National Units

Qualification Verification Summary Report 2022

Applied Science

Verification group number: 137

Introduction

The team carried out nine external verification visits this session, seven in schools and two in colleges.

The units externally verified were as follows:

HN8D 46   Experimental Procedures: Science
J45V 45   Forensic Science: Applications
F823 11   Forensic Science: Applications (lapsing version)
D0RE 10   Introducing Science Investigation Skills
F3TD 11   Laboratory Safety

All verification activity was on the delivery of these units as part of National Progression Awards (NPA). Five visits related to the NPA in Scientific Technologies (GN13 46), two visits for the NPA in Applied Sciences (GR2P 45) and one visit each for the NPA in Science and Health (GG36 44) and the NPA in Practical Science (GG37 45).

At the time of the visits, five resulted in 'high confidence' ratings, two had 'reasonable confidence', one had 'broad confidence', and one had 'no confidence'. Following the submission and review of evidence for associated actions, eight now have 'high confidence' ratings, while one remains at 'no confidence'.

Category 2: Resources

2.4: There must be evidence of initial and ongoing reviews of assessment environments; equipment; and reference, learning and assessment materials.

Most centres fully complied with this criterion. Centres incorporated reviews into existing team meetings, internal verification or standardisation processes. Some centres scheduled formal review events during the academic calendar.

Good practice was noted at one centre for the high detail of their verification procedures documentation.

One centre had a lack of sufficient standardisation and verification records.

Category 3: Candidate support

Criterion 3.2: Candidates' development needs and prior achievements (where appropriate) must be matched against the requirements of the award.

All centres fully complied with this criterion.

Two colleges were offering the NPA in Scientific Technologies at SCQF level 6 as part of a school's links programme. In both visits, the qualification verifier referred to the

thoroughness of interactions between the colleges and local schools to ensure that candidates' prior achievements were appropriate for entry to the group award and that any alternative assessment arrangements or other additional needs were identified.

Three schools were offering the NPA in Scientific Technologies at SCQF level 6. In all visits, the qualification verifier reported that candidates' prior achievements were matched to the group award. In one report, the qualification verifier noted the limited prior practical experience of some candidates, and it was recommended that the practical activities undertaken be amended to include more of a quantitative nature to help develop skills. A suggestion was also made that mapping some of the evidence requirements from the NPA in Scientific Technologies at SCQF level 6 against Highers might reduce the assessment burden.

For the NPAs at SCQF levels 4 and 5 offered at four centres, there were no formal entry requirements stipulated by centres. For all centres, qualification verifiers reported that there was appropriate guidance and information in place to ensure that candidates' development needs, including additional or alternative arrangements, and prior achievements were suitably matched to the group award.

Criterion 3.3: Candidates must have scheduled contact with their assessor to review their progress and to revise their assessment plans accordingly.

All centres fully complied with this criterion. Qualification verifiers reported sufficient and regular contact with assessors and a range of formalised reviews being in place.

For many centres, qualification verifiers reported the use of online platforms, such as Google Classroom and Microsoft Teams, to assist in the holding of regular reviews. While the use of these in some cases started due to COVID-19 restrictions, centres realised the advantages and continued using them.

Category 4: Internal assessment and verification

Criterion 4.2: Internal assessment and verification procedures must be implemented to ensure standardisation of assessment.

Most centres fully complied with this criterion. However, some centres had insufficient evidence or did not have a formal policy in place. Qualification verifiers noted that while some centres did have appropriate internal verification procedures, the curriculum staff did not adhere to them. While qualification verifiers were satisfied there was evidence that internal verification had taken place at these centres, it was not robust either in process or in recording.

Qualification verifiers reported that centres were using out of date SQA assessment support packs, practical assessments did not meet evidence requirements, and centres allowed inappropriate tolerances.

Qualification verifiers commented that schools were unfamiliar with the required approach to the internal verification of these group awards. This has been a significant contributory factor to the shortcomings identified under criterion 4.6.

Criterion 4.3: Assessment instruments and methods and their selection and use must be valid, reliable, practicable, equitable and fair.

All centres fully complied with this criterion. Most centres had opted to use the SQA assessment support packs where available.

One centre had used an SQA assessment support pack which had been superseded by a revised version. Due to subject guidance for session 2021–22, the outdated SQA assessment support pack did meet the adjusted requirements. However, the centre was advised this would not be the case going forward.

For some centres, a recommendation was made on how to better apply the SQA assessment support pack for the Laboratory Safety (F3TD 11) unit. The recommendation was to include the room number and pictures for LO2 PC(a).

Criterion 4.4: Assessment evidence must be the candidate's own work, generated under SQA's required conditions.

All centres fully complied with this criterion. Centres adopted a variety of procedures to ensure the authenticity of candidate submissions, including routinely applied anti-plagiarism software, candidate disclaimers and verbal questioning.

Criterion 4.6: Evidence of candidates' work must be accurately and consistently judged by assessors against SQA's requirements.

Most centres fully complied with this criterion. Qualification verifiers noted the importance of robust internal verification processes to support and verify assessment decisions.

Some centres had insufficient evidence for this criterion. These centres also had shortcomings identified in internal verification under criterion 4.2. It was apparent that these shortcomings had impacted negatively on assessment decisions.

For one centre, there was a lack of standardisation between assessors, with variation in the number of attempts being allowed at assessed practicals.

For another centre, there were significant shortcomings in the assessment of the Experimental Procedures: Science (HN8D 46) unit. This included significant shortcomings on laboratory reports with sections missing, lack of assessor checklists, lack of laboratory project planning, excessive guidance in pro forma report templates and graph drawing errors. It was apparent from discussions with centre staff that new centres may need further support to facilitate the successful delivery of this unit/group award. As a result of this, new understanding standards materials have been developed to give additional support and guidance. The materials can be found on SQA's Understanding Standards website.

Criterion 4.7: Candidate evidence must be retained in line with SQA requirements.

All centres fully complied with this criterion, retaining evidence for at least the minimum required period.

Criterion 4.9: Feedback from qualification verifiers must be disseminated to staff and used to inform assessment practice.

All centres fully complied with this criterion. For most centres, the processes noted by the qualification verifier for dissemination were informal discussions, that is, team meetings. In some centres, there was a more formalised approach in place via the centre's standardisation processes.

Areas of good practice reported by qualification verifiers

The following good practice was reported during session 2021–22:

♦ Centres provided multiple practical opportunities to candidates, allowing them to build skills.
♦ Any discrepancies at internal verification were discussed, and the result of the discussion was written on the materials, signed and dated.
♦ Safety considerations were discussed with candidates as part of every laboratory class.
♦ Candidates had access to Chromebooks to generate evidence electronically.
♦ Centres provided a good, detailed verification procedures document highlighting the main method of verification and exactly how it should be done. It also detailed the sample of candidates and a list of verification partners.
♦ Centres used online platforms, such as Google Classroom and Microsoft Teams, to assist in the holding of regular reviews.

Specific areas for development

The following areas for development was reported during session 2021–22:

♦ Centres should ensure that verification and standardisation records are completed.
♦ Centres should ensure that internal verification procedures meet the standards identified in SQA's publication *Internal Verification Toolkit: A Guide for Centres*.
♦ Centres should ensure that assessor checklists for practical activities and reports cover all evidence requirements of unit specifications.
♦ Centres should ensure clarity for candidates on which assessed practicals must be completed to pass the unit.
♦ Centres should ensure that standards of laboratory and pro forma reporting, and allowable tolerances and accuracies in candidate practical results meet appropriate standards.

- Centres should ensure that all assessed practical activities meet the evidence requirements of unit specifications.
- Where appropriate, evidence could be mapped against National 5 or Highers to reduce the assessment burden.