Moderation Feedback – Retrospective Moderation - 2005

Assessment Panel:	**Biology**

Qualification area

Subject(s) and Level(s) included in this report	**Biology Investigation Advanced Higher**

General comments on moderation activity

All centres contacted for moderation returned evidence to SQA for the team to work through. The Biology contingent was joined by the AH Chemistry and AH Physics moderation teams and all three teams moderated the AH day books/record books that form the evidence for the internally assessed element of the investigation unit.
There were general improvements in the evidence supplied by centres that were moderated last year. However, many of these centres still had 'issues identified' with the evidence supplied.
Once again the evidence submitted by the majority of centres should not have passed the internal assessment element of this unit.
Centres should be made aware that they are responsible for retaining the evidence for internally assessed parts of the course so that the final report cannot be the only evidence of candidates having fulfilled the various Performance Criteria.
The evidence supplied should contain indications of having been seen and marked by the staff responsible for supervising the investigations.
Increased awareness of the Performance Criteria for the NAB by both staff and would alleviate some of the problems experienced in the external marking of the Reports.

Specific issues identified

There were very few cases of the staff within the centres having an ongoing input to the development or the collecting of evidence for the investigation.
In the vast majority of centres sampled, the day book consisted of little more than a record of raw data.

Outcome 1

PC(a) - This should be more than a record of raw data. The notes may be brief but should include dated contributions made by staff and other individuals .

PC(b) - The aims of the investigation should be clearly stated. This should include an overall aim which may bring together a series of related practicals. It should also precede the rest of any practical record.

PC(c) - While the majority of day books did have a hypothesis, there was little evidence of moderation made in light of experimental or research work carried out.

PC(d) - A number of the day books sampled saw candidates failing to collect useable results due to poor equipment or problems with the sampling technique(s). These flaws should be spotted, discussed and amended with a record noted in the day book.

PC(e) - The need for replicates should move on from the Higher LO3 point of mean values being more reliable than an individual result to the idea that replicate treatments should produce identical results.

Outcome 2

PC(a) - The collection of experimental data must be the individual work of the candidate and collected with due accuracy.

PC(b) - The raw data must be recorded in the appropriate format with correct headings and units.
Many of the candidate worked sampled contained tables or charts with no heading or units shown

PC(c) - Experimental information is analysed and presented in the correct format.
Evaluation discussions should examine the validity and reliability of the conclusions in light of variations evident in the replicates
Discussion should make clear the links between the biological background and the results obtained.

Other General Points.
Centre staff should be reminded that they are responsible for keeping evidence of internal assessment work and this means that the day book record, rather than the final investigation report, has to contain the record of achievement by the candidates of all the performance criteria.
Centres should refer to ***Biology Investigation DO34 13/NAB001*** issued in August 2002, which replaced the April 2000 publication.

All candidates should be issued with a copy of the document *Advanced Higher Biology Investigation Guidance* as it is the definitive guide to writing their report. By simply following the instructions many would add to the marks gained.

The daybook should be regarded as the record of the investigation with the Report as the summary of the day book written up formally.

Staff should discuss progress with students regularly and this discussion should focus on what is recorded in the daybook. This would improve the clarity of planning and eliminate many of the issues seen at moderation as well as increase the candidates' marks.

Validity and reliability are compromised if there are no replicates and controls and 'lack of time' is not an acceptable excuse as this would constitute a design flaw that should have been spotted, discussed and amended in early meetings with the candidate.

Many centres present sets of similar Investigations where the candidates have very little individual contribution to the planning, background research and protocols. It is recommended that centres try to have candidates doing different investigative work.

Where centres use a field trip to cover the practical work for the investigation, it is important that each candidate is involved in the planning, background research and protocols. The investigation should be more than an extended practical or related practicals and allow for creativity and discussion.

Where outside school organizations and establishments are involved, the presenting teacher has to witness the practical work done by the candidate in order to sign the declaration sent off with the Report.

Feedback to centres

Centres must apply the performance criteria when passing candidates in the Investigation NAB.

The daybook should be treated as the record of the investigation with the Report sent for external assessment as the formally written up copy.

It is recommended that regular discussions should take place between the member of staff and the candidate regarding investigation work and what is recorded in the daybook as this would increase the clarity of planning, eliminate several issues that have arisen in moderation and, more importantly, raise candidate attainment levels

If computer software is being used to generate graphs are the axes scaled properly, ensure that they are big enough to correctly represent the data and that they have grids and plotted points that can be checked.