

# AS and A level statistics – Consultation on Conditions and guidance

## How to respond to this consultation

The closing date for responses is **30 March 2016**.

Please respond to this consultation in one of three ways:

- Complete the online response at [www.surveygizmo.com/s3/2620073/AS-and-A-level-reform-regulations-for-statistics](http://www.surveygizmo.com/s3/2620073/AS-and-A-level-reform-regulations-for-statistics);
- Complete the consultation questions at the end of this document and email your response to [consultations@ofqual.gov.uk](mailto:consultations@ofqual.gov.uk). Please include the consultation title (AS and A level Statistics Consultation 2016) in the subject line of the email and make clear who you are and in what capacity you are responding; or
- Post your response to: AS and A level Statistics Consultation 2016, Ofqual, Spring Place, Coventry Business Park, Herald Avenue, Coventry, CV5 6UB, making clear who you are and in what capacity you are responding.

## Evaluating the responses

To evaluate responses properly, we need to know who is responding to the consultation and in what capacity. We will therefore only consider your response if you complete the information page.

Any personal data (such as your name, address and any other identifying information) will be processed in accordance with the Data Protection Act 1998 and our standard terms and conditions.

We will publish our evaluation of responses. Please note that we may publish all or part of your response unless you tell us (in your answer to the confidentiality question) that you want us to treat your response as confidential. If you tell us you wish your response to be treated as confidential, we will not include your details in any published list of respondents, although we may quote from your response anonymously.

Please respond by **30 March 2016**.

# Responding to the consultation

## Your details

To evaluate responses properly, we need to know who is responding to the consultation and in what capacity. We will therefore only consider your response if you complete the following information section.

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Please answer all questions marked with a star\*

Name\*

Charlie Stripp

Position\*

Chief Executive

Organisation name (if applicable)\*

Mathematics in Education and Industry

Address

Monckton House, Epsom Centre, White Horse Business Park, Trowbridge, Wiltshire  
BA14 0XG

Email

charlie.stripp@mei.org.uk

Telephone

07771 864507

**Would you like us to treat your response as confidential?\***

If you answer yes, we will not include your details in any list of people or organisations that responded to the consultation.

Yes  No

**Is this a personal response or an official response on behalf of your organisation?\***

Personal response (please answer the question 'If you ticked "Personal response"...')

Official response (please answer the question 'If you ticked "Official response"...')

**If you ticked "Personal response", which of the following are you?**

Student

Parent or carer

Teacher (but responding in a personal capacity)

Other, including general public (please state below)

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**If you ticked "Official response", please respond accordingly:**

**Type of responding organisation\***

Awarding organisation

Local authority

School or college (please answer the question below)

Academy chain

Private training provider

University or other higher education institution

Employer

Other representative or interest group (please answer the question below)

### **School or college type**

- Comprehensive or non-selective academy
  - State selective or selective academy
  - Independent
  - Special school
  - Further education college
  - Sixth form college
  - Other (please state below)
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### **Type of representative group or interest group**

- Group of awarding organisations
- Union
- Employer or business representative group
- Subject association or learned society
- Equality organisation or group
- School, college or teacher representative group
- Other (please state below)

MEI is a charity and a membership organisation. It is an independent curriculum development body for mathematics. It is a major provider of mathematics teaching and learning resources, and of mathematics CPD for secondary school and post-16 mathematics teachers.

MEI developed and manages the DfE-funded Further Mathematics Support Programme. MEI plays a key role in the management of the National Centre for Excellence in Teaching Mathematics. MEI was responsible for developing, and provides resources and CPD for, a suite of GCE Mathematics qualifications and two Core Maths qualifications run by OCR; this includes an AS qualification in Statistics.

### **Nation\***

- England

Wales

Northern Ireland

Scotland

Other EU country: \_\_\_\_\_

Non-EU country: \_\_\_\_\_

**How did you find out about this consultation?**

Our newsletter or another one of our communications

Our website

Internet search

Other

\_\_\_\_\_

**May we contact you for further information?**

Yes  No

## Questions

**Question 1: To what extent do you agree or disagree that we should introduce a Condition which requires exam boards to comply with the relevant subject content and assessment objectives?**

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Please explain your reasons:

Clearly this is an essential part of Ofqual's regulation of the qualifications.

**Question 2: To what extent do you agree or disagree with our proposal to permit a limited ( $\pm 2$  per cent) tolerance for each of the assessment objectives in AS and A level statistics?**

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Please explain your reasons:

We have found that this works well as we have written SAMs for AS and A level mathematics, so is appropriate here.

**Question 3: To what extent do you agree or disagree that we should introduce guidance which clarifies how exam boards should interpret our assessment objectives?**

- Strongly agree
- Agree

Neither agree nor disagree

Disagree

Strongly disagree

Please explain your reasons:

Clear strong guidance is vital to ensure a common understanding of what the assessment objectives mean and how they should be implemented.

**Question 4: Do you have any comments on our proposed Conditions and requirements for AS and A level statistics?**

Yes  No

We note that changes have been made to the assessment objectives since the previous consultation, so we comment on them.

Eight different models are specifically mentioned in the DfE content, yet modelling is not mentioned in the assessment objectives. This is an extraordinary omission, particularly given the emphasis on modelling in the assessment objectives for AS/A level Mathematics, which overlaps with this specification. This is not down to a difference in emphasis – if anything we would expect AS/A level Statistics to have a stronger emphasis on solving real world problems than AS/A level Mathematics.

We are puzzled by the overlap between ‘inference’ in AO1 and ‘reason statistically ...’ in AO2. Is there some distinction about the quality of inference expected?

In the assessment objectives for AS/A level Mathematics there are statements in italics saying that where tasks address more than one AO then marks must be credited against the different AOs in the right proportion. It seems inevitable that tasks set in examinations for AS/A level Statistics, particularly when different aspects of the statistical enquiry cycle are addressed, will also address more than one AO; there needs to be a condition saying what to do in such a situation.

We consider that the proportion of marks awarded to AO3 is too high. Exam boards will be forced to write too many artificial questions which ask learners to comment on methodologies which they have not used.

In AO3 there are grounds for critically assessing statistical methodologies and conclusions other than reliability and validity. For example modelling assumptions may need to be refined, or a conclusion may be stronger than the evidence warrants. This assessment objective should be expressed in the language of modelling.

**Question 5: Do you have any comments on our proposed guidance for AS and A level statistics?**

Yes  No

We welcome the guidance on AO1: ‘these techniques should be understood in the context of the statistical enquiry cycle’ and ‘... Learners should demonstrate their ability to understand the statistical enquiry cycle as a coherent whole’. However we feel this should be stronger; compare the guidance on problem solving and extended responses in the guidance for AO3 in AS/A level Mathematics: ‘Each set of assessments should include questions/tasks where Learners are assessed on their ability to solve complete problems presented in an unstructured manner and which require the use of multiple parts of the problem-solving cycle’.

We welcome the expectation that statistical functions on calculators are used in the assessment.

We are not convinced that it is wise to separate the two elements of AO2 in the way suggested. It encourages the false notion that interpreting information and results might reasonably be separated from making a prediction, constructing an argument, making a decision or drawing a conclusion. Statistics is a practical subject and there should be a purpose behind interpreting information and results. If the elements are to be separated then the guidance should state that usually the elements will be seen in combination.

It seems unnecessary to mention a definition of standard statistical techniques in the guidance for AO2 when the phrase does not appear. This has consequences for the words ‘and in AO2’ in the first bullet point in the right hand column of guidance for AO1.

**Question 6: We have not identified any ways in which these proposals would impact (positively or negatively) on persons who share a protected characteristic.<sup>1</sup> Are there any potential impacts we have not identified?**

Yes  No

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**Question 7: Are there any additional steps we could take to mitigate any negative impact resulting from these proposals on persons who share a protected characteristic?**

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<sup>1</sup> ‘Protected characteristic’ is defined in the Equality Act 2010. Here, it means disability, racial group, age, religion or belief, pregnancy or maternity, sex, sexual orientation and gender reassignment.



Yes  No

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**Question 8: Do you have any other comments on the impacts of the proposals on students who share a protected characteristic?**

Yes  No

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## Accessibility of our consultations

We want our consultations to be read and understood by as many people as possible. We would appreciate it if you could spare a few moments to answer the following questions. Your answers to these questions will not be considered as part of the consultation and will not be released to any third parties.

**We want to write clearly, directly and put the reader first. Overall, do you think we have got this right in this consultation?**

Yes  No

**Do you have any comments or suggestions about the style of writing?**

Yes  No

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**How many of our consultations have you read in the last 12 months?**

1

2

3

4

5

More than 5