



Department
for Education

Consultation Response Form

Consultation closing date: 26 May 2014
Your comments must reach us by that date

Core maths technical guidance

If you would prefer to respond online to this consultation please use the following link: <https://www.education.gov.uk/consultations>

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information regimes, primarily the Freedom of Information Act 2000 and the Data Protection Act 1998.

If you want all, or any part, of your response to be treated as confidential, please explain why you consider it to be confidential.

If a request for disclosure of the information you have provided is received, your explanation about why you consider it to be confidential will be taken into account, but no assurance can be given that confidentiality can be maintained. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

The Department will process your personal data (name and address and any other identifying material) in accordance with the Data Protection Act 1998, and in the majority of circumstances, this will mean that your personal data will not be disclosed to third parties.

Please tick if you want us to keep your response confidential.	<input type="checkbox"/>
Reason for confidentiality:	

Name:	
Please tick if you are responding on behalf of your organisation.	<input checked="" type="checkbox"/>
Name of Organisation (if applicable): Royal Statistical Society	
Address:	
12 Errol St, London EC1Y 8LX	

If your enquiry is related to the DfE e-consultation website or the consultation process in general, you can contact the Ministerial and Public Communications Division by e-mail: consultation.unit@education.gsi.gov.uk or by telephone: 0370 000 2288 or via the Department's ['Contact Us'](#) page.

Please mark an 'x' in the box that best describes you as a respondent.

<input type="checkbox"/> Awarding organisation	<input type="checkbox"/> School/College/University	<input type="checkbox"/> FE representative body
<input type="checkbox"/> HE representative body	<input type="checkbox"/> Employer & representative body	<input type="checkbox"/> Union
<input checked="" type="checkbox"/> Society or professional body	<input type="checkbox"/> Maths education organisation	<input type="checkbox"/> Individual
<input type="checkbox"/> Other		

Please specify:

1 Have the qualification requirements been clearly set out in the guidance?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Not Sure
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Comments:

The timetable for introducing qualifications to meet the Core Maths standard is very tight, so the lack of clear agreement and guidance at this stage on areas such as the size of the qualification and how it is graded seems to warrant concern. Sufficient learning benefit for students in the core maths early adopters programme needs to be assured. We welcome provision for the Core Maths Support Programme, and we will look to support Core Maths qualifications and assessments that should be of value to higher education institutes and employers for the longer term.

What are your views, if any, on the requirements and process set out in the guidance of the following characteristics that qualifications must demonstrate to meet the Core Maths performance table requirement? This may include comment on implementation as well as design.

2 a) Qualification purpose (section 2.2)

Comments:

We broadly support how the purpose of Core Maths is distinguished from AS and A-Level Mathematics. However this lacks mention of the need for students to do practical work with numbers and data using IT, in ways similar to what they would encounter in higher education and employment. This should include exposure to real world data, asking critical questions of the data, and analysing it in spreadsheets.

To test this through external examination, we would support access in class time to sets of data offered by the exam board. Students' skills could later be assessed in the exam using the same dataset, with questions testing their ability to interpret the data. Sets of appropriate classroom tasks would also help to support learning.

2 b) Size (section 2.3)

Comments:

In our consultation response in February, we submitted that the Core Maths pilot should help to determine the optimum size for core maths. Initially, we would suggest 120 hours of mixed Level 2 and Level 3 content, matched to 180 guided learning hours. This would allow a slower pace of content delivery in Core Maths compared to AS Level Mathematics (which is also 180 guided learning hours), and would help those students who are less fluent in maths to begin with. It would also allow time for practical work, which we view as essential.

We question the lack of an upper limit on the size of the qualification, and we hope for clearer guidance from Ofqual on GLH. This would help guide awarding bodies in their qualification offer, and would give schools and colleges more certainty in timetabling for core maths.

2 c) Recognition (section 2.4)

Comment:

As a learned and professional body we would welcome the opportunity to comment on core maths qualifications and their design with regard to statistics and statistical skills.

2 d) Content (section 2.5)

Comments:

We very much welcome the inclusion of statistical approaches as well as mathematical approaches, in the objectives for Core Maths content. We support the emphasis on mathematical thinking, reasoning and communication (Objective 3). We also particularly support the guidance on Objective 2. This states that students should use a variety of statistical approaches to represent and analyse situations, including complex and unfamiliar situations – and that this will involve identifying and understanding quantifiable information and its related assumptions.

We would like to add our encouragement that statistical approaches should draw upon practical work, using IT to analyse data. This will help build quantitative skills that are required in higher education and in employment. Students should work with real-world data, ask critical questions of the data, and analyse it with the use of IT.

2 e) Linear and synoptic assessment (section 2.6)

Comments:

Continuing professional development (CPD) is needed to support good teaching, particularly as the linear structure for Core Maths differs from modular course structures that teachers are familiar with. As we have outlined in our *World Full of Data* report, subject specialists from business, economics, geography, history, psychology, the sciences, and sociology would each also benefit from CPD in relevant quantitative and statistical skills.¹ Maths specialists too could benefit from CPD to teach statistical skills, as these are not purely mathematical and require them to develop students ability to critically assess, analyse, interpret and present information.

2f) External assessment (section 2.7)

Comments:

¹Porkess, R. & Dudzic, S. (2013). A world full of data: Statistics opportunities across A-level subjects. Available from: <http://www.rss.org.uk/uploadedfiles/userfiles/files/A-world-full-of-data.pdf>

Core maths should support skills development in statistics and data analysis that are required across the wider curriculum, making use of real world datasets. We are concerned that the high proportion of exam-based assessment (80%) in core maths may not give enough encouragement to practical, classroom-based assignments. To help remedy this, we would favour the use of data pre-released before exams. Working with the data will help students to learn the techniques, of which they would then be asked to apply a selection in the externally-examined paper. Uptake of the maximum allowed 20% of externally moderated coursework would also preserve some of the grade-based incentive for students to engage with, and learn from, classroom assignments.

2g) Grading (section 2.8)

Comments:

We are concerned about the specification of 'a minimum of four grades', and no further detail. This differs from the three-grade 'pass', 'merit', 'distinction' structure proposed by ACME's expert panel, which might have been widely understood. We hope that Ofqual will provide qualification bodies with clear guidance to help reach a common approach to grading Core Maths, and common descriptions for grades. A common grade structure is important so that employers and HEI's can judge the relative merit of grades awarded to school-leavers. The ability to compare grades across students taking different qualifications would also be helpful when it comes to evaluating the overall outcomes of Core Maths.

2h) Process (section 3)

Comments:

The timetable for introducing qualifications to meet the Core Maths standard is very tight, the lack of clear agreement and guidance at this stage seems to warrant concern. Sufficient learning benefit for students in the core maths early adopters programme needs to be assured. We welcome provision for the Core Maths Support Programme, and we would look to support Core Maths qualifications and assessments that should be of value to HEIs and employers for the longer term.

3 Do you have any other comments?

Comments:

With regard to Section 1.2, the 'Level 3 Maths Performance Measure', we note that Core Maths qualifications are likely to be half the size of A-Level Maths, less difficult in their content, and are likely to require less teaching time. If schools and colleges seek to boost achievement of Level 3 Maths in aggregate, we see a risk that some may prioritise growth in Core Maths over that of A-Level, as it should require less teaching time.

If this seems to hold true in practice, it might be better to weight achievement in the Level 3 Maths Performance Measure by the size of Maths qualification achieved, for example the guided learning hours required. This would be preferable to a reduction in A Level Maths participation.

Section 1.3 makes reference to criteria by which Core Maths will be judged in 2018. It refers to "qualification track record" and that this will relate to the volume of people taking the qualification, but it does not set this out in any detail. A more detailed view of the long-term acceptance criteria would help to support stability in core maths qualifications, and their recognition and currency for higher education institutions and employers.

It is our view that long-term accreditation as Core Maths must be based in part on how the qualification affects students' success across subjects, in addition to whether the qualification is adopted by sufficient numbers by students and schools.

Thank you for taking the time to let us have your views. We do not intend to acknowledge individual responses unless you place an 'X' in the box below.

Please acknowledge this reply.

X

E-mail address for acknowledgement: o.varley-winter@rss.org.uk

Here at the Department for Education we carry out our research on many different topics and consultations. As your views are valuable to us, please confirm below if you would be willing to be contacted again from time to time either for research or to send through consultation documents?

Yes

No

All DfE public consultations are required to meet the Cabinet Office [Principles on Consultation](#)

The key Consultation Principles are:

- departments will follow a range of timescales rather than defaulting to a 12-week period, particularly where extensive engagement has occurred before
- departments will need to give more thought to how they engage with and use real discussion with affected parties and experts as well as the expertise of civil service learning to make well informed decisions
- departments should explain what responses they have received and how these have been used in formulating policy
- consultation should be 'digital by default', but other forms should be used where these are needed to reach the groups affected by a policy
- the principles of the Compact between government and the voluntary and community sector will continue to be respected.

If you have any comments on how DfE consultations are conducted, please contact Aileen Shaw, DfE Consultation Coordinator, tel: 0370 000 2288 / email: aileen.shaw@education.gsi.gov.uk

Thank you for taking time to respond to this consultation.

Completed responses should be sent to the address shown below by 26 May 2014

Send by post to:

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Sanctuary Buildings
Great Smith Street
London
SW1P 3BT

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