



The following report gives feedback to assist assessors with general issues and trends that have been identified during external moderation of the internally assessed standards in 2023. It also provides further insights from moderation material viewed throughout the year and outlines the Assessor Support available for Biology.

## Insights

### **91602: Integrate biological knowledge to develop an informed response to a socio-scientific issue**

#### **Performance overview:**

This standard requires the development of a personal response (position and action) based on collated and integrated biological knowledge.

Evidence that met the requirements of this standard clearly linked biological knowledge, which included a focus on the biological concepts and processes, to the personal position and action. Sufficient evidence of integrating the previously collated biological knowledge was used to propose, explain and justify why the personal position and proposed action had been chosen.

#### **Practices that need strengthening:**

Without further refinement, some contexts did not meet the requirement of Explanatory Note 4 that “the issue is one for which people hold different opinions or viewpoints”. For example, for contexts like diabetes, it was challenging for students to find named people, groups or organisations that have the viewpoint that diabetes is not an issue.

The broad context of a biomedical condition such as rheumatic fever, diabetes or obesity requires refinement. For example, into the socio-scientific issue of what approach would be most suitable for prevention. It is more likely that named people, groups or organisations will have different viewpoints on the best approach. The personal position could then be the approach supported by the balance of biological knowledge.

A stand-alone discourse on the validity and bias of the sources of information does not meet the requirements for developing a comprehensive informed response. Commenting on sources and information is one of three possible criteria that could be used to develop a comprehensive informed response, and therefore needs to be integrated with the personal position. Commenting on sources after the personal position is presented means the commentary has not contributed to the process of developing a comprehensive informed response.

As evidence is selected and collated, integrating commentary on the validity and bias is required. The validity and bias of each source contributes to the evidence used to develop a comprehensive informed response. For example, evidence from unreliable or bias sources would be given less consideration in the process of developing a comprehensive informed response.

## **91604: Demonstrate understanding of how an animal maintains a stable internal environment**

### **Performance overview:**

This standard requires a focus on the internal control processes for maintaining homeostasis within one control system, despite external fluctuation.

Evidence that met the requirements of this standard focused on the interaction and feedback mechanisms between the components of the system in response to challenges from a normal range of environmental fluctuations.

### **Practices that need strengthening:**

The “purpose of the system” relates to the homeostatic system selected from Explanatory Note 3, rather than homeostasis in general, as students are required to demonstrate achievement within a single control system. If enzyme kinetics is used as the purpose of body temperature regulation, then this needs to be a step-up from curriculum level 7. This could include naming an enzyme and its role in a metabolic pathway and connecting what would happen if it catalysed that reaction too slowly or not at all due to being denatured.

Some evidence had an over focus on the scenario, rather than using biological ideas related to the control system. Concentrating on the internal responses from the system, using biological ideas to regain the set range, would address this.

Students who chose body temperature regulation as the control system tended to identify the significant autonomic responses (cutaneous vasodilation and sweating, and peripheral vasoconstriction and shivering), but lacked descriptions of many of the components involved in these processes. This made it challenging for students to describe the interaction and feedback mechanisms between parts of the system to allow an animal to maintain a stable internal environment. Evidence that met the standard for this control system typically described the hypothalamus or preoptic anterior area of the hypothalamus and the sympathetic nervous system, the peripheral thermoreceptors in the dermis, central thermoreceptors in the core (such as those in the abdominal veins, stomach, and oesophagus), and thermosensitive transient receptor potential ion channels. There were also descriptions of cutaneous blood vessels such as arterioles, capillaries, shunt vessels and blood itself, as well as eccrine sweat glands, sweat ducts, sweat and skeletal muscles.

### **Assessor Support:**

#### **Online**

NZQA’s learning management system (Pūtake) offers 150+ easy to access courses, materials and products. These are designed to support teachers, as assessors, to improve their assessment of NCEA standards.

Online, subject-specific or generic, bite-sized learning modules and short courses are now available to complement the traditional face-to-face workshops that NZQA offers. These online courses can be accessed using your Education Sector Logon.

Subject-specific course/workshops available for Biology include:

- 91607 Genetic Transfer
- 91604 Maintaining a Stable Internal Environment

Online Making Assessor Judgements workshops are also available throughout the year. These workshops are structured to guide teachers to improve their understanding of each grade level by examining several full samples of student work. The following standards are available for enrolment in 2024:

- 91153: Carry out a practical investigation in a biology context, with supervision
- 91602: Integrate biological knowledge to develop an informed response to a socio-scientific issue

Feedback from teachers for these workshops indicates that more than 74% of participants agreed or strongly agreed that the content in the module was beneficial:

*“Although I was a bit skeptical that this was going to provide me with better understanding of the standard (and marking it), I found I've picked up more certainty about making judgements about the work my students might produce. I'm also more secure about guiding them through the selection of their topic and setting it up so that they are able to complete a successful investigation.”*

Exemplars of student evidence for all standards at each level of achievement are available on the NZQA subject page for Biology.

NZQA will continue to provide generic modules and workshops designed to improve general assessment practice. The following modules and workshops will be available in 2024:

- Assessment Approaches, an online workshop exploring different methods of assessment
- Culturally Responsive Assessment
- Assessment Guidance – Reviewing Your Practice
- Tāku Reo, Tāku Mahi – My voice, My work, a guide to managing authenticity
- Why Less is More, a guide to reducing volumes of student evidence
- Integrated Assessment
- Modes of Assessment
- Alternative Assessment
- Acknowledging Sources

*“This was great! I liked that I could choose from different scenarios, see how sources are used and the way the student answered the question.”*

*“Reassuring and very thorough. Easy to use/follow.”*

We will also continue to offer the Transforming Assessment Praxis programme, an online workshop relevant to all subjects which helps assessors learn about re-contextualising assessment resources and collecting evidence in different ways, in order to better meet the needs of students.

Check the NCEA subject pages on the NZQA website regularly, as more online modules, workshops and courses will be added throughout 2024.

### **Assessor Practice Tool**

The Assessor Practice Tool (APT) will be used to support assessors with the new NCEA standards from 2024 onwards. The purpose of the APT is to allow assessors to practice making assessment judgements and immediately receive feedback on their judgements from a moderation panel. The APT will initially have material for some existing Level 3 standards,

with moderated samples for the new Level 1 NCEA standard subjects being added as material becomes available. Material for the new Level 2 and Level 3 standards will be added over time, and all material for the old NCEA standards will be archived.

### **Workshops and Presentations**

The Best Practice Workshops offered by Assessment and Moderation continue to be viewed by the sector as significantly contributing to improved assessor practice:

*“I thought the workshop was very clear and helpful, there were a lot of varied examples of ākongā work discussed and opportunity for participants to discuss and ask questions.”*

We offer several options of online workshops and presentations for events to support assessors with the assessment of internally assessed standards. These can be subject-specific, or general assessment support, and tailored to the audience. Virtual presentation slots, online workshops or webinars can be requested to provide targeted support to local, regional or national audiences.

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