**Higher National Qualifications
Internal Assessment Report 2014**
Mathematics and Statistics

The purpose of this report is to provide feedback to centres on verification in Higher National Qualifications in this subject.

Higher National Units

General comments

In total, the HN Mathematics and Statistics verification group (142) visited 14 sites in the UK. A total of 36 Unit occurrences were checked, covering 11 subjects at three different SCQF levels. Two of the visits used the mainstream quality assurance approach, and 12 used the new approach to quality assurance. Six Holds on certification were issued in 2014, but these were lifted after remedial action was taken.

In general, the centres visited were found to have a clear and accurate understanding of the national standards for assessment. There were some cases where deviation from the standards was identified. Some of the issues arising, both good practice and areas for improvement, are highlighted later in this report.

Unit specifications, instruments of assessment and exemplification materials

The assessors were generally conversant with the Unit specifications and exemplification material. In cases where centres had written new assessments, they either followed the pattern of the exemplification in the SQA assessment exemplars, or submitted material for prior verification. Centres are reminded that, for Mathematics and Statistics assessments, the assessment exemplars are not mandatory and represent an example of the assessment only; centres can also modify these or write their own assessments.

Evidence Requirements

In general, the centres and assessors were meeting all Evidence Requirements for Units. In a few cases, assessments were found which did not cover the Evidence Requirements of the Unit specifications correctly, but these issues were resolved after discussion and update.

Administration of assessments

All centres visited appeared to be gathering evidence in accordance with the specified assessment conditions (that is, closed-book assessments were being conducted as closed-book etc). In most cases the marking schemes were followed correctly and, consequently, assessment decisions were correct.

Internal verification, where applied, appeared to be generally sound across the centres visited, although selection criteria for internal verification varied from centre to centre.

General feedback

In general, centres were providing very good feedback to candidates, either through a review of the original assessment paper, or by detailed feedback reports. Candidates interviewed on the verification visits indicated that they felt

that access to assessment, conduct of assessments, and feedback were satisfactory.

Areas of good practice

Many areas of good practice were identified in the course of the visits.

Context

Many centres were found to be modifying the context of Unit assessments to meet the needs of the candidates. This gives the candidates a greater sense of ownership of the subject, as it is possible for them to see how Mathematics relates to their own chosen field in a readily accessible way.

Pre-printed assessment papers

Centres were increasingly preparing assessment papers with spaces for student responses (including, for example, pre-printed graph paper as required), making marking and verification easier.

Marking consistency

Marking was generally clear and of a high standard.

Record keeping

Result record keeping was found to be of a high standard, and material presented for verification was well organised, with class summary sheets.

Digital storage of assessment material

Some Units require electronic submissions (particularly using Excel or computer algebra packages). Centres are storing these on computer, rather than printing them for storage.

Feedback

Feedback to candidates was of a generally high level. Centres either used feedback forms, or annotated papers with feedback for discussion with the candidates.

Prior verification

Centre-devised Units were often submitted to SQA for prior verification. The centres thus have confidence that the assessments are valid. Many centres have permitted SQA to place their prior-verified assessments on SQA's secure site, and an expanding bank of example assessments is available for reference.

Internal verification and cross-marking

Internal verification was found to be of a satisfactory standard, with good planning and detailed records. Some centres were routinely cross-marking candidate evidence when the mark came near the threshold for achievement.

Standardisation

Records of standardisation meeting were well kept and clear.

Candidate support

Students at several centres commented very positively on the teaching and learning experience and the level of support available. Many candidates commented on the consistency and fairness of approach at their centre.

Specific areas for improvement

Some areas of improvement were identified:

Assessment identification

Cases were found where assessment titles, Unit codes, and Outcome labels were incorrectly assigned, making the process of verification more difficult than necessary. Centres are reminded that assessment codes, titles, Outcomes and versions should be checked at review meetings.

Standardisation meetings

Some visited centres did not produce evidence of standardisation meetings. Centres are reminded to review assessments, marking schemes and approaches on a regular basis.

Marking clarity

Some cases were found where the allocation of marks in marking schemes was unclear. Marks should be awarded consistently in line with general SQA marking practice. In cases where a marker is unsure about how a mark should be allocated, advice from another assessor or the cognate lead for the area should be sought. In cases where there is genuine ambiguity in the marking scheme, this should be clarified and documented.

If a centre is using an exemplar assessment pack for which the marking guidance is not fully detailed, they are encouraged to amend the marking scheme to ensure that the allocation of marks is clear and can be applied consistently across the centre.

Care should be taken when marking to show where marks are awarded, and the totals should also be shown clearly. SQA recommends the use of general marking symbols, which can be obtained from SQA's website.

Note that the use of half marks in marking schemes is discouraged.

Working shown and implicit marks

Marks should normally be awarded only where working is shown. In algebraic 'short' steps, marks can be awarded implicitly, but it should be made clear on the marking scheme when this is possible. Extended pieces of work must show working.

Follow-through marking

Cases were found where follow-through marks were not awarded. Centres are reminded that in cases where an error is made, subsequent marks can still be awarded where appropriate. Note that if two or more attempts have been presented for marking, all should be marked, and the lowest mark awarded.

Clarity of wording

Cases were found where wording in assessments was unclear or ambiguous. Care should be taken to minimise uncertainty when preparing assessment instruments, and it should be clear to the candidate exactly what is required to obtain the available marks. Assessment writers should remember that some candidates may not have English as a first language, and unnecessarily complicated wording should be avoided.

Use of assessment exemplars

Centres using assessment exemplar packs from the secure site as assessments for Mathematics and Statistics should consider writing their own assessment for both initial and resit assessments. An increasing number of prior-verified assessments are available on SQA's secure website. Centres writing their own assessments should ensure that all performance criteria are met.

Levelling of assessment instruments

A case was found where the questions being asked in an assessment did not match the SCQF level of the Unit, but were below the required level. If in doubt, please submit assessments for prior verification.

Use of formulae and instruction sheets

Centres may provide formulae sheets where appropriate. The formulae sheets should collate required formulae, but they should not be presented in a way that explains how to apply them, or leads candidates through the problems. Centres should not provide calculator instruction sheets during assessments.

Similarity of alternative instruments of assessment

Alternative instruments of assessment should be of a similar standard, but should be sufficiently different from each other that candidates will not be able to predict the content of the assessment. It is recommended that question order be changed from one assessment instrument to the next. In cases where performance criteria are sampled, different samples should be selected in different assessment instruments.

Remediation not permitted

Cases were found where candidates who had failed to meet the required threshold for a pass were given the opportunity to correct an error in the original attempt. Centres are reminded that very few Units in VG142 allow for this approach. In cases where the assessment is by a test, a candidate who fails to meet the required threshold or performance criteria in the first attempt of an assessment should resit the entire Outcome using a different instrument of assessment unless the Unit specification, assessment exemplar, or prior verified

assessment indicates otherwise. In cases where assessment is by project or report, then correction and resubmission may be appropriate.

Internal verification

Some centres did not provide evidence of internal verification processes. It is strongly recommended that centres internally verify Units selected for external verification prior to a visit. A wide range of internal verification selection strategies was found. Care should be taken in selecting material for internal verification. Most centres visited had a random selection process for internal verification. Verifiers should also, however, consider deliberately selecting assessments at or near a threshold boundary to ensure that assessment decisions are correct. In cases where systematic errors in assessment practice or marking are found (for example, where some aspect of the assessment is being performed incorrectly), then all assessments in the group should be checked, re-marked or re-assessed accordingly.

Where internal verification has taken place, it is good practice for the verifier to re-mark the paper and add any appropriate comments in a different colour of ink (green, for example), making the discrepancies and their resolution clear.

Assessment material

In cases where a candidate has had an assessment and a resit attempt, both pieces of assessment evidence should be made available for verification.