

Moderation Feedback – Central - 2005

Assessment Panel:

Physics

Qualification area

**Subject(s) and Level(s)
included in this report**

**Physics
Advanced Higher, Higher, Intermediate 2,
Intermediate 1 and Access 3**

General comments on moderation activity

In general candidates performed well in the theoretical outcomes (O1 and O2). However the practical reports of Outcome 3 assessment continued to show weaknesses in graphical work, in developing conclusions from data and in the evaluation of experimental work in Higher and Advanced Higher particularly.

20 centres were retrospectively moderated in August 2004. The Advanced Higher Physics Investigation Unit was reviewed. Generally the daybooks/unit material indicates that there is some good work being carried out in centres. However in many centres, daybooks did not give evidence of coverage of the unit.

Specific issues identified

Two centres submitted incomplete material leading to a non-accept outcome – an increase to 8% of moderated centres.

Overall the application of the mark schemes for the NAB packs was good though some centres are still awarding half marks where the mark scheme states (1) or (0) thus tending to lenient marking.

Some evidence for O3 was unmarked and gave no indication of how teachers had deemed candidates to be successful. It was also unclear if rework on the report had taken place.

The performance of candidates for the pc's of Outcome 3 covering conclusions from data/graphical work and evaluations is continually weak particularly at Higher and Advanced Higher. These factors led to 46% (11) of the centres reviewed receiving a 'not accept' decision. Six of these centres had received a 'not accept' decision in April 2004 as well.

Some wrong totaling of the marks on the NABs occurred. There was some evidence of internal moderation procedures however in all centres.

The retrospective moderation of the Advanced Higher Investigation Unit raised several issues. Many centres did not understand that the 'daybook' or record of work forms the assessment for this unit and that the evidence for the Unit must be marked by the responsible teacher/lecturer and that internal moderation would be desirable if possible. No evidence of internal moderation was present.

Some candidates had documented that research and planning of the investigation had been carried out (Outcome 1) however in many cases this element was very weak and little recognition of contributions made by others – for example, the teacher were recorded. Few centres confirmed that candidates carried out the investigation safely and accurately and that it was the work of the candidate. Relevant measurements and observations were generally available though in some cases headings were omitted and it was unclear whether all necessary measurements had been taken. Generally the analysis of results was satisfactory however graphical presentation was sometimes omitted. This may have been in the final report however it should also be presented as evidence for the unit. The treatment of uncertainties presented was in several cases minimal and not at the level of AH, again this evidence may have been in the final report but it is also required for this unit.

Feedback to centres

Generally, centres had conducted the assessments fairly and consistently. There was some evidence of cross marking / internal moderation in a number of centres.

Candidates performed well in assessments relating to Outcomes 1 and 2 although some centres were lenient in their interpretation of the mark scheme awarding a half mark where the scheme had allowed either (1) or (0).

For outcome 3, many candidates produced a well structured report giving procedural details, diagrams and valid conclusions for an experiment at the appropriate level. However the quality of the graphical work was variable and the evaluation of experimental work at Higher and Advanced level was often weak.

Centres should:

- ensure that the instructions for submission of material are followed. The omission of Outcome 3 evidence automatically results in a 'not accept' decision.
- refer to the publication - Physics – General Marking Instructions 1999, if queries occur when interpreting the mark schemes of the NABs. This will aid consistency in standards.
- ensure that their marking of practical reports is clear and that, for each candidate, there is a clear indication of the assessment decision of the centre staff.
- ensure that procedures detailed in the report enable another person to carry out the experiment again and that the report is in the candidates own words.
- ensure that if calculations are carried out on data, that an example of the calculation is given in the data analysis section of the report.
- consider that three experimental readings are not enough to draw a conclusion for a relationship unless justification is given.
- note that when candidates are graphing information, the best fit line should not be forced through the origin. If the line fails to provide evidence of direct proportionality, an appropriate conclusion should be given. Discussion on the possible reasons for the result could be dealt with in the evaluation of the experiment.
- ensure that uncertainties are considered, particularly at Advanced Higher and that values of uncertainties are reflected on when evaluating the experiment.
- note that 'sec' and 'secs' are not acceptable units of time.