



# **Queensland Teachers' Union**

## **Submission to Parliamentary Inquiry into Assessment Methods for Senior Maths, Chemistry and Physics**

**Authorised by QTU Executive  
15 April 2013**

## **QTU Position Statement regarding Assessment Methods in Senior Subjects**

The Queensland Studies Authority (QSA) has not introduced a new system for assessing student achievement in senior schooling. Queensland's school-based and standards-referenced system of assessment was introduced following a major review of education. The review occurred amidst widespread dissatisfaction with various aspects of Queensland's education system, including external examinations for Year 12 students which were set and administered by the university. However, while the system has remained the same, the methods of assessment used within that system, in some subject areas have recently undergone a massive paradigm shift which has resulted in significant changes to workload for teachers.

QTU policy supports the current system of assessment which is school-based, standards-referenced, and externally moderated. The QTU is opposed to the reintroduction of external exams, as occurs in other states, where students and teachers feel the pressure and the enormity of the high stakes HSC. The QTU recognises, however, that there needs to be a review of the current assessment methods in certain senior subjects in order to address teacher workload issues, to ensure that moderation panels treat student work in an equitable manner, and to give students every opportunity to succeed. In order for this to occur, the QTU believes that any significant change to assessment methodology must be supported by adequate professional development and support for teachers and include examples of assessment items and graded exemplars provided by the QSA .

### **QTU POSITION ON SENIOR SCIENCE AND MATHEMATICS ASSESSMENT**

The syllabuses for senior sciences and mathematics have undergone radical changes in recent revisions, in particular in the way that assessment items are used to arrive at a level of achievement. Many of these changes have improved the way these subjects are taught and resulted in a more diverse range of instruments that cater to different learning styles and allow a deeper assessment of scientific and mathematical understanding. However implementation of these new syllabuses has been complicated by a lack of adequate support by the QSA and inconsistent interpretations of the syllabus requirements by QSA officers and district review panels.

The most significant change brought about by the recent revisions has been the removal of standards which allow a numerical or quantitative method of arriving at an overall grade for an assessment item. Qualitative, criterion-based, standards referenced assessment is the preferred method of assessing extended responses to assessment tasks, however it is not as well suited to assessing shorter answer tasks. While the QSA's official response has been that there is nothing stopping teachers using quantitative methods to arrive at a level of achievement in an appropriate task, this position is often contrary to advice received from some district panels, who say that such methods are not supported by the standards stated in the syllabus. Further complicating this situation is the fact that such advice is not consistently given across all district panels.

Creating and marking short answer assessment items using the current standards is a difficult and time consuming process, with the result that many schools have dropped these items from their assessment package in favour of items requiring an extended response. Such items allow a deeper demonstration of knowledge in a particular subject however they are by their nature more narrow than a short answer item and may not be the most suitable assessment type for a particular topic. As a consequence, the items themselves become shorter and individual questions therefore become more “high stakes” for the students.

The QTU believes that standards used in the assessment of student work must be broad enough to encompass a range of methods, including quantitative or numerical methods where appropriate. The QTU supports the idea that students should be assessed by a range of instruments which cover the spectrum from short answer to extended response and that the standards should not favour one form of assessment over another.

The use of qualitative standards and the development of a system that favours extended responses to questions have resulted in some cases where the length of student responses has far outstripped the recommended word length in the syllabuses. While the QSA rightly states that the recommended word lengths are shorter than those in previous syllabuses, it is difficult using the current standards to actually penalise a student for exceeding them. Schools that do so in their assessment package are regularly called to task by district panels who correctly indicate that such a decision is not supported by the standards. This has led to students writing extended pieces which not only increase their workload, but that of the teachers who mark their work. Brevity and conciseness in communication is an authentic skill for scientists, particularly when writing journal articles or grant applications. The QTU believes that standards should contain descriptors which allow teachers to guide their students in meeting the prescribed word limits.

The new syllabuses have seen the introduction of new assessment types, with the most contentious being the Extended Experimental Investigation, or EEI. These items require students to devise, conduct and revise an experimental scientific investigation over a period of time. The EEI is an innovative and authentic assessment piece which encourages students to engage in the scientific process of inquiry. However, the QTU recognises that there are serious equity issues which exist in terms of the resourcing of schools and the access of students to expert mentors and the impact this has on the conduct of EEIs. EEIs have also been introduced at a time where laboratory support of science classes has diminished through increased school demand for other technical support (particularly in the area of IT). The QTU therefore believes that the introduction of such time and labour intense assessment items as EEIs should only be done with consideration of existing school resources to support them.

Some of the greatest challenges which have arisen from the implementation of the new senior science and mathematics syllabuses have been the result of policies and actions by the QSA. The QSA introduces new syllabuses through the trial pilot process by presenting self-nominated schools with the syllabus and supporting them in the development of work programs and assessment packages. This support does not include examples of work programs or assessment items to be used as a basis on which to build a school’s own program.

If the QSA does provide such examples, it is during the later stages of implementation and consists of items developed by trial pilot schools. The QTU rejects this model of support for syllabus implementation, and believes that trial pilot syllabuses should be supported by examples of work programs and assessment items which follow the syllabus guidelines and which are supplied by the syllabus writers. The QTU strongly rejects any suggestion that to provide this sort of support would result in “cookie cutter” work programs as an attack on the integrity and professionalism of teachers.

The QTU believes that once syllabuses have been implemented, they should be supported by a diverse range of exemplar responses provided by the QSA and drawn from trial and trial pilot schools. The QTU believes that these exemplars should, above all, match the syllabus requirements (including word length) and support both the policies and public statements of the QSA.

A perennial source of frustration for teachers is a lack of consistent judgement with regard to decisions made by district review panels. This inconsistency may occur between panels or within the same panel over consecutive years. The QTU believes that any system of externally moderated school-based assessment should have the confidence and support of the teaching profession. Such a system must deliver consistent judgements on schools’ assessment practices and enforce high standards of quality, regardless of the location of the school.



Graham Moloney  
**General Secretary**