

The following report gives feedback to assist assessors with general issues and trends that have been identified during external moderation of the internal Chemistry standards in 2018.

It does not clarify specific standards but provides further insights from moderation material viewed throughout the year.

Volume of Evidence Produced

Some students produce an excessive volume of evidence. Students are not required to submit evidence beyond the criteria of the standard. It is appropriate for teachers to guide students to produce succinct evidence in response to the achievement criteria of the standard.

In Chemistry, the context of the assessment can contribute to an increase in the volume of student evidence at all levels. The requirement of completing evidence for the standard multiple times can contribute to the confidence of the assessor in awarding the grade. However, this has at times contributed to a greater volume of evidence than is needed to award the standard.

An additional factor that can contribute to the large volume of evidence is the content that students include in their report. Students are providing extensive *topic* knowledge, rather than selecting the key chemical *processes/development* in order to show their understanding clearly and concisely.

This may be an area where teacher guidance can provide focus. For example, for standards 91389 and 91163, assessors who have provided guidance on how to structure reports appear to have enabled their students to produce a greater depth of evaluation or justification.

Excellence at Level 3

There is some inconsistency in awarding Excellence. When making assessor decisions regarding Excellence, consideration needs to be given to the overall quality of the evidence. This is critical when making a judgement at the Merit/Excellence boundary.

A significant proportion of moderation grade changes occurred at Merit/Excellence in the standards at Level 3. In most cases, this occurred because the sample did not yet show justification of the responses to fulfil the requirements of the criterion for Excellence.

Students who reached Excellence for 91388 showed a comprehensive integration of the three spectroscopic techniques to justify the identification of an unknown molecule.

Similarly, for 91393, students who reached Excellence justified the spontaneity of the electrochemical and electrolytic processes.

Group Work

Group work is an acceptable form of assessment, if appropriate to the standard. When submitting group work for moderation, the teacher needs to ensure there is evidence that each student has met the standard.

The contribution of each student can be tracked and presented in a variety of ways, such as written record of teacher observation, the division of workload into clearly defined tasks, a student worklog or video diary, recordings of teacher/student conferences, etc.

In Chemistry, the use of group work is integral to the expectations of the New Zealand Curriculum Document and the Nature of Science. The use of group work enables students access to more extensive data than they would be able to collect on their own in the investigation standards. Group work also allows for greater equity with the requirements of physical equipment and chemicals.

For moderation, evidence of Chemistry understanding relevant to the standard will need to be shown through the ways mentioned above, or through practice exercises or activities which are completed prior to the final work.

Integrated Assessment of Standards

This refers to assessing multiple standards via one submission of student evidence. The assessment of standards may be integrated either within a subject or across subjects.

For external moderation, if the assessment is across subjects and the student evidence is physical, it can be sent on to the next subject moderator/s if required. If it is an online submission, the student evidence can be uploaded for each standard being moderated.

While no evidence resulting from the integration of assessments in Chemistry has been seen to date, it is a valid and fair form of assessment, and assessors are beginning to show an interest in this approach. Standards can be integrated from within the Chemistry matrix or from other learning areas.

Where integrated assessment is used, evidence for the relevant Chemistry standard should be included in the external moderation submission with the addition of the expected responses for the Chemistry standard.

New Level 2 Chemistry Standards

In 2018, the Ministry of Education produced two new Level 2 standards, 91910 and 91911, and sample tasks for these new standards. The standards and tasks can be accessed through TKI or on the Chemistry subject page on the NZQA website. These new standards can be used for assessment from 2019. Standards 91161 and 91162 can continue to be used for assessment until their expiry in December 2019.

Evidence of Achievement

In Chemistry there has been an increase in the samples of student evidence that have been awarded a grade, yet some of the supporting evidence was omitted from the submission. For example, an oral resubmission was given but with no evidence to show what the student stated; or, in a practical investigation, some evidence was found in the logbook, but this was not included in the submission.

External moderation is based on the evidence supplied in the submission. If a resubmission or portfolio-type evidence is used, effective assessor practice is to include the evidence to support the grade given for external moderation purposes.