Higher National and Vocational Qualifications Internal Assessment Report 2016
Computer Science

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

Higher National units

General comments

In visiting verification all centres demonstrated significant strengths. It would appear that centres have a good working knowledge of SQA quality assurance and in most centres there are robust and clear internal systems which are adhered to.

Merged centres appear to be adopting a common approach although there are still some centres that are working towards standardised systems.

Verifiers reported that there was a good level of candidate support in place and that candidates receive a good level of assessment feedback.

Overall, verifiers were satisfied that evidence presented met all the criteria.

Unit specifications, instruments of assessment and exemplification materials

Evidence shows that centres demonstrate a good understanding of national standards as defined within unit specifications. Where there is doubt many centres seek clarification through the qualification team who redirect queries to the verifiers. This appears to work well.

The majority of assessment carried out makes use of SQA-produced exemplars with some modifications to contextualise the assessment. This is particularly the case with the use of different programming languages. Assessment support packs exist for core units within the award and for a range of other subjects. Where no pack exists centres have developed assessment and have used SQA assessments for guidance.

There are few instances where centre-devised assessment is sent for prior verification; verifiers encourage this at their visits.

Evidence requirements

Evidence requirements for the HN Computer Science units are generally well understood. Assessment was, on the whole, valid, reliable, practicable and fair. All assessment tasks were relevant and at an appropriate level to both meet the evidence requirements and to provide sufficient challenge to candidates.

Assessments are contextualised and in keeping with current industry practice. In some instances integration of assessment is evident which can provide a better assessment experience for candidates.

Administration of assessments

Centres are demonstrating robust and well documented assessment and internal verification procedures. In some of the merged colleges quality procedures are

still being developed. In some centres these have not been fully implemented with some of the partners still working to their previous systems.

All centres have adopted the three-stage verification process and evidence would suggest that this is well understood and implemented by internal verifiers and assessors.

A good level of digital evidence was presented to verifiers. This was available on network drives, VLEs and also on USB devices. Verifiers are happy to look at this evidence and would encourage more use of digital evidence.

There is strong evidence to suggest that VLEs are being well used for administration of assessment. This provides a centralised focus for assessment, and feedback. Centres also make use of authentication tools.

General feedback

Centres all adopt a candidate-first focus and there is strong evidence to suggest that candidates are well prepared for assessment. Candidates interviewed during visits confirmed that they felt that the assessments were fair and that they were given good feedback for assessment regardless of whether they had to remediate.

External verifiers reported the level of support for candidates as good. The needs of all candidates are met and alternative assessment procedures are put in place as required.

Areas of good practice

Good practice falls into two main areas. The first area centres around the use of electronic evidence while the other main area of good practice identified was in standardisation and sharing of practice.

♦ *'The standard of feedback in units verified was extremely high with constructive and comprehensive comments to support candidates.*
♦ *The use of electronic portfolios, and in particular the use of Moodle, for issuing and managing assessment submission and feedback through Gradebook was extremely effective for both candidates and staff.*
♦ *Good use of Moodle for assessment completion and submission.*
♦ *Turnitin was being used to verify software case studies and programs. Assessors indicated that it was useful in cases where the similarity in the report was in the high 90s but that the threshold was needed to be set high because of the nature of the submission.*
♦ *Staff delivering Oracle participate in Plan C, Glasgow University's Professional Learning Network for Computing Teachers. Active participation in Plan C provides networking and cross-fertilisation of best practice in the subject area.*
♦ *Prospective candidates are given access to a dummy enrolment account to preview teaching and learning materials and Oracle virtual learning*

environment, prior to registering for Oracle Academy and associated HN units.

♦ *Candidate can choose (within timetable constraints) when to sit summative assessments. This allows the candidates to do effective workload planning and time management.*

♦ *Cross-referencing of internal verification practices with other campuses, promoting sharing of best practice.*

♦ *Cross-assessment of topics between related units/modules improved contextualisation and integration of knowledge and application of skills and reduced candidates' overall assessment loading.*

♦ *Cross-referencing of assessment practices with other campuses, promoting sharing of best practice and standardisation of assessment and assessors' judgements.*

♦ *The production of a flowchart of the internal verification process and procedures made access to this area very clear and unambiguous.'*

Specific areas for improvement

Some areas for improvement were identified during visits. These are not necessarily applicable to all centres as many centres have systems in place to address these:

♦ *'Recommend centre adopts an appropriate plagiarism detection/formative feedback and originality checking system, eg Turnitin, for all major assessment documents/assignment reports.*

♦ *Recommend a standardised approach and format is devised to provide feedback on candidates' assessment documents and that it is consistently applied to all candidates' assessment scripts/reports.*

♦ *Recommend centre provides a single centralised access point for candidates to access assessment results and feedback, and schedules of assessment deadlines.'*

Higher National graded units

Titles/levels of HN graded units verified:

H4LE 35 Computer Games Development: Graded Unit 2
H48Y 35 Computer Science: Graded Unit 2
H48W 35 Computing: Software Development: Graded Unit 2 (Project).
H4LF 35 Interactive Media: Graded Unit 2
H4L6 34 Computer Games Development: Graded Unit 1
F8VG 34 Computer Games Development Graded Unit 1 (lapsing)

General comments

Graded units in the group were project based and visiting verification took place during May and June. Verifiers were satisfied that centres have a good understanding of the requirements of graded unit projects and that this was evidenced by a considerable amount of good, and in many cases innovative, practice being demonstrated.

In most cases evidence was examined for stages 1 and 2 although there was some evidence of the evaluation stage 3 being carried out.

Verifiers and centre staff have engaged in dialogue to improve the delivery and assessment of graded units.

Unit specifications, instruments of assessment and exemplification materials

Centres have a good understanding of the unit specifications and this was demonstrated during visits.

The graded units that were visited were all supported by SQA-produced assessment support packs. These were generally adapted to expand and contextualise the marking schemes. Centres developed further briefs to give candidates a choice of project topic and in many cases candidates were encouraged to find their own project.

Evidence requirements

Evidence suggested that evidence requirements were well understood. Marking schemes were developed which met the evidence requirements while allowing accurate and fair marks to be awarded.

Administration of assessments

Assessment of graded units is a prolonged and sequential process. The collation, feedback and marking was robust and fair. Most centres made use of VLEs for assessing graded units and in particular use of authentication software.

There was evidence that feedback to candidates was extensive and robust in most cases.

General feedback

Centres have adequate resources to support candidates through all stages of the graded unit. Assessors adopt a supportive facilitation role in graded units and this works well with candidates being very aware of what is required of them and when.

Verification is carried out well on graded units with all centres ensuring that this is prioritised. In most cases verification is carried out on a stage by stage process. This is often via cross-marking.

Areas of good practice

A considerable amount of good practice was identified during visits. This covers the robustness of authenticating candidates' work, marking and feedback, and also allowing candidates to take ownership of the project by allowing them to select their own topic.

♦ '*In addition to normal project documents, video presentations of candidates giving live project demonstrations, with interactive question-and-answer sessions from assessors, provide a good record of candidates' understanding of their project work as well as good justification for the grades awarded.*

♦ *Centres' use of integrated VLE Turnitin for written reports to provide evidence of authenticity and minimise opportunity for plagiarism.*

♦ *Giving staff appropriate training in plagiarism prevention and detection.*

♦ *Teams from other areas of computing and information technology coming together to review marking schemes leads to cross-fertilisation of ideas and each team can adopt and/or adapt these ideas.*

♦ *The marking scheme/checklist/feedback form developed by the team is exemplary as is the feedback provided to candidates.*

♦ *Papers produced by the assessor and internal verifier show commitment to the delivery of this unit in terms of marking and grading the unit.*

♦ *The standard of feedback was high with constructive and comprehensive comments to support candidates.*

♦ *Candidates selected their own project from a list of scenario briefs provided by the centre. They may also provide their own and have it agreed with the assessor. It was felt that this narrowed down the possibility of copying and collusion.*

♦ *The centre-developed assessment marking scheme against the graded unit minimum evidence requirements had additional sub criteria and suggested answers to provide assessor guidance and aid reliability and standardisation.*

♦ *Internal assessor and internal verifier blind-double-mark sampled assessments and must discuss and reconcile any assessments differing by 3 marks. Grades close to a grade boundary automatically get a second review before a final grade is allocated.*

- *Candidates using their own brief based on their job role or career aspirations. This also aids authenticity of evidence.*
- *Input from several experienced members of staff when creating the assessment instrument.*
- *Revision of marks allocated to better suit evidence requirements.*
- *Interactive Media candidates had a practice graded unit during HNC, where the requirements for the unit and approaches to meeting them were discussed.*
- *Short revision tutorials produced to support candidates.*
- *Keeping to submission dates for the graded unit is good practice (unless there are extenuating circumstances) as this fits the candidate either for study at university or entry to the workplace.*
- *Exemplary feedback built in to marking checklist.*
- *There was very good in-depth feedback from the assessors to candidates against each minimum evidence requirement. This included a rationale as to projected marks awarded and positive encouraging statements.*
- *There was a record of feedback meeting for each candidate regarding work submitted and action planning. This is particularly relevant for project-based graded units.*
- *The centre was using extended grading criteria for the developing stage minimum evidence requirement categories. These were highly detailed as to specific content and are based on four level scales. This will help when making final judgements on grades awarded and achieving consistency in applying standards.*
- *Use of a 'stop and check' form by the learner helps them take responsibility for their own progress.*
- *As part of the process the centre had adopted a form of peer review using an evaluation grid. This took on the form of a voting grid based on a variety of criteria directly associated with the team. This vote was sent directly to the assessor and was, therefore, confidential and expressed views which the candidate may not have felt comfortable expressing in a group situation. Although this is not directly linked to the assessor's mark it did contribute to the final judgement of the assessor and it aided the candidate when carrying out a critical review of the project product and process in the final evaluation stage.'*

Specific areas for improvement

Where centres do not identify with the good practice they should consider the following:

- *'Consider asking each candidate to sign an 'authentication of work' form before s/he embarks on the graded unit.*
- *Where internal assessor and internal verifier's grades are close to a grade boundary, document discussion points between internal assessor and internal verifier and give the rationale for the final grade allocated.*

- *Candidates should review the tools used for developing the product eg application or website, at the development stage.*
- *Create a record of when telephone calls/audio meetings take place and provide a summary of the points discussed.*
- *Send new assessment instruments to SQA for prior verification early in the session.*
- *Ask all staff associated with the delivery and verification to refer to the SQA document 'Guidance for the Implementation of Graded Units in Higher National Certificates and Diplomas'.*
- *The centre should consider access to Github or other project management/version control software system. This may involve getting the network provider to unblock access due to firewall settings.*

SVQ awards

General comments

All centres that were verified demonstrated significant strengths. Verifiers reported that staff in centres have suitable qualifications to assess and verify the awards.

Centres seemed fully aware of the National Occupational Standards (NOS) and the Assessment Strategy as stated by Tech Partnership, the sector skills council (SSC), and were generally complying very well.

All centres demonstrated robust systems and procedures and that these were being carried out effectively.

Unit specifications, instruments of assessment and exemplification materials

Assessors have a good understanding of the requirements of the unit specifications. As these are work-based units, standard instruments of assessment are not applicable. Centres made appropriate use of portfolios with supporting documentation.

Evidence requirements

Verifiers reported that assessors have a clear understanding of evidence requirements to meet the needs of the awards. Practical tasks met in the workplace were relevant to meet the requirements of the unit specification. Knowledge-based elements were assessed using appropriate methods and were relevant within current industry practice.

Administration of assessments

Centres were assessing candidates at the appropriate level and there was sufficient assessment for the award.

Assessor judgement was appropriate and well justified where it had been internally verified. All centres were compliant with IV systems to meet the requirements of SQA quality assurance and the needs of awards.

General feedback

Verifiers reported that feedback to candidates is appropriate and timely. Candidates have regular access to assessors and have input in agreeing assessment schedules. This was confirmed by discussion with candidates who also confirmed that they felt assessment was fair and naturally occurring.

Areas of good practice

Verifiers identified a number of areas of good practice. Some of these were particular innovative such as the use of in-house apps to track learning and the use of VLEs. There was also good evidence seen that senior managers are fully involved with the process.

♦ *'In-house app for mobile telephones developed to allow candidates to access learning materials and demonstrate knowledge.*

♦ *There are 'drop-in' sessions run by duty assessors once per month for candidates who require additional support. These also provide a forum to allow candidates to complete or remediate assessments during the session.*

♦ *Use of the e-learning portal to update candidate progress by unit/performance criteria and aggregate the number of points gained towards the qualification is motivating to the candidates and provides a one-stop shop to review progress for both candidate and assessor.*

♦ *Access to assistive technologies used to meet additional support needs of candidates.*

♦ *Use of specialisms to enhance learning and teaching to all candidates.*

♦ *Security and integrity of the reports ensured by the author, and only the author, of the report having write permission.*

♦ *Full sets of procedures provided which had been indexed/cross-referenced to the QV visit criteria. This helps greatly when conducting external verification activities.*

♦ *To inform assessment practice, discussion of verification reports (from different cognate groups) by all members of staff should be a standing agenda item on all standardisation meetings. This allows cross-fertilisation of information, good practice or recommendations across all assessors and internal verifiers.*

♦ *CPD Toolkit to enhance assessor and internal verifier qualifications. Aid to currency of assessment practice.*

♦ *Centre conducts 'away days' for assessors and internal verifiers which allow time for a focus on assessment and standardisation matters.*

♦ *A member of the senior management team maintains information on assessors and internal verifiers to provide and monitor CPD training and assess the value of this training.*

♦ *Input from the senior management team regarding reviews of all aspects of assessment environments, equipment, reference, learning and assessment materials to provide continuous quality enhancement of the learning experience.*

♦ *An internal audit of the internal verification system and its operation is carried out by the senior management team. With the senior management team taking a 'hands on' approach to internal verification this would suggest that the centre is committed to internal verification and standardisation of assessment and enhancing these procedures.*

♦ *New employer-screening process is handled by experienced assessors who liaise with employers to ensure that they are aware of their role in the award assessment process and will provide adequate support.'*

Specific areas for improvement

There were no specific areas for improvement identified.