

IOP response to Ofqual consultation on exceptional arrangements for exam grading and assessment in 2020

29 April 2020

Do you have any comments about our proposals for centre assessment grades?

The IOP is pleased to see the confidence that Ofqual has rightly placed in teachers' professional judgment in the proposals. We do however recommend that Ofqual provide additional guidance for the science subjects, to help teachers make fair and accurate assessments of students' grades and rank orders in light of the following complexities: 1) the 17-point grading scale for GCSE Combined Science; 2) the fact that GCSE Combined Science is often taught to a class by multiple teachers; and 3) the potential impacts of unconscious bias on specific groups of students (this latter point is discussed further in our response to the question 'Do you have any comments about our proposals for the statistical standardisation of centre assessment grades?').

In addition, there is evidence (including from Ofqual: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/757841/ISC_Decision_Document_20.11.18.pdf) that physics is graded more severely than other subjects. We ask that Ofqual ensures that differences in the severity of grading between subjects not be further exacerbated through its proposals for centre assessment grades.

To what extent do you agree or disagree that the individual rank orders provided by centres should NOT be modified to account for bias regarding different students according to their particular protected characteristics or their socio-economic backgrounds?

Disagree

Do you have any comments about our proposals for the statistical standardisation of centre assessment grades?

The IOP is pleased that one of the proposed aims of the statistical standardisation process is 'to protect, so far as is possible, all students from being systematically advantaged or disadvantaged, notwithstanding their socio-economic background or whether they have a protected characteristic.' The proposed approach to statistical standardisation, which emphasises historical evidence of centre performance given the prior attainment of students over submitted centre assessment grades, may mitigate some of the effects of potential biases, as centres would achieve similar outcomes as in previous years.

However, we are concerned that centre assessment grades for physics are likely to under-reward girls and students from lower socio-economic groups. There is good evidence that unconscious biases can result in predictions of physics grades being lower for girls (see, for example, <https://www.tandfonline.com/doi/abs/10.1080/09500693.2015.1114190> and, for all subjects, https://www.ucl.ac.uk/media/8409/Predicted-grades-accuracy-and-impact-Dec-16/pdf/Predicted_grades_report_Dec2016.pdf) – even when it is the same piece of work being graded. This can also be true for less privileged students. While we do not agree that rank orders should be modified by Ofqual or the exam boards, we do suggest that, for

physics, each centre checks the rank order before submission to ensure that there is a representative distribution of boys and girls at each grade (this is the reason for our disagreement above). Given the difficulties in ensuring a representative distribution for small class sizes, we recommend this check is only carried out at GCSE level. This requirement could be included in the guidance to centres, alongside more general guidance on the issue of unconscious bias, to mitigate some of the effects of potential biases before submission (and without the need to statistically adjust the standards applied to different groups of students), and they could be asked to do the same for any other subject that might be exposed to unconscious gender biases. Any centres submitting rank orders that are not representative could be asked to revise them accordingly or provide an explanation of the discrepancy.

In addition, we recommend that outcomes at the national level be checked to ensure that the proportion of girls and boys achieving each grade matches that in previous years, and that any discrepancies are addressed. We suggest that this second, national comparison is also used as a check on the final distribution of awarded grades by socio-economic status.

We would welcome your views on how any potential negative impacts on particular groups of students could be mitigated:

The IOP is keen to ensure that those who study physics have the best chance to progress in their chosen careers or studies, and we are also keen to support Ofqual to meet the unprecedented challenges posed by Covid-19. We would therefore be happy to carry out some research on the effect of unconscious biases on estimated grades in the study of physics, in line with our response above, if Ofqual would be able to provide some data around grades awarded, gender, and socio-economic status (e.g. numbers eligible for free school meals). If the IOP can offer any further information or advice, we would be very pleased to do so.

Details of specific steps we recommend be taken to overcome potential negative impacts on girls and less privileged students are given above in response to the question 'Do you have any comments about our proposals for the statistical standardisation of centre assessment grades?'.