

## IOP response to Qualifications Wales consultation on arrangements for summer 2020 exam series

12 May 2020

### Aims to underpin the statistical standardisation model for the issuing of grades for the summer 2020 exam series

The IOP is pleased to see the confidence that Qualifications Wales has rightly placed in teachers' professional judgement in the proposals. We do however recommend that Qualifications Wales and WJEC 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 15-point grading scale for GCSE double award science subjects; 2) the fact that GCSE Double Award 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 Equalities Impact Assessment questions).

**Aim 2 - The outcomes for summer 2020 will be broadly similar to those in previous years**

**To what extent do you agree with this aim?**

Strongly agree

**Please clearly explain the reasons for your answer in the space below.**

There is evidence (see, for example [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/757841/ISC\\_Decision\\_Document\\_20.11.18.pdf](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 Qualifications Wales and WJEC ensure that differences in the severity of grading between subjects not be further exacerbated through the proposals for centre assessment grades.

**Aim 4 - As far as possible, we should ensure that the process for awarding grades in summer 2020 will not disadvantage groups of learners, including those with protected characteristics, relative to previous years.**

**To what extent do you agree with this aim?**

Strongly agree

### Equalities Impact Assessment

**In relation to the impacts that we have identified in this section, are there any additional steps that we could take to reduce them? If so, please outline these steps in the space below.**

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.ucu.org.uk/media/8409/Predicted-grades-accuracy-and-impact-Dec-16/pdf/Predicted\\_grades\\_report\\_Dec2016.pdf](https://www.ucu.org.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 Qualifications Wales or WJEC, 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.

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 Qualifications Wales 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 Qualifications Wales 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.