Higher National Qualifications (China)
Internal Assessment Report 2015
Computer Science

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

The Computer Science verification group includes systems development, database management and computer programming.

In all centres visited, following scrutiny of a wide range of evidence presented and discussions between External Verifiers (EVs) and centre assessors, internal verifiers and staff, we found that:

- The evidence seen against the quality assurance criteria was considered to be sufficient.
- Staff have made good progress in their first delivery of the new Units within the HND qualification and have understood and produced good work on interpretation of Outcomes.
- Internal assessment activities were consistent with documented centre procedures and in line with SQA requirements.
- Assessors were marking and making judgements to appropriate and acceptable standards for the Units sampled.
- Effective assessment systems were in place and were being implemented.

The EV team is pleased to report a high level of confidence in the centres as they have been able to demonstrate clear and accurate understanding of the requirements of the national standards.

Unit specifications, instruments of assessment and exemplification materials

Through visits to centres and prior verification activity during the session, the EV team found that centres have a good general understanding of the Unit specifications.

Assessors are, in general, aware of the detail of Unit specifications and are familiar with SQA exemplar and assessment support pack materials.

In most centres the most recently published exemplars are used as models for assessment and it was good to see instances where they had been contextualised to the particular technical subject area — eg in choice of programming language and software development methodology.

The instruments of assessment seen were valid and reliable — assessments were mainly assessment exemplars/ASPs.

Evidence Requirements

Evidence Requirements for the HN Computer Science Units are generally well understood.

Assessors showed a good grasp of the standards required:

- Unit Evidence Requirements had been correctly interpreted and applied.
- Assessment tasks were relevant and well designed to challenge candidates at an appropriate level.
- Assessments were contextualised and in keeping with current industry practice.
- Where practical, assessment was linked to, or integrated with, work across Units — eg systems development, programming and testing.

The supporting documentation seen indicated that there would be sufficient coverage and checking of all Evidence Requirements.

Administration of assessments

The quality assurance criteria approach is now well adopted by centres. This requires checks that centre assessment and internal verification procedures are being implemented effectively.

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

Through examination of evidence and discussion, the EV team found that there was sufficient evidence that the criteria were being met.

Materials presented for external verification were, in the main, well organised, well presented and accessible for scrutiny.

General feedback

Candidates who were interviewed were generally positive about the level and quality of support and guidance provided by their centres. They were mostly happy about the nature and content of their chosen course/award.

Class teachers were usually described as being supportive. Also there were good systems of support in place through dedicated staff.

Centres maintained records of individual candidate development needs together with background, CV and qualifications on entry. Personal reviews had been completed. These were updated regularly.

There was feedback on candidate scripts regarding progress which indicated what was needed to complete assignments.

Areas of good practice

Previous reports have commented on the good practice shown by centres. It is encouraging that external verification during 2014–15 confirmed that these continue. Good practice noted in EV reports during this session included:

- Learning materials prepared by one centre had been tailored to individual Units. Particular emphasis was given to the use of IT-specific terminology.
- A pre-HND preparatory course called 'Introduction to Computer Science' showed notice is taken of candidates' development needs, particularly in IT terminology and number systems.
- Additional tutorials are provided where necessary. Tutor-led workshops on practical activities provide formative assessment opportunities.
- In one Unit, H173 34 Developing Software Introduction, there was very good constructive feedback and the assessor's comments clearly indicated how candidates' problems (bugs in programs) had been remediated.

Specific areas for improvement

The following summarises some of the recommendations or suggestions that were made as a result of external verification during 2014–15. They may not apply to all centres but may provide scope for reflection on current practice. The main developments suggested were:

- To enhance assessment, for Unit H173 34, Developing Software: Introduction, candidates could add a front page with titles in their Technical Manual. (This item is added to illustrate that centres may enhance ASP/ exemplar materials in line with industry/professional practice.)
- It is suggested that centres may devise their own assessment instruments based on the assessment exemplar, but with suitable local scenarios for their students — for example, they could use a range of different problems and programming language to suit the centre. Any such changes should of course be sent for prior verification.

Higher National Graded Units

Titles/levels of HN Graded Units verified:

DL0V 35 Software Development: Graded Unit 2

General comments

Centre materials were reviewed at the central verification event.

The materials that were submitted were in order and sufficient. The master file accompanying the candidate materials had been mapped to relevant SQA quality assurance criteria. This was most useful when conducting the external verification process.

Overall, everything was in order; it was considered that the candidates had been awarded appropriate grades and that the centres' procedures were suitably supporting the assessment process. Centres were complying with SQA requirements.

Sufficient evidence was presented for the project-based Graded Unit, which indicated that there was an accurate understanding of the national standards.

Unit specifications, instruments of assessment and exemplification materials

There appears to be a high level of familiarity with the Graded Unit 2 Project amongst assessors: centres were assessing the Graded Unit using the correct method — a project scenario.

The assessors correctly provided the appropriate level of support to each candidate, ensuring that no unfair advantage was gained.

Assessment instruments were in line with the stated Grade Related Criteria.

The exemplars were used to provide a basis for the marking scheme.

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

Evidence Requirements

Marking schemes had been applied consistently. The judgement of candidate performance by assessors was mostly in line with the standard required, any marking disagreements were judged to be within acceptable boundaries and all grades presented were accepted without change.

Candidate folios had been clearly marked and marking scheme grids against Minimum Evidence Requirements fully completed and indexed to page numbers.

Graded Unit Minimum Evidence Requirements had been correctly interpreted and applied. The assessors' judgements were agreed with and therefore the grades awarded.

Administration of assessments

All information and documents requested were provided to enable the external verification process.

A sample of material for 12 candidates, covering all grades and including ones on or near the grade boundaries, were submitted and in order. The sample reflected the overall distribution of grades within the centres.

Centres provided signed and dated candidate honesty declarations for authentication ,In addition, staff information sheets, CPD records, internal verification records were sent in — these were all in order.

General feedback

Internal verification records of team meetings showed discussion of standards to be applied and internal verification included checks for fairness and consistency. Additional marking schemes had been prepared to help ensure consistency and reliability of assessments. Assessment arrangements were in place for candidates with learning difficulties.

Candidates were briefed on the nature of Graded Unit projects — the stages involved plus marking and grading. Re-assessment arrangements were clearly stated.

Areas of good practice

Previous reports have commented on the good practice shown by centres. It is encouraging that external verification during 2014–15 confirmed that these continue. Good practice noted in EV reports during this session included:

- A centre was using same version of SQA exemplar across all candidates, with different project assignments allocated to each. The individual assignments were agreed with the assessor prior to commencement. Documents showing this process were provided. (This is most useful when trying to ensure authentication and avoid plagiarism.)
- One assessor had clearly annotated scripts/folios where evidence was mapped to the Minimum Evidence Requirements Marking Scheme with appropriate marks awarded.
- One particularly useful practice was noted on the project contents page, where the evidence was cross-referenced by the assessor to the page number location.
- Assessors showed a clear understanding of the standards required. Their annotated comments on folios, regarding justification for marks awarded, were very well written to indicate clearly what was accepted. Graded Unit Minimum Evidence Requirements had been correctly interpreted and applied.

- Within some projects seen, candidates' internal documentation within program code and project technical documentation was generally to a high standard and consistent with industry/professional practice.

Specific areas for improvement

The following summarises some of the recommendations or suggestions that were made as a result of external verification during 2014–15. They may not apply to all centres but may provide scope for reflection on current practice.

- Some diagrams had been completed with boxes containing Chinese characters. While it is realised that this would be due to the versions of software used, the centre are advised that in this case hand-drawn diagrams are perfectly acceptable (eg UML Use case or Entity Relationship Diagrams.)

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