

# **New Zealand Qualifications Framework Levels 1 – 3, 2011**

## **Biology**

### **National Moderator's Report**

## **National Moderator’s Report for Biology**

### **General Guidance for Assessors**

The purpose of external moderation is to provide reassurance that teacher judgements are at the national standard and are made on the basis of assessment materials that are fair and valid. All assessment materials are expected to:

- give the student the opportunity to meet the requirements of the standard
- include an assessment schedule that gives evidence of appropriate student responses and clear judgements at all levels.

To help to ensure best assessment practice teachers need to access the Subject Specific Resources for Biology on the NZQA website: [www.nzqa.govt.nz/biology](http://www.nzqa.govt.nz/biology)

The resources on this webpage include:

1. annotated student exemplars at grade boundaries
2. clarification of issues with the standards
3. newsletters - current and archived editions
4. previous national moderator reports
5. a link to the TKI resources

### **General Comments**

For NCEA Biology achievement standards 90925 and 90926 initial guidelines in moderator newsletters 90925 (July 2011) and 90926 (November 2011) may assist teachers in making judgements.

Assessment resources on the TKI web site are fit for purpose. It is recommended that when modifying or designing their own assessment material teachers use the TKI resources for guidance to ensure the intent of the standard at each grade level has been maintained.

The evidence statements in the assessment schedules of the TKI resources give an indication of possible student responses at each grade level. They relate to only part of what is required to achieve the standard at each grade and are not intended to be ‘the answer’. To ensure consistent assessment, it is good practice to develop annotated samples of student work for each grade.

Clarifications for the aligned standards level 2 will be developed during 2012 when sufficient and appropriate student work becomes available..

### **Standard-specific comments**

#### *Practical Investigation Achievement Standards – 90925, 90457, 90713*

Issues identified for the investigation standards include insufficient information in the final method. For example, missing units, details on the range of the independent variable, how the dependent variable is measured, controlled variables, location and method of sampling and small sample sizes. Enough information is required so the investigation could be independently repeated and provide a valid conclusion. A conclusion is based on an

interpretation of the processed data. A summary only of this data does not meet the intent of the standard.

Standard 90925 requires students to write a purpose as a hypothesis for merit and excellence Explanatory Note (EN) 7 and 8). EN 4 states, “With direction means...an outline of the method....” Students still need to develop a method with sequential steps (EN 6 and 7).

*Research Investigation Achievement Standards – 90926, 90769, 90714*

The current requirements can be found in the clarification documents.

A key aspect of achieving 90926 at all levels is for students to refine a given or agreed question or purpose and describe (achievement), explain (merit) or identify multiple links between (excellence) the biological ideas that are related to the question or purpose (EN 2, 3 and 4). This standard has a number of changes which make it different from 90162. Students are now required to report on an issue on which people hold different opinions or viewpoints, and take and justify a position on it. Describing how the research was carried out is not appropriate evidence of taking a position on the issue. The credit value has been increased from two to three to recognise the increase in the quality and quantity of evidence required. Students achieving at merit and excellence are identifying at least two different points of view supported by evidence.

The excellence requirement for 90926 and 90714 outlines the need to evaluate the sources used during the research and provide supporting evidence to justify the student’s own opinion. To justify their opinion the evidence must come from the information that has already been presented in the report. For example *‘I believe that stem cells should be used to help patient survival and recovery. My opinion is aligned with that of Dr Jones, whose article helped to clarify my thinking about the implications stem cells have of the survival of cancer patients. However, I do not agree with Dr Roberts who argued stem cells should be used to experiment with cloning humans.’*

Evaluation of sources of material used is a new focus at level 1 with the assessment of 90926 and will be an important skill in the new level 2 research standard 91154. To evaluate a source used for the research it needs to be correctly identified, and comments made regarding how current the research is (i.e. when it was written – recent or 50 years ago) and if it is biased.

For example, was the writer for or against the issue, if it was biased then give a reason why such as, *‘The author the book “The Poisoning on New Zealand” is well qualified to comment on the use of 1080 to control possums, however the content is biased as it only focuses on the negative implications.’* Students can also comment on why or not the information was used.

Copies of the sources of information used by students are not required to be submitted for moderation.

90718: The description of the application and the use of terminology and concepts appropriate are expected to be at level 8 of the curriculum. Students achieving at merit and excellence are using information from the rapidly developing techniques used in biotechnological applications.

**The National Moderator reports will be replaced by newsletters and clarifications documents from 2012.**