

LMS Response to *A new approach to mathematics and data education* by RS/ACME

The document can be found at <https://royalsociety.org/-/media/policy/projects/maths-futures/new-approach-to-mathematics-and-data-education.pdf>

Other details: <https://royalsociety.org/topics-policy/projects/mathematical-futures/>

There are 4 questions.

1. Do you support our vision for the future of mathematics and data education?

The London Mathematical Society (LMS) is supportive of the vision. Data education will be an increasingly important part of the education of future pupils and currently a sensible location in the curriculum is within mathematics. It is entirely plausible that the vision will at some point be out-of-date (given the pace of the subject this may already be the case) as data finds itself embedded in other subjects, for example Computing, or develops as its own subject. The vision acknowledges that there could be swift change.

In addition to the mention of quantitative literacy it would help to have a clear principle on how DE will fit within or alongside mathematics. Currently, the outcomes for older pupils are clearer than the outcomes for early and primary years pupils.

2. Is this vision appropriate for all students?

The vision appears to be appropriate for all and it is good to see the acknowledgement that the system should explicitly help the bottom third of the cohort. The current situation where too many students are set up to fail GCSE Mathematics and are effectively forced to have multiple retakes is unacceptable.

3. Are there areas of our vision that need further development?

It is not clear where the various stakeholders fit in with the vision. For example, Higher Education Institutions are significantly impacted by the content of secondary education. What input will HEIs and other stakeholders have in shaping the vision further and its implementation?

The series of pathways and flexible routes needs to be made more explicit. In particular, whether there will be pathways within the 5-14 age range. After that range, will pupils be expected to take the assessment in their pathway at the same age? If the assessments are competency based what pathways will exist for taking them when they are ready rather than at a specific age?

In an era of rapid change, it would be better for the curriculum to be placed at arm's length from government control because government, faced with other responsibilities and pressing political considerations, is unable to react sufficiently quickly to manage the curriculum to meet the country's needs. Similarly for assessment, Ofqual could do a much better job if it were more separate from the DfE.

4. What are the first steps needed to begin the process of change?

The first step is to assess the views of critical stakeholders and bodies that will shape the vision and execution. In addition to the obvious stakeholders, for example, teachers and employers, it would be good to incorporate the views of data scientists, current and recent pupils, and political parties into the process.