Bachelors' degree classification algorithms

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Contents

Executive summary

1. This report sets out lessons learned from our investigations of three higher education providers relating to compliance with our condition of registration B4: Assessment and awards, together with information drawn from other sources.[1] It builds on existing guidance published by the higher education sector. It explains our views on how providers can ensure that the classifications of bachelors' degrees they award appropriately reflect students' achievement.

2. In publishing this report, we expect providers to take notice and where necessary adjust their practice, to ensure that the degrees they award retain their value over time. We aim to work with the higher education sector to ensure that bachelors' degree classification algorithms are firmly linked to actual student achievement.

3. This report sets out what providers should consider when making changes to the algorithms they use to determine classifications of degrees. It explains that we expect a provider making a change to its bachelors' degree algorithm to ensure that the classes of degree awarded following the change will appropriately reflect the knowledge and skills of each student awarded.

4. It also discusses in particular our concerns about the use of two steps sometimes included in an algorithm: awarding a student the best result from multiple algorithms and discounting credit with the lowest marks. It is not clear to us how a provider can demonstrate that it is compliant with condition B4 when using these steps.

5. Any provider that intends to continue to include either of these steps in its algorithm from **September 2026** is asked to let us know this by **31 July 2026**, so we can understand the scale of continuing use of these steps. We may issue further guidance about the use of these steps in due course. A provider with degree awarding powers that decides to discontinue using these steps in its algorithm does not need to let us know about this.

6. We are also introducing two new reporting requirements so we can monitor sector practice, and follow up as required with individual providers: one is to let us know where a provider is making changes that will increase the proportion of first or upper second class degrees awarded, and the other is to let us know if a provider is introducing steps either to award a student the best result from multiple algorithms, or to discount credit with the lowest marks into an algorithm.

7. We are pleased to have engaged with Universities UK (UUK) and GuildHE in the development of this report.

8. We encourage governing bodies, academic boards and leadership teams at providers with degree awarding powers to consider this report.

[1] See Office for Students (OfS), Condition B4: Assessment and awards.

Introduction

9. The Office for Students' (OfS's) ongoing condition of registration condition B4: Assessment and awards requires a provider to make sure that awards made under its academic regulations are credible when granted and when compared with previous awards. To be credible, an award must appropriately reflect the achievement of students at the time it is granted, and must hold its value over time.[2] This is so that students and other stakeholders can have confidence in the value of awards, and the public can be confident that classes of degree awarded appropriately reflect students' knowledge and skills.

10. In developing this report we have drawn on information from our own assessments of providers, sector data and information about sector practice. It builds on the good work that the sector has already done to identify areas of risk relating to the design of classification algorithms, and to make approaches to assessment and awarding more transparent by publishing degree outcomes statements.[3]

The role of algorithms in classifying bachelors' degree awards

11. This document is concerned with the use of algorithms to determine the classification of awards for bachelors' degrees. When we refer to the 'classification' of an award, we mean the processes and rules by which a provider differentiates between different levels of achievement above the requirements that need to be met to award a pass degree. Where a bachelors' degree award is classified, three broad stages of assessment and awarding typically determine the classification:

    a. Stage one is the point of **assessment**, which is the assignment of marks or grades by academic staff to the work of students. At this stage, achievement demonstrated by students is directly assessed.

    b. These marks or grades are then aggregated into **module** marks (or equivalent), which is the second stage. These are typically a weighted product of the marks or grades from multiple pieces of assessment completed by a student. In combination they determine a student's overall achievement for that module (or equivalent).[4]

    c. In the final stage, applicable module marks are fed into a classification **algorithm**. This applies a number of rules to determine a final degree classification for a student. These rules may include:

        i. Aggregating module marks for relevant years of study.

[2] See OfS, condition of registration B4.2.c, B4.2.e and B4.4.e at Condition B4: Assessment and awards. The relevant requirements are set out in full in the next section of this guidance. Current condition B4 came into effect on 1 May 2022.

[3] Connections between this guidance and sector work are discussed further in Annex B.

[4] Some assessment a student completes will not contribute to their module outcome. This guidance is not relevant to such 'formative only' assessment. Other assessment may contribute to a student's module outcome, but on a pass or fail basis. This guidance would be relevant to the use of such assessment if there is a link in the provider's academic regulations between pass or fail assessment and decisions about classes of award (such as a rule to cap the classification of an award in the event that such assessments are failed).

ii. Weighting between years.

iii. Determining which module marks should contribute to the calculation of the class of degree.

iv. Additional rules specifically about students whose performance sits close to classification boundaries.

12. The purpose of an algorithm is to take a profile of a student's achievement across the modules that count towards their degree, and determine the class of degree that the student should be awarded.

13. This may include cases where not all individual assessments or modules meet the threshold for the class of degree that it is appropriate to award to the student. There is a clear educational basis for this approach. For example, we would usually expect student performance to improve over time, while students may at times underperform in particular assessments because of unforeseen circumstances. Where particular knowledge and skills are assessed more than once through different assessments, and a student's performance varies across those assessments, a view needs to be formed about how to appropriately reflect that student's achievement overall.

14. While it is reasonable to make allowance for variation in individual student performance, it is equally important that a demonstrable relationship exists between the knowledge and skills a student has demonstrated at the point of assessment and the class of degree awarded to that student.

Condition B4 and algorithm design

15. Condition B4 came into effect on 1 May 2022.[5] Two of its requirements are relevant to the credibility of awards:

- To be compliant with **B4.2.c** the provider must ensure that its 'academic regulations are designed to ensure that relevant awards are credible'.

- To be compliant with **B4.2.e** the provider must ensure that relevant awards granted to students are credible at the point of being granted and when compared with those granted previously.

16. Condition B4 (B4.4.e) sets out the following definition of 'credible'. 'Credible' means that:

> '…in the reasonable opinion of the OfS, relevant awards reflect students' knowledge and skills and for this purpose the OfS may take into account factors which include, but are not limited to:

[5] See OfS, 'Regulatory framework for higher education in England', Summary of changes.

i. the number of relevant awards granted, and the classifications attached to them, and the way in which this number and/or the classifications change over time and compare with other providers;

ii. whether students are assessed effectively and whether assessments are valid and reliable;

iii. any actions the provider has taken that would result in an increased number of relevant awards, and/or changes in the classifications attached to them, whether or not the achievement of students has increased, for example, changes to assessment practices; and

iv. the provider's explanation and evidence in support of the reasons for any changes in the classifications over time or differences with other providers.'

17. The definition of 'academic regulations' in condition B4 sets out that they include 'the algorithms used to calculate the classification of awards' (B4.4.b.iv.B).

18. Our view is that to comply with condition B4, a provider must ensure that any algorithm it uses gives each student an appropriate class of award based on the profile of their achievement across all contributing assessment activity, with reference to the relevant learning outcomes.

19. We have been engaging with the sector about increases in the proportion of first and upper second class degrees for a number of years, and have monitored and published relevant data. In 2010-11, 15.8 per cent of students were awarded a first-class honours degree. Over time, the proportion of students awarded the top grade has more than doubled, reaching 37.7 per cent in 2020-21 before decreasing to 28.8 per cent in 2023-24. We might expect the number of students receiving first and second class degrees to increase as providers improve their teaching and learning delivery, but we have been concerned for some time that improved teaching may not fully explain the scale of the increase since 2010-11.[6]

20. We have completed assessments of the changes made over time by three providers to their algorithms for bachelors' degrees. We found that all three providers were at increased risk of a future breach of condition B4. In each case our finding was that the provider needed to take further actions to ensure an appropriate connection between the actual attainment of students, as evidenced by the overall assessment of student work, and the class of degrees awarded. We also found that all three providers continue to include steps in their algorithms to discount credit with the lowest marks. One of them also included a step that awarded a student the best result from multiple algorithms. We found that the use of these steps contributed to each providers' increased risk of breaching condition B4. As we set out in paragraphs 41 and 43, we have concerns that these steps are inherently inflationary.

[6] The sector data is discussed further in OfS, 'Sector-level analysis of degree classifications over time: Changes in graduate attainment from 2010-11 to 2023-24'. Our previous sector engagement is summarised in Annex A.

21. We are very pleased to be working with all three providers as they take actions to resolve the reasons for the increased risk.[7]

22. We also found breaches of condition B4 for two of the providers, because in the past they had introduced new degree algorithms that would have increased the number of first and upper second class degrees awarded after condition B4 came into force. However, because both providers had taken appropriate steps to remedy the concerns by making changes to their algorithms before the current condition came into effect and before we opened our investigations, we are not taking any further action about these matters.

23. We are publishing this report because we are aware that a similar use of algorithms and assurance processes is found in other providers. The risks we have identified are therefore likely to be present in these providers. This report is intended to support providers in mitigating those risks and to comply with condition B4. We are less likely to have concerns about compliance with condition B4 if a provider uses this report to consider and, where necessary, to adjust its practice.

24. We recognise that we have not previously published our views relating to the use of algorithms in the awarding of degrees. We look forward to positive engagement with the sector about the contents of this report. Once the providers we have investigated have completed the actions they have agreed to undertake, we may update it to reflect the findings from those exercises.

Making changes to bachelors' degree algorithms

25. When making any changes to an algorithm, we would expect a provider to test the new classes of award that would be assigned to students will appropriately reflect the knowledge and skills of each student using evidence of actual student attainment.

26. A provider should ensure that any change in the design of its algorithm does not result in a higher classification of degree being awarded based on the same student achievement. We are likely to regard this as an action that devalues awards, by inflating the class of degree to be awarded so that it does not appropriately reflect the knowledge and skills of students. Unless we are satisfied that awards made under the new algorithm appropriately reflect student attainment, such changes are likely to result in a provider being found in breach of conditions B4.2.c or B4.2.e. In this event we would consider using the full range of our enforcement powers.

27. Where a provider intends to make a change to an algorithm that its modelling shows will result in an increase in the proportion of first class or upper second class degrees, it should be able to demonstrate that the awards made will reflect students' knowledge and skills. One way in which it could do this, and also provide assurance about its compliance with condition B4, would be to demonstrate that it had undertaken a robust review of how awards made using the new algorithm would reflect students' knowledge and skills. This review could take the form of the calibration exercise we have set out in Annex C, or a similar exercise.

[7] More details of the findings from these investigations are set out in our case reports available at OfS, 'Quality assessment for registered providers'.

28. We recognise that providers already use internal moderation processes (processes conducted by a provider's own staff) to assure standards, and external examiners to provide assurance about how their standards compare with those of other providers.

29. We have concerns that the assurance that those processes can provide about the use of algorithms may be limited. Often the moderation work of internal and external examiners can be focused on sampling assessments at a module level (or equivalent). We recognise that moderation by external examiners at this level provides assurance about the comparability of standards between providers at a modular level. However, module level moderation does not in itself ensure that final degree classifications appropriately reflect students' overall achievement. A student's performance may be appropriately moderated at the level of individual assessments or modules, yet still be processed through an algorithm that translates those results into a degree classification that does not do this. The operation of effective moderation of marks at the module level does not guarantee that the final classification is an appropriate reflection of the student's academic performance across the course as a whole.[8]

30. Also, gaining assurance through internal and external moderation processes that awards made using a current algorithm reflect students' knowledge and skills may provide little or no assurance that, when changes are made to that algorithm, the awards made after the change will still appropriately reflect students' knowledge and skills.

31. On external examining more generally, our position continues to be that the use of external examiners is not a regulatory requirement. This leaves a significant opportunity to revise the assurance processes providers use and reduce cost and burden for the sector. We will use our engagement with sector bodies about this report to start a dialogue with the sector about this.

Comparisons between providers and between different student groups

32. Our view is that, although comparability of awards between providers is important, for a provider to be compliant with condition B4 any changes it makes to its algorithm must be clearly anchored to the actual attainment of knowledge and skills by the students being awarded.

33. A 2015 survey of sector practice suggested that, at that time, providers making changes to algorithms were sometimes focusing on how the proportions of different classes of degree they awarded compared with the proportions awarded by other providers.[9] We also found evidence of this in our more recent assessments. A comparison of this sort does not, on its

[8] The extent to which 'award algorithms' were outside of the scope of the external examiner system was noted as long ago as 2015. See Higher Education Academy, 'A review of external examining arrangements across the UK', page 94:

> 'this review, outwith any consideration of the external examiner system, has identified a clear concern with the role of award algorithms and regulations in relation to academic standards. These have been shown to impact differentially on the outcomes for students but are outside the scope of external examiner deliberations'.

[9] See Higher Education Academy, 'A review of external examining arrangements across the UK', page 55:

> 'approximately half of the senior quality officers who had [information to answer the question] report that their institution has changed their award algorithm/s in the last five years in order to ensure that they do not disadvantage students in comparison with those in similar institutions'.

own, provide evidence that the classes of degree a provider awards appropriately reflect the knowledge and skills demonstrated by its own students.

34. We continue to support the commitment of providers to closing actual attainment gaps. However, changing an algorithm such that a different proportion of students from a particular student group are awarded a first or upper second class degree is only justifiable if supported by evidence that the new class of degree awarded will appropriately reflect the knowledge and skills of those students. If students from a particular group in fact have lower attainment of knowledge and skills, the appropriate action is to raise that group's levels of attainment. Awarding students classes of degree for which they have not shown the required level of knowledge and skills risks lowering the value of the degree and can damage trust in the system.[10]

35. A bigger risk is that if a group of providers started changing their algorithms just to match the proportion of first and upper second class degrees awarded by others, without sufficiently considering how this reflected their own students' knowledge and skills, it would lead over time to a wider inflationary spiral in first class and upper second class awards, affecting a number of providers. There is a significant risk that changes to algorithms made in this way would lead to classes of degree being awarded that would not appropriately reflect the knowledge and skills of students.

Steps that take the best result from a choice of multiple algorithms or discount students' credit with the lowest marks

36. The higher education sector's guidance has always recognised the importance of ensuring a strong link between algorithm design and the class of bachelors' degree awarded.[11] Over the years that guidance has expressed concern about some of the steps included in algorithms, in particular discounting credits with the lowest marks and determining a student's classification by the best result from multiple algorithms.

37. The survey of provider practice in the 2017 report 'Understanding degree algorithms' identified that, at that time, 25 out of the 112 providers surveyed (23.6 per cent) discounted credit with the lowest marks ('a smaller number of best credits was used' when assessing performance at

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[10] We have developed an extensive range of effective practice to support providers to deliver equality of opportunity, highlighting case studies and resources for providers to consider in areas such as improving attainment for Black, Asian and minority ethnic students. See also Universities UK's 'Principles for effective degree algorithm design', principle 5, page 5:

> 'An algorithm itself should not be a primary means of reducing an attainment gap, nor maintained simply to avoid an attainment gap emerging. However, if groups of students are consequently expected to be disadvantaged at classification stage compared with others, it might highlight issues within the curriculum, programme design and learning environment that are affecting the distribution of marks going into the algorithm. This should then be the focus for institutions: the algorithm is applied not to students, but to students' marks.'

[11] See the Universities UK (UUK) and GuildHE 2017 report 'Understanding degree algorithms' [PDF], page 2:

> 'Maintaining public confidence in robust academic standards and the comparability of degree outcomes is a challenge for a diverse and autonomous higher education sector. Transparent and effective design of degree algorithms that fairly assess student outcomes and maintain robust academic standards should play an important role in meeting this challenge.' See also Annex B.

'programme level').[12] That survey also showed that, for eight providers that 'used more than one algorithm as standard […] it was common practice to award students the highest award classification from the two (if applicable)'.[13]

38. We found that the three providers we investigated were using one or both of these steps in their algorithms.

39. Sector guidance has expressed caution about the inflationary potential of discounting, although it has also identified potential educational benefits, such as supporting academic experimentation and risk-taking by students, or acting as a 'safeguard for students who may experience "rogue" poor performance'.[14]

40. Our concern is that, by excluding part of a student's assessed achievement, the discounting of credit with the lowest marks may result in a student receiving a class of degree that overlooks material evidence of their performance against the full learning outcomes for the course. Our view is that appropriate space for risk-taking can still be allowed in ways that do not risk inflation or result in awards that do not appropriately take into account a student's performance across the full learning outcomes for the course. (An example would be formative assessment.) Similarly, core modules that cannot be discounted, mapped to the course learning outcomes, may provide a way to ensure that full learning outcomes are taken into account. Providers should also have procedures in place to fairly resolve instances of poor performance caused by an individual's mitigating circumstances, such as illness.

41. In terms of discounting credits with the lowest marks within a degree classification algorithm, what particularly concerns us is an algorithm step that includes a specified volume of module credit in the calculation to determine a student's class of degree and automatically excludes ('discounts') credits with the lowest marks from the calculation. While discounting can take other forms (such as discounting both highest and lowest marks), excluding only the worst performance of a student when determining their final degree classification is particularly concerning because of the inherently inflationary impact this will have on the overall marks achieved by students.

42. Sector guidance has generally not been in favour of determining an individual student's classification by the best result from multiple algorithms. Except in certain limited circumstances, the 2017 report 'Understanding degree algorithms' 'found no justification of the use and application of multiple algorithms across a student population'.[15] The 2020 guidance 'Principles for effective degree algorithm design' recommended that 'where possible, an individual student's attainment should be classified using only one algorithm'.[16] Our concern with the use of multiple algorithms in determining a student's classification is that, for any student, the classification awarded should not simply be the most favourable result, but the

[12] See UUK and GuildHE, 'Understanding degree algorithms' [PDF], page 37.

[13] See UUK and GuildHE, 'Understanding degree algorithms' [PDF], page 27.

[14] See UK Standing Committee for Quality Assessment (UKSCQA), 'Degree classification: Transparent, consistent and fair academic standards' [PDF], page 34; 'Principles for effective degree algorithm design', page 7. See further discussion in Annex B.

[15] See UUK and GuildHE, 'Understanding degree algorithms' [PDF], page 39.

[16] See UKSCQA, 'Principles for effective degree algorithm design', page 9.

result that most accurately reflects the student's level of achievement against the learning outcomes (or equivalent) relevant to the award.

43. The practice that concerns us is where a provider feeds module marks for a student into two or more different algorithms, and awards the student the highest class of degree determined by any of the algorithms. This is separate from the use of different algorithms for different subject areas, or for particular groups of students (such as an algorithm specifically for students taking a top-up degree, where only Level 6 achievement counts towards the class of degree to be awarded). An arrangement of that sort, also sometimes referred to as 'multiple algorithms' does not, in our view, have the same inherent inflationary risk. However, a provider using different algorithms for different subjects or other groups of students would still need to consider the requirements set out in condition B4 for each of its separate algorithms, and ensure it is compliant.

44. Our view is that such steps are inherently inflationary, and that providers should move away from the use both of steps that discount students' credit with the lowest marks and of steps that take the best result from a choice of multiple algorithms. As discussed further in Annex B, sector guidance has consistently expressed concern about the use of multiple algorithms. Its view about discounting has been more mixed, but has identified concerns about the risks of its use. We think it will be harder for a provider to demonstrate compliance with condition B4 when using one of both of these steps in its algorithm. A way in which a provider using such steps could provide assurance to us would be to provide evidence that it has undertaken a robust review to show that classes of degree awarded appropriately reflect the knowledge and skills of students. This review could take the form of the calibration exercise we have set out in Annex C, or a similar exercise.

45. We have agreed with the three providers we have investigated that they will review their use of these steps. We will consider the outcomes of their reviews and may use them to inform further discussion with the sector about their use. As we set out in paragraphs 59 and 60b, we are requesting that providers inform us if they intend to continue use either of these steps, or submit a report to us if they intend to start to use them, so we can monitor their use across the sector and follow up with providers as necessary.

Relevance of this report to providers without degree awarding powers

46. This report relates specifically to providers with degree awarding powers (DAPs), but it is also relevant to those involved in delivering bachelors' degrees in partnership with a provider with DAPs, through subcontractual or validated arrangements. Where a registered provider works in partnership to provide courses leading to classified bachelors' degrees, each registered partner has a responsibility to ensure that it complies with all our requirements that affect quality and standards, including those set out in condition B4. Where courses are provided in partnership, providers need to work together to ensure that the approach taken to assessment and awarding complies with our requirements.

47. Therefore, while this report is primarily intended for providers with DAPs, these providers may require input from other providers with which they work in partnership. For example, a provider with DAPs may need to work with its delivery partners if it decides to undertake an activity such as a calibration exercise, where its delivery partner holds the archives of student work needed for this process.

Relevance of this report to other undergraduate and postgraduate awards

48. This report relates specifically to undergraduate bachelors' degree courses. However, condition B4 applies to all awards (degrees, diplomas or certificates) that are in scope for our regulation. The content of this report may also be relevant to other types of undergraduate and postgraduate awards where marks are fed into an algorithm to differentiate between levels of attainment above a threshold pass, such as pass, merit or distinction.

49. Providers should also carefully consider how the awards they make using such algorithms appropriately reflect students' knowledge and skills, and may find it helpful to draw on this guidance to support them in doing so.

Other inflationary risks to awards

50. While this report relates specifically to bachelors' degree classification algorithms, condition B4 applies to all aspects of a provider's arrangements for assessing students and awarding qualifications. The overall credibility of awards is established not only by a provider's decisions about its algorithms, but also by the rigour with which work is assessed at the point of assessment, the way achievement in individual assessments is used to determine overall marks or grades in a module, and the wider policies set out in a provider's academic regulations.

51. How procedures for assessment and award are designed more generally (such as how mark schemes are employed, how assessments are weighted within a module, or policies on reassessment) also plays an important role in ensuring that all awards appropriately reflect the knowledge and skills of students. Changes to these procedures may also lead to unjustifiable inflation in classification of degrees or other awards, if they mean they no longer appropriately reflect the knowledge and skills of students. This would undermine a provider's compliance with condition B4.

52. Condition B4 applies to all types of assessment and awarding, not only to algorithms and the classification of bachelors' degrees. When thinking about all their arrangements for assessment and awarding, providers need to ensure that awards will be credible and to guard against making changes to procedures that will dilute this credibility. Changes to procedures for assessment and awarding for any higher education course or qualification may also lead to concerns about compliance with condition B4.

Using this report

53. The purpose of this report is to help providers recognise and manage some areas of risk relating to bachelors' degree classification algorithms, in particular when making changes to these algorithms, and to help them comply with condition B4. Its publication is intended to help to safeguard the value of awards made by the providers we regulate, and support public confidence in higher education and its qualifications.

54. We will continue to engage with the sector, including through UUK and GuildHE, to support sector comprehension of our report and to understand how the sector is engaging with it.

55. Once the three providers we have assessed have completed the agreed review actions, we will consider whether we need to amend the report or issue further guidance.

Initial consideration

56. We expect governing bodies, academic boards and executives of providers with degree awarding powers to consider this report.

57. We are aware that some providers with DAPs include steps in their bachelors' degree algorithms to award a student the best result from multiple algorithms or to discount credit with the lowest marks. Those providers should consider our concerns about the use of these steps in their algorithms set out in paragraphs 40 to 44.

58. If a provider is currently using either of these steps and decides to discontinue them, it does not need to let us know this.

59. Any provider with DAPs that, after it has reviewed its position, intends to continue to include steps to award the best result from multiple algorithms or discount credit with the lowest marks in its bachelors' degree algorithm from **September 2026** is asked to **report this to us by 31 July 2026**, by email to Regulation@officeforstudents.org.uk. This is so that we can understand the scale of the ongoing use of these steps, and identify providers that we might engage with further. As set out in paragraph 45, we will further consider our position on the use of these steps, and may issue further guidance in due course.

Reportable events

60. We have decided to introduce two new targeted ongoing reportable events, to allow us to monitor changes to algorithms in the sector. These new reportable events will require a **provider with degree awarding powers** always to report:

    a. That it has made a change to a bachelors' degree algorithm that its modelling shows will result in an increase in the proportion of first class or upper second class degrees awarded.

    b. That it has made a change to a bachelors' degree algorithm such that the new algorithm includes a step to determine a classification by the best result from multiple algorithms, or to discount credit with the lowest marks. The terms 'best result from multiple algorithms' and 'discount credit with the lowest marks' are defined in paragraphs 41 and 43.

61. When we receive such a report we are likely to ask for confirmation of whether the provider has taken account of the views it sets out in making this change. We would be more likely to consider further investigation if the provider has not acted in line with the views we have set out in this report.

62. These reportable events will enable us to monitor, and where necessary engage with, a provider making a change to its bachelors' degree algorithm that is likely to increase its risk of non-compliance with condition B4. We will confirm this to the sector once these new reportable events have been introduced.

63. In the future we intend to review the criteria for the authorisation of DAPs in the OfS Regulatory framework. We will use what we learn from our engagement with the sector about this report to inform that review.

Further information

64. If you have any questions about this report please contact regulation@officeforstudents.org.uk.

Annex A: Our sector engagement relating to degree classification

1. In addition to data analysis, since 2019 we have published a series of blog posts and an Insight brief setting out our ongoing concern that increases in classifications at sector level and for individual providers risked undermining public confidence in higher education and devaluing the work of students.[17]

2. During the Covid pandemic we put in place temporary guidance about quality and standards that included guidance on degree classification algorithms. This applied for the period from 3 April 2020 to 12 May 2022.[18]

3. On 1 May 2022, following two phases of consultation, we brought a set of new ongoing and initial conditions of registration into effect. This included revisions to condition B4 to clarify requirements relating to the credibility of awards (in what became condition B4.4.e), which we set out in the consultations as 'an important component of our approach to tackling unwarranted grade inflation, where the same student achievement is rewarded with higher classifications over time.'[19]

4. In September 2022 we opened investigations into three providers. We are publishing reports on those investigations alongside this report.[20]

[17] See OfS, 'Getting to grips with grade inflation'; 'Why grade inflation matters'; 'Degrees of inflation? Ensuring the credibility and reliability of higher education qualifications'; Insight brief #14: Maintaining the credibility of degrees.

[18] See OfS, 'Guidance for providers about quality and standards during the coronavirus (COVID-19) pandemic' (April 2020), paragraph 74:

> 'If an awarding body is considering making changes to its degree classification algorithm as a direct response to the disruption caused by the pandemic, it must ensure such changes are reasonable. It should ensure that classifications are reliable and command public confidence and that students this year are treated equitably when compared with students from previous years. The OfS would expect to see a provider take reasonable steps to ensure that any changes to classification arrangements do not result in unwarranted grade inflation. The OfS is only likely to take regulatory action if it considers that a provider has deliberately or recklessly taken advantage of the current exceptional circumstances to increase the number of first or upper second class degrees it awards'.

[19] See OfS, 'Consultation on quality and standards conditions', paragraph 56d.

[20] Available at OfS, 'Quality assessment for registered providers'.

Annex B: Sector guidance, research and response relating to degree classification algorithms

1. The higher education sector has been reviewing its practice relating to degree standards in general, and classification algorithms in particular, for a number of years. This annex sets out some of the connections between that body of work and this report.

2. In 2017, Universities UK and GuildHE published 'Understanding degree algorithms', a joint report, which emphasised that providers should be able to justify the rationale for degree classification algorithms, ensuring that they are clear and transparent and fairly assess student outcomes. Furthermore, it set out that algorithms should be 'based on clear principles that align with the educational mission and values of the institution and pedagogical practice, without lowering standards'.[21] While reviewing the algorithm design of other providers for reference was seen as legitimate, the report stated that algorithm design should be motivated by 'robust pedagogical practice in the interest of students'.[22] The report outlined concerns relating to the use of multiple algorithms for degree classifications and the practice of discounting 'worst credit', which it considered could possibly lead to 'grade inflation'. It called upon providers to 'review their regulations if they assess a student using more than one algorithm or only discount lowest grades'.[23]

3. In 2018, the UK Standing Committee for Quality Assessment published two reports, 'The drivers of degree classifications' and 'Degree classification: Transparent, consistent and fair academic standards'. The first, by Dr Ray Bachan, examined the increases in the proportion of upper awards awarded in UK higher education providers, and concluded in summary that 'the findings suggest that from the academic year 2010-11 onwards, the input variables explain increasingly less of the change in upper degrees, suggesting an increase in the potential risks of grade inflation'.[24] The second report reviewed a range of findings. It stated that the evidence it presented was 'not conclusive evidence of either inflation or improvement' and that it 'is nearly impossible to demonstrate concretely one way or another.' However, it went on to state that 'the upward trend in itself creates a risk that degree classifications will become less useful to students and employers and may undermine wider confidence in the value of higher education.' Furthermore, it found that 'there is likely to have been a system-wide inflationary dynamic that has contributed to the increase in upper classifications over time'. It then called for the production of 'a clear statement of intent by higher education institutions to address the challenge of grade inflation. Universities should actively, openly and self-critically consider risks in relation to the value of their qualifications through the interrogation and publication of evidence and practice.'[25]

[21] UUK and GuildHE, 'Understanding degree algorithms' [PDF], pages 2 and 52.

[22] UUK and GuildHE, 'Understanding degree algorithms' [PDF], page 52.

[23] UUK and GuildHE, 'Understanding degree algorithms' [PDF], pages 53, 37 and 25.

[24] UKSCQA, 'The drivers of degree classifications' [PDF], page 5. The report was published with the support of UUK, GuildHE and the QAA.

[25] UKSCQA, 'Degree classification: Transparent, consistent and fair academic standards', page 49. The report was published with the support of UUK, GuildHE and the QAA.

4. The ‘Degree classification: Transparent, consistent and fair academic standards’ report considered a range of discounting practices. It observed that reasons for adopting discounting practices ‘include the subjectivity of marking practices and a safeguard for students who may experience a “rogue” poor performance (i.e. one that cannot be addressed through separate special and/or mitigating circumstances)’. However, it goes on to identify ‘a perception risk, where it involves students who do not meet the conditions of the stated degree algorithm being perceived as receiving a second chance.’[26]

5. In 2019, UKSCQA published ‘Degree classification: Transparency, reliability and fairness – A statement of intent’. This set out a sector commitment to five key principles:

    a. Protecting the value of qualifications is in the interest of students – past, present and future – who deserve qualifications that they can take pride in.

    b. All higher education providers are responsible for protecting the value and the sustainability of the classification system.

    c. Qualifications should be based on clear criteria that recognise, demonstrate, and celebrate academic stretch and success.

    d. Higher education providers are responsible for awarding degrees that benefit from common arrangements to protect their value.

    e. The diversity of the UK higher education sector is a strength which is founded on shared, consistent, and comparable academic practices.[27]

6. In England, implementation of the statement of intent included that ‘institutions awarding degrees should publish a “degree outcomes statement” articulating the results of an internal institutional review’, including ‘whether the rationale for degree algorithm(s) is clear and publicly accessible’.[28]

7. In 2020, UKSCQA published ‘Principles for effective degree algorithm design’. Within the guidance six key principles are identified. Principle one sets out that ‘an algorithm must provide an appropriate and reliable summary of a student’s performance against the learning outcomes, reflecting the design, delivery and structure of a degree programme.’ The narrative accompanying principle one highlights that ‘students and employers need to be confident that the final classification is a reliable indicator of performance’.[29]

8. Principle two sets out that ‘an algorithm must fairly reflect a student’s performance without unduly over-emphasising particular aspects, with consideration at the design stage of how each element within a method of classification interacts with other elements.’ The associated narrative goes on to highlight the ‘potentially inflationary’ impact of regulations which combine the use of ‘(a) weighting more heavily towards the final year of study; (b) discounting some

[26] UKSCQA, ‘Degree classification: Transparent, consistent and fair academic standards’, page 34.

[27] UKSCQA, ‘Degree classification transparency, reliability and fairness: A statement of intent’, page 2.

[28] UKSCQA, ‘Degree classification transparency, reliability and fairness: A statement of intent’, page 3.

[29] UKSCQA, ‘Principles for effective degree algorithm design’, page 3. The report was published with the support of UUK, GuildHE and the QAA.

credits at lower levels; or (c) adopting a second borderline algorithm that considers performance in the final year'. It also states that 'providers must act responsibly to ensure that when taken as a whole, the final algorithm continues to reflect the stated principles, assuring themselves that the chosen elements neither interact so as to cancel each other out, nor unduly reinforce each other'.[30]

9. The 'Principles for effective degree algorithm design' report also included in its recommendations for algorithm design that, where possible, an individual student's attainment should be classified using only one algorithm, designed against clear learning outcomes for the programme in question: 'adopting a single algorithm for every student on the same degree programme ensures greater transparency and comparability within a cohort'. It noted that discounting could support 'academic experimentation and risk taking by students' and students from 'disadvantaged backgrounds', but that 'it is important that any form of discounting is minimised to reduce its inflationary potential and ensure the title of the degree awarded is not misleading.'[31]

10. In 2024, UUK reported on a provider survey that, among other things, showed good progress on the publication of degree outcomes statements and the use of the UKSCQA principles to review degree algorithms.[32]

11. Reviewing the sector's engagement with degree standards, and more specifically classification algorithms, over the last few years, it is clear that much has been achieved to articulate and take steps that will protect the value of awards. The sector guidance is extensive. Our report aligns with and builds on a number of concerns relating to algorithm design that the sector has already identified as important: in particular, concerns about the use of multiple algorithms and about aspects of discounting, in particular of credits with the lowest marks. More generally, our interest in ensuring that awards reflect the knowledge and skills of students aligns closely with the first principle in the 2020 UKSCQA guidance, that 'an algorithm must provide an appropriate and reliable summary of a student's performance against the learning outcomes.'

[30] UKSCQA, 'Principles for effective degree algorithm design', page 3.

[31] UKSCQA, 'Principles for effective degree algorithm design', pages 9 and 7.

[32] UUK, 'How are universities protecting degree standards?'.

Annex C: Calibration exercises

12. In paragraphs 27, 44 and 47 of this report we have made reference to a 'calibration exercise' that may give assurance that classes of degree awarded appropriately reflect the knowledge and skills of students. In this annex we set out in some detail our view on the features that such an exercise should have. As we set out in the report, other forms of review may also be effective, provided they are sufficiently robust.

13. A robust calibration exercise would use objective academic judgement to assess whether the class of degree awarded appropriately reflects the level of knowledge and skills attained by students in their assessed work, across the full range of profiles of attainment that translate to that class of award. This should be done with reference to our sector-recognised standards and relevant course documentation.

14. We would consider a calibration exercise robust if it:

    a. Considers the aggregate achievement of individual students, whose records are representative of the full range of profiles of attainment.

    b. Confirms whether that student achievement justifies the classes of degrees awarded to those students.

    c. References our sector-recognised standards and the provider's own statements of the knowledge and skills a student should have demonstrated at the end of the course, such as course outcomes.[33]

15. A provider will need to identify suitably qualified and experienced people to provide the objective academic judgement required for calibration. To be objective, these individuals will not be members of its staff. Current external examiners could be asked to undertake this task, but to ensure that the calibration exercise is robustly objective, we consider that a provider should not rely solely on their views, and should draw relevant expertise from a range of types of provider across the sector.[34]

16. We are unlikely to consider former external examiners to be appropriate people to contribute to a calibration exercise. We share the concerns about the 'need to bring in a fresh perspective' that the sector has previously identified as a reason to set a maximum period for external examiner appointments.[35] More weight can be placed on the findings of a calibration exercise if it is informed by the fresh objective judgement of individuals who are not current or former external examiners of the provider.

[33] See OfS, 'Sector-recognised standards'.

[34] The OfS has published a student typology of providers, which may assist providers in identifying other types of provider that may have relevant expertise. See OfS, 'Provider typologies 2022: Methodology for grouping OfS-registered providers', Annex A.

[35] See Quality Assurance Agency (QAA), 'External examining: Putting the principles into practice', paragraph 39.

Determining a reasonable sample size of assessed student work for conducting a calibration exercise

17. What constitutes a representative sample of assessed student work for a calibration exercise will depend on the context of the provider.

18. A provider will need a suitable range of assessed work from which to select a sample. The guidance that accompanies condition B in the OfS Regulatory framework, introduced in May 2022, sets out an expectation that a provider should retain 'appropriate records' of assessed work, including for students who are no longer registered on a course, for a period of five years after the end date of a course, on the basis that 'as part of its approach to assessing compliance with this condition, we are likely to need access to students' assessed work'.[36] In March 2024 we published supplementary guidance on retaining assessed work, which sets out how providers may identify a representative sample of records of assessment for retention to meet the guidance set out in the Regulatory framework.[37]

19. To create a representative sample of assessed work specifically for a calibration exercise for a bachelors' degree algorithm, we would expect a provider to take the following considerations into account:

    a. If a provider has different algorithms in place for different subject areas or for particular groups of students (for example an algorithm specifically for 'top up' degree students), the selection should include work for students for each relevant bachelors' degree algorithm.

    b. The selection should include students with both borderline and typical performance, so the awards of each class of degree using the algorithm can be calibrated. Borderline performance means students with outcomes that are close to, but just above or below, the boundary for each class of degree according to the rules set out in the algorithm. Typical performance means students with performance sitting clearly within the class bandings according to the rules set out in the algorithm.

    c. The selection should be representative of the subjects offered by the provider.[38] It should reflect each of the broad types of subject that a provider offers (for example arts, humanities, social sciences, sciences, technology, professional or vocational). In making its selection of students for its calibration exercise, a provider should also consider whether there is evidence of material variation by subject in the proportions of different classes of degree that would be awarded when using the algorithm. It should ensure that its selection of students takes into account any such material variation by subject. If a group of subjects does not show a material variation in the proportions of different classes of degree that would be awarded, it would not be necessary to select students from every subject.

[36] See OfS, 'Regulatory framework for higher education in England', paragraph 335U.

[37] See OfS, 'Supplementary guidance: Retention of assessed work', paragraphs 14 to 16.

[38] In this paragraph, 'subject' refers to the division into subjects set out at Level 1 of the Higher Education Statistics Agency's Common Aggregation Hierarchy.