

IOP Institute of Physics

Consultation on how GCSEs, AS and A level grades should be awarded in summer 2021

In January 2021, the Office for Qualifications and Examinations Regulation (Ofqual) and the Department for Education (DfE) released a [consultation](#) on [how GCSEs, AS and A level grades should be awarded in summer 2021](#).

This consultation response was submitted by the [Institute of Physics](#) (IOP), the professional body and learned society for physics in the UK and Ireland. The IOP's mission is to inspire people to develop their knowledge, understanding and enjoyment of physics, support the development of a diverse and inclusive physics community, and raise public awareness and understanding of physics. As a charity, the IOP seeks to ensure that physics delivers on its exceptional potential to benefit society.

The importance of this consultation and its relevance to the physics community

During the academic year 2020-2021, the Government has taken the decision to close places of education for many students, either regionally or nationally, to reduce the mixing of students in response to the COVID-19 pandemic. The closure of teaching laboratories, classrooms and lecture theatres in education centres, from schools to universities, has led to a significant change in the way that the curriculum has been delivered at all levels of education. As students moved to learning online from their homes, a number of challenges have emerged, from practical challenges such as access to reliable connectivity and digital resources, including laptops, tablets and online platforms, as well as learning challenges such as reduced contact time and engagement. These changes have impacted the provision of physics education at all levels, with an acute impact on the practical and applied elements of the discipline, which many students have been unable to experience.

The decision has been made to cancel exams for the academic year 2020-2021, meaning grades and qualifications need to be awarded through a different system. It is important for the physics community that any alternative grading and qualification awarding system does not reduce grades in physics or reduce the number of students progressing their study in the discipline.

Focusing on level 2 and level 3, the consultation states that the disruption to education provision caused by the pandemic has resulted in a *“differential learning loss, as some students have suffered more disruption to their learning than others.”* This threatens to worsen equity, diversity and inclusion (EDI) in physics and worsen representation in the workforce in coming years, as the mentioned physical challenges disproportionately impact those from disadvantaged backgrounds. It is particularly important that the new grade awarding system does not disproportionately penalise those from disadvantaged backgrounds.

Physics is a core science which underpins many areas of UK society: from emerging technologies to climate science, as well as travel infrastructure and research and development innovation. It is imperative that despite the disruption to education, students continue to have access to the physics curriculum and receive fair grading which enables them to progress through STEM education routes, in order to retain numbers in the subject, and to provide students with the content they need to go

on to a career in the sector. This is vital for achieving economic recovery post COVID-19, the nation's climate goals, and its other Grand Challenges.

The IOP's response

Due to the extremely short timeframe of the consultation, the IOP did not address, in full, every question of the consultation. Instead, our response focused on the **key principles** that should inform the alternative qualification awarding and grade classification arrangements, and measures the proposals against them:

- Equity
- Fairness
- Parity
- Reliability
- Workability
- Future looking

Responses to the consultation questions

Q1. To what extent do you agree or disagree that the grades awarded to students in 2021 should reflect the standard at which they are performing?

[Neither agree nor disagree](#)

Q2. To what extent do you agree or disagree that the alternative approach to awarding grades in summer 2021 should seek to encourage students to continue to engage with their education for the remainder of the academic year?

[Strongly disagree](#)

Q3. When would you prefer that teachers make their final assessment of their students' performance? (please select one)

[May and June](#)

Q4. To what extent do you agree or disagree that teachers should be able to use evidence of the standard of a student's performance from throughout their course?

[Agree](#)

Q5. Should there be any limit on the period from which previous work could be drawn?

[Yes](#)

Q7. Do you have any comments on when students should be assessed?

[The period from which previous work could be drawn \(question 5\) should be based on when schools and students know about how they are going to be assessed.](#)

Q8. To what extent do you agree or disagree that the exam boards should provide a set of papers to support teachers in assessing their students' work?

[Agree](#)

Q9. Do you think the use of the papers provided by the exam boards should be compulsory or optional, for GCSEs, AS and A levels?

All A level: [Optional](#) | All AS X: [Optional](#) | All GCSE: [Optional](#)

Q10. To what extent do you agree or disagree that any papers provided by the exam boards should include questions that are of a type that is familiar to students?

Strongly agree

Q11. To what extent do you agree or disagree that if teachers use exam board papers they should have choice about the topics covered in the questions their students answer, for example through choice of which papers they use with their students from the set of papers provided?

Agree

Q12. To what extent do you agree or disagree that teachers should be required to assess (either by use of the exam board papers or via other evidence) a certain minimum proportion of the overall subject content, for each subject?

Agree

Q13. To what extent do you agree or disagree that teachers should mark any papers their students are asked to complete?

Neither agree nor disagree

Q14. Do you have any comments on the use of exam board papers?

The alternative system of awarding grades and qualifications should not contribute to, or increase, the imbalance of qualification grades across any groups. It should fairly assess students' ability, rather than the school's ability to respond to the lockdown: there should be no disadvantage to students who suffered due to the differential learning deficit (i.e. they were unable to learn effectively due to the resources of their school or their own resources). It would not be equitable to assess all topics (or a fixed group of topics) because different schools will have missed different topics. Therefore, as proposed, there has to be an element of choice (so that schools are able to choose topics that have been taught).

We agree that the choice should be made before the exam: that is, the burden should not be placed on students to make choices (based on what they have been taught) during the exam. However, this choice should relate to choosing topics rather than choosing assessment items: the choice should be made at a school level; and should be made without sight of the question items. It might be that there are a number of items for each topic and these are allocated randomly to a school – thereby ensuring that it is the topic rather than the item that is being selected. The exam boards would then manage parity between items by comparing marks across all the items and weighting them (in the way that they would compare module tests previously).

Q19. Do you have any comments on the use of non-exam assessment and separately reported results and grades?

It is essential that any practice that is introduced this year as part of dealing with the pandemic does not establish permanent practice or set changes in assessment that feed into future years. There is a concern that any changes to the way in which practical work is assessed might result in schools developing workarounds for the practical endorsement in future years.

Given where we are in the year and the massive disruption to the likelihood of schools carrying out all the necessary practical activities, it makes sense to drop the practical endorsement but it should be for this one year only due to the exceptional circumstances posed by Covid-19. It should not become normal practice in future years, and practical work must be retained as a condition for achievement.

Q20. To what extent do you agree or disagree that a breadth of evidence should inform teachers' judgements?

Agree

Q21. To what extent do you agree or disagree that the provision of training and guidance from exam boards should support teachers to reach their assessment of a student's deserved grade?

Agree

Q22. To what extent do you agree or disagree that teachers should be able to take into account other performance evidence for a student before submitting a grade?

Neither agree nor disagree

Q23. To what extent do you agree or disagree that performance evidence from closer to the time of the final assessment, should carry more weight in determining a student's final grade?

Agree

Q24. Do you have any comments on the use of other performance evidence?

These questions do not capture some major concerns with the proposal. Our main concern is that teachers are being asked to award grades. This cannot be done in any meaningful or valid way that allows for comparisons between schools because teachers in one school simply do not have the information to award that can be compared with another school. Therefore, we strongly recommend that teachers provide marks and a sequenced list, and that the boards award the grades.

The main method of awarding marks and developing a rank order should be through papers set by the exam boards. Whilst it is reasonable that schools might seek other evidence to support a ranking decision, that evidence should be in addition to the papers set by the boards. Except in exceptional circumstances. Awarding grades at a school level will inevitably result in wide disparities between schools about what counts as performance at a given grade. Therefore, students' grades will be determined as much by the way in which their school awarded the grades as by their own learning and capability. This will be true for the papers set by the exam boards – although there will be mark schemes, there is currently no proposed mechanism for standardising or moderating the way in which those marks schemes are used. And the variation between schools will be even bigger for assessment materials that schools use themselves. These will have no standardisation or moderation. However, teachers are skilled in assessing the performance of their own students and have the knowledge and experience to provide marks and a rank order of the students in all of their classes.

They can do this without any additional training, so they would be able to focus on continuing to teach their students and on closing any learning gaps that have grown during the year – helping those students to be ready for the next step. Therefore, that is what they should be asked to do. They should submit marks (from both the exam papers and their own papers); and submit a rank order. They should also submit any assessment items that they used as well as student scripts and responses. It should then be the responsibility of the boards to award the grades and do so in a way that aims to standardise the grades between schools. This is something that boards are skilled and experienced in doing. It is therefore more efficient (for the system as a whole) that the grading remains with the boards rather than teachers (for whom it would disrupt and reduce learning time even further than has already happened). Furthermore, it is right that the responsibility for determining grades rests with the boards rather than teachers.

For small classes and in situations where there is variation against previous years, then the school and the board can use the evidence of the exam responses and previous work. In other words, the decision about a grade is made on evidence not solely on statistics. Any statistical analysis would be part of the normal process of identifying anomalies (rather than for determining a grade).

Teachers are not in a position to determine a grade that is comparable with other schools. That is an impossible task. The boards are in a position to make those decisions (having access to information on performance from past years and from other schools).

It is important to note that this arrangement would not involve using an algorithm to award grades. Rather, it would use existing standardisation procedures (which have always been employed for both ensure parity between schools).

The process should be stated clearly in advance, not only for transparency but also because this would mean that, once a grade has been awarded by a school, it becomes more difficult for the boards to change it. It was those adjustments that caused much of the concern in 2020. Therefore what we are proposing, as well as being more valid, practical and comparable for boards to award the grades, will reduce the possibility of students (and schools) feeling that their grade has been changed. And therefore will also be more beneficial to exam board, as it will potentially reduce the number of appeals made.

We agree that, once the boards have arrived at a set of grades for a school, those grades are shared with the school to ensure that the board's procedures have not resulted in any anomalies. However, this is a verification process to identify anomalies; it would not be the expectation that schools alter the rank order that they submitted or award individual grades. They would look for errors, anomalies or a clear misjudgement for their whole candidature – which they could address with evidence. We therefore agree that the grade should be awarded and checked by a person rather than an algorithm. Hence our recommendation that teachers provide marks and a sequenced list and that the boards award the grades.

See answer 52 below for more about how appeals will also be both increased and incomparable if schools are expected to award grade. And how the current proposal will further disrupt teaching and learning by tying schools up in lengthy appeals processes next year.

Q25. To what extent do you agree or disagree that all students should be assessed within a given time period for each subject – whether or not their school or college must or is using exam board papers?

Agree

Q26. To what extent do you agree or disagree that exam boards should publish all of their papers shortly before the assessments in order to manage the risk of some students being advantaged through papers being leaked?

Neither agree nor disagree

Q27. Do you have any comments about the assessment period for the use of exam board papers or teacher devised assessments?

It is understandable that exam boards publish their papers before the exams – so that all schools have the same access to papers before the exams. However, as described in answer 14, we recommend that schools do not make choices based on the knowledge they have of assessment items – this would drive perverse behaviour. Instead, they should make the choice based on a topic

and then be allocated a question (or questions) from that topic. Those questions might be selected at random from a bank of questions relating to the topic.

It is also important that the decision is not made too early as this might result in a long period that focuses on the upcoming assessments rather than continuing to ensure that as much content as possible is taught in the remainder of the year.

Q28. To what extent do you agree or disagree that the assessments should, if possible, be taken within the student's school or college?

Strongly agree

Q29. To what extent do you agree or disagree that if the pandemic makes it necessary a student should be able to take their assessments at an alternative venue, including at home?

Agree

Q30. Do you have any comments on the conditions under which students should be assessed?

For the assessment system to be equitable, the environment, conditions and quality of connection should be similar for all students.

We are concerned that some students may not have access to a laptop and broadband that will allow them to answer the questions in an uninterrupted way. Furthermore, not all students will have similar access to a quiet environment in which to sit the exams. These are more likely to be the same students who have already had the most difficulty in accessing learning during the year. So they will be further disadvantaged for the same reasons – their access to a quiet study environment, sole use of a laptop and a good broadband connection.

Therefore, every effort should be made to ensure that all students have equal access to the conditions necessary to sit the exam fairly.

Q31. To what extent do you agree or disagree that the exam boards should provide support and information to schools and colleges to help them meet the assessment requirements?

Disagree

Q32. To what extent do you agree or disagree that the exam boards should set requirements for school and college internal quality assurance arrangements and provide guidance on these requirements to support centres?

Disagree

Q33. To what extent do you agree or disagree that the head of a school or college should make a declaration to the exam board confirming its requirements had been followed and teachers had regard to the guidance and support materials provided?

Agree

Q34. Do you have any comments about internal quality assurance?

Questions 31 to 34 do not provide an opportunity to respond to the basic flaw in the proposed system: that schools and teachers are being required to set the grade (see our response to question 24).

In order for the system to be fair and to allow teachers and schools to focus on teaching and learning, the exam boards should determine the grades and grade boundaries. No amount of training or support will enable teachers to determine grades in an equivalent and fair way across schools. Hence the choice of 'disagree' in questions 31 and 32.

Exam boards should provide guidance on marking the papers and providing marks to the exam boards – along with a rank order. Teachers can accomplish that task with a minimum of training.

Responsibility for determining the grades (from submitted marks, submitted questions and submitted answers) should remain with the boards. Boards have the information (across all schools) to ensure parity between schools. They also have the techniques and experience of standardising assessments and awarding grades based on performance and fair comparisons. Therefore they can accomplish this task both more effectively and more efficiently allowing teachers to focus on teaching for the remainder of the year rather than being trained in a complex grading system that they will use only once.

Q35. To what extent do you agree or disagree that the exam boards should quality assure how schools and colleges are determining grades?

Strongly disagree

Q36. To what extent do you agree or disagree that the exam boards should quality assure the overall approach for all schools and colleges?

Agree

Q37. To what extent do you agree or disagree that the exam boards should sample, at subject level, the evidence on which the submitted grades were based?

Disagree

Q38. To what extent do you agree or disagree that the exam boards should target their more in-depth quality assurance activities?

Neither agree nor disagree

Q39. To what extent do you agree or disagree that exam boards could only change a student's grade after a review of the evidence and discussion with the school or college?

Strongly disagree

Q40. Do you have any comments about external quality assurance?

Again, these questions do not reflect the difficulties of the proposed system. Schools and teachers should not determine the grade. Doing so will result in disparities and many appeals.

The responsibility for determining the grades should sit with the exam boards. It will be more straightforward for them to determine and award grades based on submitted marks, materials and papers than it will be for them to alter a grade after it has been awarded. See our answer to question 24. Furthermore, if the exam boards determine the grades, they can ensure that the grades are awarded in a way that ensures parity between schools.

Q41. To what extent do you agree or disagree that students should not be told the grade their teacher has submitted before results day?

Strongly agree

Q42. To what extent do you agree or disagree that students should be able to appeal their grade on the grounds that their teacher made an error when assessing the student's performance?

Neither agree nor disagree

Q43. To what extent do you agree or disagree that the school or college should consider the appeal?

Strongly disagree

Q44. To what extent do you agree or disagree that the appeal should normally be considered by a competent person within the student's school or college who was not involved with the original assessment?

Strongly disagree

Q45. To what extent do you agree or disagree that a school or college should be able to appoint a competent person from outside of the school or college to consider the appeal?

Strongly disagree

Q47. To what extent do you agree or disagree that a student should be able to appeal to the exam board on the grounds that the school or college did not follow the exam board's requirements when it assessed the student's performance?

Agree

Q48. To what extent do you agree or disagree that a student should be able to appeal to the exam board on the grounds that the school or college did not properly consider the student's appeal?

Disagree

Q49. To what extent do you agree or disagree that we should seek to bring forward results day(s), in order for appeals to begin earlier?

Neither agree nor disagree

Q50. To what extent do you agree or disagree that if results day are brought forward, we should seek to decouple when a student is informed of their results, and universities are informed of their formal result for the purpose of admissions decisions?

Neither agree nor disagree

Q51. To what extent do you agree or disagree that the exam boards should provide information for schools and colleges on how they should handle appeals?

Disagree

Q52. Do you have any comments on the proposed appeal arrangements?

Once again, these questions are based on the premise that schools will award the grades – which we have serious concerns about. As explained in our response to question 24, if schools award grades, then there will be very little parity between schools on the quality of each grade. Therefore, it should be for the exam boards to award the grade based on marks, papers, scripts standardisation procedures.

It is likely that there will be many appeals, especially if schools have awarded the grades and parents appeal directly to the school about their children's grade. This will arise because people will feel that they have more chance of changing their grade if they are appealing to their school than to the board. They may also feel that they have more leverage with the school than with a board.

The proposals for section 10 show a further potential for chaos and inequity. If parents appeal to schools, then schools will be bound up in those appeals for much of the following year. And this will divert their resources away from their main role of teaching and learning. The responsibility for awarding the grade should lie with the exam boards. And all appeals should be directed to the exam boards, not schools. Students have already lost too much learning due to the pandemic; a consequence of the current proposals is that their learning suffers further because their teachers' time is taken up with appeals next year.

Furthermore, there will be no mechanism for standardising appeals to schools. Therefore any changes to grades will depend on the parents' knowledge of the appeals process, their desire to appeal and each school's response to those appeals. In other words, a student's final grade will depend a lot on the eloquence and motivation of their parents and the way in which a school responds to appeals rather than their own capability and performance in the exams.

As noted in question 24, the current proposals have no mechanism for ensuring parity of grading between schools. That disparity will be widened by an appeals process that is run at a school level – because there will be no standardisation in the outcomes of those appeals. Therefore, we suggest that appeals relating to grades are directed to exam boards (which awarded the grades). In some circumstances, schools might be involved in the appeal to confirm a candidate's position in the rank order. However, the rank order will be strongly evidenced by performance in written papers.

Q61. Do you believe the proposed arrangements (any or all) would have a positive impact on particular students because of their protected characteristics?

No

Q63. Do you believe the proposed arrangements (any or all) would have a negative impact on particular students because of their protected characteristics?

Yes

Q64. If you have answered 'yes' please explain your reason and suggest how the negative impact could be removed or reduced for each proposed arrangement you have in mind.

The proposed arrangements are likely to adversely affect students from lower SES based on:

- differential learning loss during the year
- potentially different conditions for sitting the exams
- potentially less adept at leveraging changes in grades in a school-level appeal system

There is also a risk that other groups will be negatively affected by conscious and unconscious biases within schools. The marking system will not be blind – the people marking the papers will know the students and therefore there will be subjective judgements based on knowledge of those students. And, whenever there are subjective judgements, there is the potential for unconscious biases and expectations to play a part. And there is evidence that such biases exist relating to people's expectations of young people's aptitude for some subjects based on their ethnicity, gender, sexuality and whether or not they are disabled.

Characteristics questions

Which nation or country are you based in?

England

Q69. How did you find out about this consultation?

Contacted by Ofqual

Is this the official response from your organisation or your own, personal response?

This is the official response from the IOP

Type of representative or interest group:

Subject association or learned society

For more information on this response, contact policy@iop.org.