

National Qualifications 2006

Senior Moderator Report

Subject: Biology – Advanced Higher – Day Books for the Investigation

Assessment Panel: Biology

NATIONAL UNITS

TITLES/LEVELS OF NATIONAL UNITS MODERATED

FEEDBACK TO CENTRES

General comments:

All of the centres contacted for moderation evidence returned evidence to SQA. 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.

The evidence submitted by the of centres with 'ISSUES IDENTIFIED' should not have passed the internal assessment of this unit as the majority of the issues relate directly to a lack of evidence for one or more of the Performance Criteria.

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 Performance Criteria.

The evidence supplied should contain indications of having been seen and marked by the staff responsible. Increased awareness of the Performance Criteria for the NAB by both staff and candidates would alleviate some of the problems experienced in the external marking of the Reports.

Advice on good practice and areas for further development:

Specific issues identified

There were very few cases of the staff having an ongoing input to the development or the collecting of evidence for the investigation. Staff should date and sign the day-book at regular intervals and indicate where each of the Performance Criteria have been achieved.

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 moderations made in light of experimental or research work carried out.
 - PC(d) - A number of the daybooks 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 daybook.

- 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 sampled candidates work 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 are advised that they are responsible for keeping evidence of internal assessment work. This means that the day book record rather than the final investigation report has to contain the record of achievement by the candidates for each performance criterion.

Centres are advised to use *Biology Investigation DO34 13/NAB001* issued in August 2002 which replaces the previous April 2000 copy. This can be downloaded from the SQA secure website.

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

Centre 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 for the Investigation Report.

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 Investigation 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 done in 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 external organizations and establishments are involved in providing the 'practical experience' and collection of data, the presenting teacher should witness the practical work carried out by the candidate in order to sign the declaration sent off with the Report.

All candidates should be issued with a copy of the document *Advanced Higher Investigation Guidance* which can be obtained from the biology pages of the SQA website (www.sqa.org.uk).

Feedback to centres

Centres must ensure that there is evidence to support that the candidate has fulfilled each Performance Criterion before recording a pass in this Unit.

The Daybook should be treated as the Investigation with the Report sent for external assessment as the formally written up copy.

Regular discussion of investigation work and what is recorded in the daybook is recommended as it 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 ensure that the axes are scaled properly, and that they are big enough to correctly represent the data.