

Maths, Physics and Engineering

Tuesday 3rd December 1.30 – 4.30

One Awards, Peterlee

Attendance: Two delegates from one provider attended.
Mark Gomersall and Jason Martin (New College Durham)

The Science Diploma at New College is new for 2019/20. The College have successfully delivered other Diplomas for several years.

The facilitator was *Dave Pickersgill*, One Awards Diploma Moderator.

Apologies: *None*

Aims and Objectives of the event:

Aim: To provide opportunities for those involved in the assessment and/or moderation of the Access to HE Diploma to increase their understanding of assessment requirements, and to compare their assessment judgements with others delivering and/or moderating units in the same subject area.

Objectives:

To undertake activities which enable participants to:

1. Compare assessment judgements in relation to student achievement of learning outcomes and assessment criteria.
2. Compare assessment judgements in relation to student achievement of grade indicators.
3. Explore and confirm QAA and One Awards requirements for assessment.

Samples of student work chosen for the event:

Unit title: Core Science - Poster (Energy and the Electromagnetic Spectrum)

Unit title: Mathematics – Introductory Skills for Higher Education - Maths questions

Unit title: Physics Wave Motion - Structured questions (Waves) – *this sample was not utilised. It could act as a sample for the 2020/21 series of standardisation events.*

The associated learning outcomes, assessment criteria and grade descriptor components were provided on separate sheets. The assignment briefs were not provided.

Summary of feedback from delegates and moderators

Sample 1 – Core Science - Poster (Energy and the Electromagnetic Spectrum)

Achievement of learning outcomes and assessment criteria

| AC | Comments from delegates and moderators | Consensus decision |
|-----------|---|---------------------------|
| 4.1 | Examples and brief explanations are provided | Pass |
| 4.2 | There is a clear detailed explanation with diagram, examples and calculations. | Pass |
| 4.3 | There was some discussion regarding the use of the word, 'evaluate' in the AC. 'Advantages' and 'Disadvantages/dangers' were provided by the student. It was also felt that the use of a poster may not assist 'evaluation.' | Pass |

Grading judgements using GD components

| GD | Comments from delegates and moderators | Consensus decision |
|-----------|---|---------------------------|
| 2a b | The poster made use of relevant facts and was beyond the minimum required for a pass. However, some explanations (for example: energy) could have included more detail. There were also some inaccuracies. Overall there was some lack of depth and clarity. For example, in order to evaluate the role of the electromagnetic spectrum, although the information was present, an extra column which provided a clear evaluation could have been utilised. | Merit |
| 7 a c | The posters were felt to be generally logical and fluent, but not consistently. For example, there were units missing and some images masked text. Overall, this was felt to be a very good, but not excellent response. | Merit |

Sample 2 – Mathematics – Introductory Skills for Higher Education - Maths questions

It was felt that the assignment brief attempted to cover too many LO. A single assignment which covered LO4 and LO6 was felt to be appropriate as these LO gel together. LO5 could be assessed separately. There also seemed to be a very large number of sub-categories within each AC (33 sub-categories in three LO).

Each AC sub-category was assessed by a suitable mathematical problem. However, some questions were felt to be poorly written (for example; 6 and 8)

It was also suggested that questions involving data should be written in a real-world/scientific context in order to allow students to work with real data. Such questions should not consider data relating to people, thus avoiding the need for ethical considerations.

It was also felt that the assignment did not assess several of the AC sub-categories.

| AC | Comments from delegates and moderators | Consensus decision |
|-----------------------------------|---|--|
| 4.1 | | Pass |
| 4.2 a b c d e f | A consensus was not reached regarding these sub-categories. Did the assignment clearly assess them? | Pass Pass Pass Pass n/a n/a |
| 4.3 a b c | | Pass Pass Pass |
| 5.1 a b c d | | Pass Pass Pass Pass |
| 5.2 a b | The consensus was that this sub-category was not assessed by the assignment. | Pass n/a |
| 5.3 a | | Pass |

| | | |
|-----------------------------------|---|--|
| b c d | | Pass Pass Pass |
| 5.4 | | Pass |
| 6.1 a b c d e f | A consensus was not reached regarding this sub-category. Did the assignment clearly assess it? | Pass Pass Pass Pass Pass n/a |
| 6.2 a b c d e f | The consensus was that sub-categories (d) and (f) were not assessed by the assignment. | Borderline Pass Pass n/a Pass n/a |

Grading judgements using GD components

| GD | Comments from delegates and moderators | Consensus decision |
|------|--|--------------------|
| 1a | Generally, the mathematical methods used by the student are correct although some annotation is confusing. However, the student needs to provide more explanations and to clearly show logical steps in calculations. The student is not demonstrating a very good grasp of the relevant knowledge base. | Pass |
| 3b c | Appropriate skills, techniques and methods are applied with excellent levels of accuracy. | Distinction |
| 7c | The student does not demonstrate a very good response to the demands of the brief. For example: diagrams are poor quality and graphs are often inappropriate. | Pass |

Outcomes from discussion Course Contingency Planning

The facilitator led a discussion on Course Contingency Planning. The following key points were raised:

Task 1:

Consider what have been the 'pinch points or difficulties' over the past few years in relation to:

- Course delivery
- Marking of scripts
- Internal moderation
- Return of scripts
- Recording of results and analysis of trackers

Discussion was wide-ranging, covering all these aspects. Pre-course processes were felt to be, essential. Currently qualification pre-requisites, an application form and an in-depth 30/40 minute interview are utilised.

In September, initial course delivery was described as a 'revolving door' for some students as they settled into an appropriate Diploma, a relatively large number of students changing course. Science was felt to be 'more technically challenging' for many students. Language issues and differing cultural expectations regarding teaching styles were also noted from some students.

All assignments utilised were pre-verified. However, when in use, some ambiguities became apparent. These are noted and amendments will occur for the next run of the course.

The return of scripts to students can be stressful. The importance of good assignment design became apparent as suitable contextualisation can clearly indicate the reasons why a student achieves a specific grade.

It was felt that trackers were up-to-date. No issues were apparent. Possible uses of tracker analysis was also discussed.

Task 2:

Consider the implications if the following occurred and any ways of being prepared. How can One Awards help?

1. An agency tutor, with no recent Access experience is brought in quickly.
2. The only tutor delivering one particular unit is suddenly absent for an unidentified period of time.
3. The whereabouts of scripts from one assessment is unknown.
4. Tracking of results is falling way behind schedule.

5. The policy related to resubmissions is not being adhered to as many are being submitted later than the time specified.
6. A series of 'flood/snow days' - major transport issues, both college and local schools closing/closing early etc

It was felt that some of these issues has been covered as part of task 1.

Discussion:

(1), (2): new tutors (either agency or from elsewhere within the College) need to be clearly briefed and monitored.

(6): Extensive use should be made of the VLE. Suitable course material may already be available. Tutors should contact students directly via a group message and provide appropriate guidance as to which work should be completed. The aim would be to use electronic methods of learning in order to mitigate time-out of College. On their return, consolidation activities would initially take place in order to ensure that the flow of learning and assessment is not broken.

Agreed recommendations from the event

1. A formal pre-course process is essential in order to ensure that students enrol on the appropriate course.
2. It is essential to carefully design assignments. All AC should be clearly assessed. The importance of the IM process is emphasised – if assignments are well-written, there will be less confusion for students and assessment by tutors will be more straightforward. Time spent on the IM process and appropriate contextualisation both assist the smoothness of the assessment process.
3. If there is a change in staffing, a clear procedure should be in place. This should include a checklist in order to ensure that the new member of the teaching team is extensively briefed, is aware of resources and takes part in appropriate internal moderation and standardisation.
4. 'Flood/snow days': extensive use of the VLE should take place.
5. One Awards to review the 'Mathematics – Introductory Skills for Higher Education' unit, with a view to reducing the number of AC sub-categories in each LO. This could involve increasing the number of LO.

Date report written: 4th December 2019

Name of facilitator: Dave Pickersgill