JOINT COUNCIL FOR QUALIFICATIONS

review of A-Level subject content

Response from the London Mathematical Society

21 May 2013

The London Mathematical Society (LMS), founded in 1865, is the UK's learned society for mathematics. 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.

I am writing as Chair of the Education Committee of the London Mathematical Society in response to your letter of 29th April to the Executive Secretary of the society concerning the Review of A-level subject content. This letter relates to Mathematics and Further Mathematics. We thank you for consulting us.

Our committee does have concerns about these A-levels but they are not primarily issues of content, they relate more to the nature of the assessment (which has a knock-on effect on the way in which the subject is taught) and also the teaching materials such as textbooks which are commonly used. We do believe that there should be periodic views of content but we do not believe that the timescale of the current review is appropriate for this; there is broad agreement in the mathematics community about the content of the core modules, a rush to make changes would not be helpful. We hope that in due course arrangements for regular, well-paced review of content, structure, teaching and assessment of these A-levels can be established.

Although not a direct answer to your letter, I would like to take this opportunity of setting out our views on proposed changes to A-levels themselves and the mechanisms for periodic review of al tho

The important principle of gradual and piloted change would be violated by a sudden move to a fully linear A-level. One change which has already occurred is ending January module examinations. In our opinion this change should be allowed to bed in and be evaluated before further changes in examination timings are made. We believe that a sudden move to a linear A-level would be a serious threat to uptake of both A-level Mathematics and Further Mathematics.

Such a sudden move would be likely to reduce the numbers embarking on A-levels in mathematics, because it will make taking a subject already perceived (with some justification) as hard seem riskier and harder. Experience with Curriculum 2000 shows that mathematics uptake is fragile. The current success of Further Mathematics, with rapidly increasing numbers, depends on the modular structures carefully developed over several years. These allow pupils to take, and schools to deliver, further mathematics in ways which would become impossible if Mathematics and Further Mathematics became two separate linear examinations.

We understand the benefits which linearisation aims to bring, but believe that there are intermediate positions possible between the current A-level procedures and a fully linear A-level, which could bring some of these benefits in the short term without the disruption which rapid full linearisation would bring. These include the removal of the possibility of January modules so that AS is an end of year 12 exam, a change which has already been introduced, combining C3 and C4 into a synoptic assessment of the full A-level core and combining C1 and C2 into a synoptic assessment of the AS core.

After due consideration some or all of these possibilities could be piloted and evaluated.

We are happy to discuss these matters with you further.

With best wishes,

Alice Rogers

Chair, LMS Education Committee