ROYAL STATISTICAL SOCIETY
DATA | EVIDENCE | DECISIONS

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Dear Cath Jadhav

Assessment in A level Mathematics: Statistics and the Large Data Set

We are aware that Ofqual is looking at the implementation of all the new GCE qualifications, including A and AS level Mathematics, as part of its statutory duties.

You may be aware that in 2015 we published, with ACME, "Embedding Statistics at A level: a report on statistical requirements and assessment across A level courses in Biology, Business, Chemistry, Geography, Psychology and Sociology". This was an initial analysis of the effectiveness of embedding quantitative skills in selected new A level qualifications, including a review of the assessment of statistics and how this might impact on teaching and learning.

We noted in that report that there could be a need to undertake an analysis of the A level Mathematics and Further Mathematics in due course. Thus, we commend your work and encourage you to undertake a thorough review, building on your implementation monitoring.

Our Data Manifesto outlines our key policy principles for education in statistics and data, which inform our consultation responses. In addition, for the assessment of statistics and the use of the large data set, we developed these principles. I share these with you in the hope that these will be useful in your monitoring and review work. We believe that they complement and extend the GCE Conditions and Guidance for Mathematics which you published in 2016:

- The use of large sets of real data provides a major opportunity for improved teaching and learning of statistics in our schools and colleges.
- The assessment should include examination questions that can subsequently be used as the starting point for statistical investigations in the classroom.
- Large data sets should be explored and analysed using computer technology: spreadsheets or dedicated statistical software.
- There should be an ongoing programme of professional development for teachers using large data sets; this should encourage them to see previous data sets and questions as a valuable resource.

- Questions should strive to culminate in genuinely interesting results relating to the available contexts.
- Questions should assume that candidates are familiar with the contexts covered in the large data set, and how the variables are used in calculations. They should not, however, require candidates to learn facts in the data set.
- The proportion of examination marks that are allocated to questions based on large data sets should reflect their considerable importance as teaching material.

The Royal Society Advisory Committee on Mathematics Education A level Mathematics Contact Group is monitoring the implementation of the new A level Mathematics and is providing input to the Advisory Committee on Mathematics Education.

The RSS supports the work of all the contact groups, specifically including the A level Mathematics Contact Group's role in providing comment on the current implementation GCE Mathematics. We encourage you to engage with the Contact Group throughout your review.

We look forward to seeing the outcome of your work.

Yours sincerely

Sharon Witherspoon
Vice President for Education and Statistical Literacy