year olds", the focus is clearly on programmes with a strong *vocational* slant: insofar as the principles ultimately adopted may be applied more generally, it is essential to ensure that the policies do not undermine existing *academic* programmes.

Our impression is that the authors *assume* their principles can be applied uniformly to **all** programmes at 16-19, and that they do not appear to have considered the effect on **academic** programmes (which, according to para 4.1 involve 40% of the cohort).

There are also signs of a touching faith that the short term interests of College Principals and of commercially minded exam boards can be trusted to achieve what is best for the country.

If one tries to imagine pathways to serve the full cohort, it quickly becomes clear that qualifications cannot be classified within the rigid *National Qualifications Framework*. Two years ago there was public debate about the possible distortion arising from the introduction of *Use of Mathematics* as an A level alongside A level *Mathematics*. *Use of Mathematics* may well have role to play – but **not** if it has to be classified as 'Level 3', and so becomes an apparent **alternative** to A Level *Mathematics*.

We need a limited number of programmes at 16-19:

- some may be general purpose, or *academic*:
 - one may follow on from GCSE Grade C, without being significantly harder
 - one may lie between GCSE and A level
 - two may be essentially the current A levels, with a distinction between linear programmes (as a prerequisite for subsequent numerate study) and a more manageable modular programme
- others may be more advanced, of different degrees of difficulty, but *vocational*.

What is clear is that one cannot simply badge courses that follow on from GCSE as 'Level 3'.

Whatever structure is adopted, neither students nor end-users should be misled into thinking that a demanding academic programme and a demanding vocational programme are somehow interchangeable. Any viable notion of 'pathways' must label different styles of programme *clearly*, and must do so in such a way that any move to progress from one kind of programme to a different kind automatically invokes a "transition cost" - an interface course that splices the one into the other (as proposed in Adrian Smith's 2004 report *Making mathematics count*).

Details

2.3 Let us assume that Professor Wolf's conclusion of a shift to "funding per student" has some clear advantages for *vocational* programmes, which make it appealing. Then it is essential to make exceptions:

- for those courses which require additional resources (such as science A levels, or practical courses)
- for those courses which are often taken as an ‘extra’ subject (such as Further Mathematics, which is often a fourth A level).

3.1 This claim is a dogma, a statement of belief. It may (possibly) be true for certain kinds of *vocational* programmes.

But it is **not** true of *academic* programmes being taken as preparation for university study, which are best designed centrally and carefully ‘top-down’.

3.2 We cannot assess whether this could work for vocational programmes: Professor Wolf clearly thinks it would be an improvement on the current top-down approach. But it is certainly inappropriate for *academic* programmes – which have to be designed top-down and monitored centrally. So the viability of the proposals oblige us to grasp the nettle of making a clear distinction between different types of programmes.

The final sentence appears to say “We will close our eyes and hope. If this ‘eyes-tight-shut’ approach does not work, then we will have to think again.” This is disturbing. Policy makers should think first, then consult, then pilot, then evaluate – and implement *only when they have good reason to believe the resulting system will behave as intended*.

4.10 Suddenly the focus is explicitly on vocational programmes! The whole document would have made much more sense if it

- made a clear distinction between *academic* and *vocational* programmes (in a way that allowed a mixed programme without blurring the distinction)
- left academic programmes alone for the moment
- focused on getting a viable structure for vocational programmes.

We welcome the desire to provide a better framework of significant *vocational* qualifications. But this will not succeed if there is no honest overarching distinction between *academic* and *vocational* courses, and if the current language of ‘Levels’ is preserved.

It is either a bold or a very rash move to pass responsibility to awarding bodies; but they must not be allowed to operate within a framework that may tempt them and others to weaken their commitment to serious academic programmes (as 4.11-4.13 would allow if applied to academic programmes).

6.3 We object strongly to the inclusion of the words “at the first opportunity”, which suggest a deep-seated confusion. In particular these words suggest the retention of November resits, which disrupt Year 12 learning programmes, and devalue the associated mathematical study.

There are many reasons to devise programmes for those who fail to master basic GCSE material during KS3 and KS4. But the past record of these students suggests that they need more than another ‘crash course’ of emergency GCSE exam-preparation.

Rather, they need a coherent, year-long programme that revisits basic material (perhaps in a new way, as a ‘mature GCSE’), and that aims to achieve confidence as well as competence.

About the London Mathematical Society

The London Mathematical Society, <http://www.lms.ac.uk/>, is the UK’s learned society for mathematics with an international membership. The Society’s main activities include publishing journals and books, providing grants to support mathematics and organising scientific meetings and lectures. The Society is also involved in policy and strategic work to support mathematics and the mathematics research community. This work includes engaging with government and policymakers on mathematics education and research, participating in international mathematical initiatives and promoting the discipline.

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