Higher National and Vocational Qualifications Internal Assessment Report 2014

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 all centres, the evidence seen against the quality assurance criteria was considered to be sufficient. Effective assessment systems were in place and assessors were marking and making judgements to appropriate and acceptable standards for the Units sampled. Therefore, it is good to report a high level of confidence, as centres visited over the year have been able to demonstrate clear and accurate understanding of the requirements of national standards.

There was a high instance of commendation to centre staff in the external verification reports seen for the session.

Centres have adopted, and assessors are familiar with, the recent new and revised awards and Unit specifications.

Most centres in this verification group have considerable experience of delivering Units at HN level.

There was a noted increase in the number of centres utilising online methods of delivering learning and assessment, particularly Virtual Learning Environments (VLEs).

Unit specifications, instruments of assessment and exemplification materials

Verification activity during the session illustrated that centres have a good general understanding of Unit specifications and the role they play in determining national standards.

Assessors are, in general, aware of the detail of Unit specifications and are familiar with SQA exemplar and assessment support materials. In many centres the most recently published exemplars are used as models for assessment and contextualised to the particular technical subject area being undertaken — for example, programming language and methodology.

The instruments of assessment were valid and reliable — assessments were a mixture of online assessments (eg on VLE, SOLAR), modified assessment exemplars, and centre-devised assessments.

Evidence Requirements

Evidence Requirements for the HN Computer Science Units are generally well understood. Tasks set are relevant and well designed to challenge candidates at an appropriate level. Assessments are contextualised and in keeping with current industry practice. Assessment, where practical, is linked to or integrated with work across Units, eg systems, programming and testing. Some good examples of integration were seen.

Administration of assessments

Centres had robust and well documented assessment and internal verification procedures, which provide a clear and accessible audit trail through the assessment and internal verification processes.

Materials presented for external verification have been, in the main, well organised, well presented and accessible for scrutiny. The quality assurance criteria approach, which is now adopted by most centres, has been useful in assuring standardisation in the checking of critical elements of delivery, eg that assessment and internal verification procedures are being implemented effectively.

General feedback

There is evidence that candidates are being well prepared and supported for assessment across all Units with clear examples of good practice. Formal feedback provided to candidates continues to be encouraging and supportive in all centres, with clear guidance given on any further development requirements.

Candidates interviewed were generally very positive about the level and quality of support and guidance provided by their centres.

Access to assessment was very well covered in all centres visited. Typically any candidate with additional support needs or a disability would be referred through a centre support-for-learning department and suitable accessibility arrangements made, eg use of scribes, additional hardware, software etc.

Centres demonstrated a commitment to equal opportunities in relation to selection, induction, guidance, support and assessment of candidates. This was clearly evident in the policies and procedures, information on the student intranet, and instruments of assessment. There were procedures to identify any additional support needs. Candidates who require extended learning support are referred to a specialist Learning Support department.

Areas of good practice

Previous reports have commented on the good practice shown by centres. It is encouraging that external verification during 2013–14 confirmed that these continue. Good practice noted in EV reports during this session included:

♦ VLE integrates assessor's judgement, decisions and feedback to candidates and internal verification in one area; where appropriate views are provided to candidates via their portal — this simplifies the assessment process and integrates important information in one area

♦ Centre has a well-documented new Unit authorisation quality check which assesses issues such as quality and curriculum, teaching and learning materials, formative assessment methods, and summative assessment methods

♦ To provide experience related to industry practices, staff at the centre have been pro-active in developing good robust assessment materials for the e-commerce Unit that provide students with a range of practical e-commerce implementation skills (for example utilising PayPal Sandbox virtual testing environment)

♦ Good practice identified in the report *Developing Scotland's Young Workforce* by Sir Ian Wood cited the college's involvement with local schools to offer HNC Computing to fifth and sixth years in addition to Highers. The students reported a very positive experience particularly in relation to the supportive staff. They felt the assessment for HN Units was good as this challenged them to be more thorough in assessment

Specific areas for improvement

The following summarises some of the recommendations or suggestions that were made as a result of external verification during 2013–14. They may not apply to all centres but may provide scope for reflection on current practice. The main developments suggested were:

♦ Although the use of a VLE to provide assessment is encouraging, to some extent this is at the expense of providing a volume of explicit high quality feedback which can guide candidates and feed forward into future assessment activities (compared to the previous paper-based system)

♦ Centres are encouraged to investigate appropriate ways of providing candidate feedback through the VLE, that are both educationally effective from a candidate's viewpoint and efficient from a marker's perspective

Higher National Graded Units

Titles/levels of HN Graded Units verified:

H48Y 35 Computer Science: Graded Unit 2
DN4N 35 Computing: Software Development: Graded Unit 2
H4LE 35 Computer Games Development Graded Unit 2
F8VG 34 Computer Games Development Graded Unit 1

General comments

The Project-based Unit visiting verification took place mainly in May and June. Verification on projects can take place when the Planning and Developing Stages have been completed and preliminary marks awarded.

Sufficient evidence was presented for the Project-based Units seen, which indicated, in most cases, that there was a reasonably accurate understanding of the national standards.

In particular, for Project-based Graded Units, eg Computer Games and Software Development, candidates demonstrated the Games/Software application they had developed to the External Verifier. This was again a most positive aspect of these visits and allowed the EV to judge the standards directly and discuss all aspects of the Unit and award with groups of candidates. This activity is to be encouraged for future visits. Some of the projects involved the use of external clients.

Unit specifications, instruments of assessment and exemplification materials

In summary, Graded Unit assessors showed a high familiarity with the Unit specifications, instruments of assessment and exemplification materials.

Exemplars had been used to provide models for centre-devised assignments.

Appropriate sub-marking schemes had been developed and applied consistently across candidates sampled.

Evidence Requirements

The marks awarded all reflected the standard of work produced and judgement of candidate performance was appropriate.

Assessor comments had been written on the candidate scripts to explain why marks were deducted. Use of minimum Evidence Requirement assessment checklists showing a detailed breakdown of where marks were awarded were used.

Checks took place on application of marking system/schemes and to establish method of grading. Overall, candidates demonstrated a good grasp of requirements and demonstrated skills at an appropriate level to potential grades awarded. This indicated that most assessors had a good understanding of the Evidence Requirements.

Administration of assessments

This session for the Project-based Graded Units seen, most had been subject to internal verification procedures when visits took place on completion of the first two stages. This helped clarify the candidate's position when moving through the stages.

Documented evidence was provided in the form of assessment methods, IV checks and standardisation meetings to ensure that assessments are valid, reliable, equitable and fair, and match the Unit conditions of assessment.

General feedback

Detailed and constructive feedback is being given to candidates. Candidates interviewed by the EV are satisfied with the support provided. Feedback was very positive.

In particular for Project-based Graded Units, eg Computer Games and Software Development, candidates demonstrated the Games/Software application they had developed to the External Verifier. This was again a most positive aspect of these visits and allowed the EV to judge the standards directly and discuss all aspects of the Unit and award with groups of candidates. This activity is to be encouraged for future visits.

Interviews with candidates showed that a majority of centres were operating an effective induction process on to the Graded Units and those candidates were aware of what they needed to do to achieve the different grades.

In most centres, candidates responses indicated that staff support their students in a professional and appropriate way when delivering these Graded Units. Comments relating to the use of external clients were mentioned, with students very positive about the contribution they could make to an organisation. It became apparent that almost all candidates interviewed were satisfied in relation to the assessors and the support/feedback they provide.

Areas of good practice

Good practice noted in EV reports during this session included:

♦ A teaching schedule provided to candidates at the start of the Unit delivery clearly highlights the mandatory deadlines and the allocated time available for each stage of the Graded Unit

- Detailed checklists with allocated subject-specific marks, supported by pertinent comments, help to clarify assessor decisions

- The Graded Unit 2 games were very impressive and congratulations must be extended to the candidates for their hard work and willingness to demonstrate their games. They all demonstrated a considerable, and justified, amount of pride in their work

- There was highly detailed and constructive documented feedback to candidates which made good reference to the Graded Unit specification and SQA guidelines. This detailed feedback given to candidates was extremely useful for them. The documents and support they were given was very helpful to ensure they understood the standards required for the Graded Unit and how these differed from other Units. This helped to avoid remediation and enabled the potential of high grades

- Meeting with the candidates and watching them demonstrate their programs was great evidence that standards were being adhered to

Specific areas for improvement

The following summarises some of the recommendations or suggestions that were made as a result of external verification during 2013–14. They may not apply to all centres but may provide scope for reflection on current practice. The main developments suggested were:

- Centres can achieve further standardisation by the internal verifier reviewing resolving and recording any significant differences between assessors (Effectively a Decision Log)

- Developing of the marking guidelines so that they can be extended and clarified in the light of experience of marking candidate work. This can include incorporating specific examples of marks awarded and making use of sample sections drawn from actual scripts. This is likely to be an on-going process but is particularly effective for new staff

- Making sure when awarding marks that assessors provide reasons and justification for the marks awarded

SVQ awards

General comments

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

Centres were delivering the SVQs for IT Users and the SVQ for IT Professionals. The IT Professionals award showed a greater increase in candidates this session and interestingly more candidates pursuing the Software Development options. Centres seen running these awards had fully grasped the requirements and standards and were applying these appropriately.

Unit specifications, instruments of assessment and exemplification materials

Assessors were, overall, very familiar and in most cases very knowledgeable about the Unit specifications and related Portfolios, the NOS and the SQA supporting documentation / publications such as the SQA Assessment Guidelines.

Most kept in touch with SQA and the SSC (e-skills UK), for updates on developments.

Evidence Requirements

All indications from visit reports are that assessors and internal verifiers are quite clear about the Evidence Requirements for the awards.

Centres were generally using standard SQA/NOS-derived portfolio sheets some of which were being maintained online by the assessor, with hyperlinks to evidence contained in a candidates' disk folder. These were being completed correctly and were all in order.

There was a continued use by many centres of e-portfolio systems which contained the NOS or SQA Portfolio sheets, thus restating the evidence requirements and helping to ensure adequate coverage. Utilisation of the e-portfolio facilities was very well done.

There was a good range of types of evidence types in use, including observation records, candidate statement, screenshots and printouts. Knowledge and understanding were incorporated where appropriate and were recorded.

Administration of assessments

Centres were mostly using standard SQA portfolio sheets either electronic or paper based. These were being completed correctly and were all in order.

Tasks were undertaken in appropriate circumstances, including the use of industry standard software and hardware. The tasks, based on real work, were being set at appropriate levels of complexity and scope for the Units undertaken. Internal verification systems and processes were well designed to meet the needs of both SQA and the sector skills council. These were being implemented well by centres.

Rules for the Mandatory Units were followed.

Overall, assessors' judgements of candidate performance were agreed with. There are clear indications that candidates were achieving tasks at an appropriate level.

Centres continue to employ suitable robust assessment practices. A high level of assessment planning was taking place.

There was also clear evidence of the internal verification procedures taking place, suitably recorded and backed up by printed schedules of activity. Staff within centres were knowledgeable about the individual awards and kept up to date by reference to the SSC, (e-skills UK) website.

General feedback

Feedback to candidates was generally very good. Regular visits by assessors and contact by e-mail prior to a visit provide opportunities to highlight any issues which can then be discussed during the visit. Candidates will normally discuss with the assessor when they are ready to undertake assessments and negotiate actual times.

Candidates who were interviewed were very aware of the centre's activities concerning them and particularly praising about the level of personal support given to them by the centre staff. All seemed clear about the nature and needs of the awards undertaken. They were also well informed about the structure of their award, credit points, etc.

Interviews with candidates also showed that they had a choice in the component Units of their individual award. They were, overall,very satisfied with the awards undertaken and were kept well aware of their progress and feedback received from assessors on their performance.

Centres had procedures for additional support needs and disabilities. Following identification of need of candidates, centre will provide appropriate facilities. Assessments take place when opportunities arise including in work placements, by arrangement with assessor.

There was a good range of types of evidence types in use, including observation records, candidate statement, witness testimony, screenshots and printouts. Useful commentary on evidence portfolios, providing direct and clear feedback to candidates on any additional requirements to be met.

The construction of portfolios is good; there is continued use of online storage and links to evidence. Clear indexing is being applied within individual portfolios. Candidate evidence was in general, well laid out and easy to follow. There is further evidence of increased use of electronic portfolio generation and recording software.

Generally detailed Assessment Visit Records were in use showing Units covered, method of assessment, feedback, ongoing assessment plan and monitoring report on health and safety, appeals and grievances signed by candidate assessor and supervisor.

Candidates interviewed felt centre support had been very helpful and that the award would be most useful for future employment and prospects. Feedback on assessment methodology was good. Overall, they were very positive in their statements about the whole working experience and the level and quality of support given to them throughout.

Areas of good practice

♦ The 'Master Folder' prepared for the visit was very well thought out and constructed, containing pertinent evidence or pointers to SQA QA criteria which greatly assisted in facilitating the visit. It was also well laid out and easy to follow

♦ Level 3 candidates were obtaining a good level and depth of IT skills which should hopefully improve their prospects when moving on to other jobs

♦ Using Level 3 to monitor/advise/supervise Level 2 candidates was useful to give them experience in line with award aims

♦ Observation reports had a high level of detail. Particularly good use was made of witness testimony (professional discussion) within the Unit. Well written and signed by all parties

♦ Assessments involved both products and candidate 'documentaries' which describe in great detail how the products were developed

♦ Use of assessment logs, which containing screenshots/pictures of product working, and narrative commentary annotated by candidates describing their actions when carrying out set tasks. This neatly combines evidence of both knowledge and practical skills within a single portfolio item

Specific areas for improvement
There are no specific areas identified for improvement.