Scottish Qualifications Authority

Code of Practice Governance Group, Friday 29 May 2020

Alternative Certification Model – Key decision points and timelines for validation and moderation of estimates

Purpose

This paper sets out:

a. Key timelines and decision points for the key stages of ACM i.e. those relating to validation and moderation of estimates
b. The processes it proposed to use to arrive at decisions, as far as it is possible to define them at this stage
c. Assumptions and constraints that will impact on these decision points and associated processes

It asks that CoPGG endorses the timelines and decision points and reviews the assumptions and constraints to ensure they provide a basis on which SQA can deliver certification in line with the our three overarching principles for all of this work.

The paper is based on information from a number of sources, including guidance from our lawyers on ensuring that our activities under the ACM do not constitute automatic decision making and therefore place us at risk of contravening the Data Protection Act.

Context

ACM is SQA's approach to determining the appropriate Grade to award each candidate in 2020. It is based on teacher estimates, with associated internal and external moderation, instead of actual candidate performance in exams and coursework.

It is based on the following principles:

1. Fairness to all learners
2. Safe and secure certification of our qualifications, while following the latest public health advice
3. Maintaining the integrity and credibility of our qualifications system, ensuring that standards are maintained over time, in the interests of learners

SQA has defined three stages of ACM:

1. Review of accuracy of estimates
2. Moderation where necessary
3. National Awarding Meetings

Assumptions and constraints

The following assumptions and constraints underpin our approach to the ACM:

- We will moderate the smallest number of estimates possible to ensure maintenance of standards
- We will only moderate estimates where there is clear evidence that it is required
- And we have identified a way of moderating estimates that is consistent with our principles and these assumptions
- There may be some courses for which we cannot find a way of moderating e.g. low uptake

- Rank orders are sacrosanct: we will not change the rank order of any candidate as part of the moderation process
- We will base decisions on quantitative and qualitative analysis
- We may take a different approach at different levels based on factors such as availability of prior attainment data
- We will keep a clear rationale and audit trail for every decision
- The moderation process is time limited by other aspects of the process for Awarding 2020 and cannot start before 5 June or go beyond 8 July

Decision points and timelines

The critical period for ACM is from 29 May, when all estimates will have been submitted, to 10 July when results data is needed for certification. Within this, ACM is scheduled to receive the estimate data on 5 June following completion of data integrity checks. We have set a deadline for completion of all validation, moderation and awarding activity of 8 July to allow for some contingency and preparation of the final results file for certification.

If the 5 June deadline is achieved we are working to ensure that initial results of the analysis of estimates are available for review as early as possible in the week beginning 8 June.

Not including weekends this allows an absolute maximum total of 23 days for the validation and moderation process. In practice we may not have access to the data until around 10 June, further reducing the time available. We are working with SAS to ensure the data is available as soon as possible after 8 June.

The remainder of this paper details, as far as is possible at this stage, the decision points that relate to the process of validating and moderating estimates and the processes we propose to use to achieve the decisions. As the outline makes clear there remain a number of uncertainties that prevent us from being more categorical about the process. The two main uncertainties are:

a. **The quality of the estimates submitted by centres** i.e. the degree to which they match the distribution of grades, at both national and centre level, we would have expected had the exams run normally this year
b. **What approaches will be available to us to moderate estimates** where this is shown to be necessary. This is the subject of continuing work between SQA, SAS and AlphaPlus. We expect to have reached a provisional decision by 3 June although as with other aspects of the validation and moderation process will not be able to make final decisions until we have seen the estimate data.

The decision points covered below are:

1. Confirmation of Historical Starting Point Distributions – *by 2 June*
2. Selection of approaches for moderation of estimates – *by 3 June*
3. Review of accuracy of estimates and identification of courses and centres for which estimates require to be moderated – *by 19 June*
4. Approach to National Awarding Meetings agreed – *by 10 June*
5. Has it been possible to identify approaches to moderation to address estimates that are out of line with expectations at national and centre level? – *by 30 June*
6. Have outcomes of moderation activity achieved the expected outcome? – *by 6 July*
7. National Awarding Meetings – *by 6 July*

Decision point 1

Confirmation of Historical Starting Point Distributions – by 2 June

The Historical Starting Point Distributions (SPD) are designed to provide a check on whether estimates submitted for 2020 are, at a national level, in line with the results that would have been expected had the 2020 Diet of examinations run normally. They will be used for this initial check and at the National Awarding stage to judge the degree to which moderation of estimates has been effective in addressing any systematic over- or under-estimation.

To ensure they are fit for this purpose SPDs have been generated by SAS. QMs, with support from PAs if/as necessary have been asked to sign off SPDs and to note any specific issues with the distribution of grades that we need to take into account when making final awarding decisions in 2020.

This activity is currently on track for completion by 2 June.

Decision point 2

Selection of approaches for moderation of estimates – by 3 June

This selection will require SQA to make decisions based on approaches proposed by SAS. IN practice decisions at this point can only be high level and in principle. As with other aspects of this process final decisions will need to wait until we see and understand the final estimates data.

Decision point 3

Review of accuracy of estimates and identification of courses and centres for which estimates require to be moderated – by 19 June

Inputs

The inputs to this process are as follows:

a. Estimates for 2020 for each course compared to SPDs signed off at Decision Point 1

List of centres whose estimates may require moderation based on a combination of analysis of the SPD and:

- ***Starting point distributions by centre based on prior attainment***
  National and centre level distributions based on the prior attainment of candidates entered for H and AH courses in 2020

- ***Volume of attainment measures by centre and course***
  A measure of the historical annual volume of attainment for each centre at an aggregate and individual course level. This enables a comparison to be made with the centre's predicted volume of attainment at an aggregate and course level in 2020.

- ***Measure of centre estimation accuracy***
  Understanding how accurate a centre's estimates have been historically will allow us to use this information in assessing the likely accuracy of their 2020 estimates. Use of this measure needs to take account of the fact that centres' estimation behaviour is highly likely to have been

changed by the central place of estimates in the 2020 awarding process and the training and guidance provided by SQA.

b. Criteria on which decisions can be made about which centres require moderation based on those identified from the SAS analysis. These criteria will be designed to reflect our assumptions noted above and in particular to ensure that we:

- Adjust the smallest number of estimates possible consistent with achieving an acceptable national distribution of grades
- Identify and moderate the estimates of those centres whose estimates are anomalous with their expected results based on their historical performance as demonstrated by the categories of analysis noted above.

In practice this is likely to require the application of tolerances to determine which estimates require moderation and which do not. These tolerances should be defined as the proportion of estimates that need to be moderated in order to:

- Bring the national grade distribution into line with expectations for this year
- Address and correct any under- or over-estimation at centre level.

Clearly there is a relationship between where these tolerances are set and the resulting volume of moderation activity required. The time-limited nature of ACM also means that may be a practical limit to what volume of moderation activity it is possible to complete in the time available. If time was not a factor we could agree tolerances before any review of the estimates. As it is a critical constraint, the relationship between these variables (estimates, time, criteria and tolerances) is complex. We will only know the volume of moderation activity required when we review the above analysis and how long this activity will take when we are clear about the approaches available to us for moderation.

c. QDD Heads of Service supported by Statisticians QDD Head of Service will act as expert decision makers at this stage of the process, in a role similar to that of Advisors in the business as usual grade boundary setting process.

Approach

There are three obvious approaches to making the decisions on those estimates requiring moderation:

1. An entirely automatic process based on analysis undertaken by SAS

It is not yet clear whether this is possible. If it is it would be the fastest approach. This benefit of speed or turnaround needs to be balanced by the importance of our approach includes a strong degree of human decision making. In practice analysis undertaken by SAS provides the basis for either of the options below.

2. A central approach in which decisions on all the estimates that require moderation for every course is made by one group

Whilst this approach is attractive from the perspective of consistency of decision making, in practice it is not likely to be possible in the time available

3. A decentralised approach in which each QDD HoS makes decisions for the courses in their area

Practically this is likely to be the most effective approach. It also has the benefit of allowing those making the decisions to draw on their qualitative knowledge of the courses in making decisions. The main limitation of this approach is the potential for inconsistency in the decisions made. We can address this through a range of measures including training for those involved, use of common criteria and a consistency check on the outcomes at the end of the process.

Decision point 4

Approach to National Awarding Meetings agreed – by 10 June

Based on decisions about the extent of moderation required a decision will be made on the scheduling of National Awarding Meetings. Two approaches are currently under consideration. The first is based on the meetings for those subjects where moderation of estimates is completed early on running in parallel with continuing moderation activity for other subjects. Under the second schedule all awarding meetings would take place towards the end of the moderation period.

Decision point 5

Has it been possible to identify approaches to moderation to address estimates that are out of line with expectations at national and centre level? – by 30 June

Based on all of the above activity and analysis we may conclude that there is no approach to moderation of estimates that sufficiently satisfies our three core principles. If this is the case, for all or a proportion of courses a decision would be made to award the estimates submitted.

Decision point 6

Have outcomes of moderation activity achieved the expected outcome? – by 6 July

When those centres whose estimates require moderation have been identified, this moderation will be undertaken by SAS using approaches agreed by SQA.

It remains possible that we will not be able to identify and agree on approaches to moderation for some courses e.g. those with low uptake. In this case the estimates submitted by centres would be used as the grades awarded.

Where moderation is possible, the outcomes will need to be reviewed to confirm that they have achieved the outcome sought at national and centre level. This will require a similar process to that outlined above and informed by the outputs from the moderation process.

If the moderation process has successfully achieved its aims the results for the course can be submitted for consideration at the National Awarding Meeting.

If it has not achieved its aims a decision would need to be made on whether the outcome is sufficiently close to an acceptable national grade distribution to be submitted for National Awarding or whether further moderation is required.

Decision point 7

National Awarding Meetings – by 6 July

This final stage will review all the available data following moderation of estimates and ensure that standards are maintained over time.

It is currently proposed that a short meeting (maximum 30 minutes) will be convened for each course, to consider:

a. the Starting Point Distribution
b. the original distribution of estimates
c. the distribution of estimates post-centre moderation
d. a report on the scale of centre moderation

Chaired by a member of the EMT or their representative, with the relevant QD HoS as adviser, the PA as subject expert and the QM, the meeting will determine where to set the thresholds for grades A and C using the refined estimate bands, with the objective of meeting our SPDs as closely as possible.

As noted earlier, planning for these meetings is currently underway working on two alternative schedules.

If it is not possible to reach agreement on the setting of thresholds at this meeting the decision will be referred to the Chief Examiner. This is the approach taken in a business as usual year if there is no agreement at the Grade Boundary meeting.

All awarding decisions must be complete by 6 July to allow time for contingency and preparation of the results file which will provide the basis for certification.

Recommendation

CoPGG is asked to:

a. endorse the outline approach proposed above, recognising that the more detailed aspects of the process continue to be developed
b. Provide guidance and advice to inform this further work
c. Advise on the timings and content of further updates to CoPGG based on the decision points and timelines outlined above.

SQA
28 May 2020