

Submission to Education and Innovation Committee.

Inquiry into assessment methods for senior maths, chemistry and physics.

I teach both senior mathematics and science at a state Secondary School. I am also a Parent to two children currently in grade 10. In both these roles I have come across serious flaws in the assessment methods in both Science and in Mathematics.

I do have concerns with the title of the inquiry, assessment methods cannot be considered alone, and assessment methods must by their very nature have an impact on teaching and learning as well and should not be considered separate from teaching and learning.

- **Ensuring assessment processes are supported by teachers**

I do not support the current assessment processes.

The current assessment processes are flawed in a number of ways.

1. Extended investigations take up much of the teaching and learning time. Students spend weeks pursuing extended experimental investigations, weeks in which they are not being taught the basic fundamentals and facts which they require when they achieve University. In fact as a Science Graduate I am very conscious that the first years of any science course still concentrates on fundamentals and facts and extended experimental investigations is not used as a basis for teaching and learning in universities until a masters or doctorate level.

2. They are so complex that they reduce the time available for teachers to work on other important aspects such as planning. The time spent ensuring that assessment items are put together in the manner requested by QSA and marked in accordance with QSA policy is huge and unfortunately does not add anything to the validity of the same tests.

3. It is a very subjective system which is unfair on the students as they are graded based on a teachers interpretation of criteria which varies widely between students as well as between different panels throughout the state.

- **Student participation levels**

Top end students now find it so difficult to complete Chemistry, Physics, Biology, Maths B , Maths C, English that it is commonly referred to as "The Suicide Six".

This is a direct reference to the difficulty not of "doing "the subjects but rather of being able to complete all of the assessment. This means that many bright students are turned off a set of subjects which traditionally was a suite of subjects accomplished by a lot of students.

A lot of extremely smart students are failing to be recognised as such, this is due to the weight of assignment type assessment. Many super bright students have some difficulties when it comes to writing long complex assignments and even exam answers. It is not necessarily a test of their subject knowledge and they are often deterred from taking these subjects in future because they are not achieving the grades which really reflect their ability.

A student who has difficulties with some aspects of literacy e.g. Paragraph construction, is not just punitively marked in one subject but in EVERY subject they attempt.

Students are finding it difficult to identify their ability levels and progress due to the fact that they are graded by a criterion which is not as clear as having numerical grades to confirm whether they are a low or high D or low or high C etc. This means that often students are misled into either attempting or dropping a subject.

- The ability of assessment processes to support valid and reliable judgments of student outcomes.

The assessment process is so flawed that it is unlikely that any of the judgements of student's outcomes are valid.

The biggest flaw is obvious and included in any statements made by the QSA in regards to assessment. This is the use of the word, INTERPRETATION; any assessment instrument which relies on interpretation is obviously open to subjective interpretation. In the QSA's representation to the Parliamentary committee a committee member asked a very pertinent question "how do you differentiate the grades when a student is borderline" the QSA representative stated that they would then look at the criteria guidelines "More Closely" before making judgement. I think that is unacceptable, every student's grade should be considered with the same amount of care.

Moderation of work is done by panels and from all the feedback I have heard it is obvious that Panels often have different interpretations between different areas, it is unacceptable that a panel in one region of Queensland should perhaps have lower expectations than in some other area. It is unacceptable that some students may have different interpretations applied to their outcomes than other students. Some panels also have dominating personalities who force their own agendas.

As part of the OP process each student is given a grade which is partly calculated on their ranking within the criteria level that they exited on, in other words students who have been "A" students throughout their senior education suddenly find that they are split into a band level from 1-10 in each grade level. This means that now they are considered a very low A compared to another. It is unfair to students to mislead them in this way; numerical grades would allow students to understand exactly where they are and what goals they need to set to move on.

The QSA has told parliament that numerical grading is allowed and yet we have been told by the same QSA through our local panels that numerical marking is not allowed. Numerical grading is much less subjective and is far more informative to both teachers and students. With my own students I often refer to doing a PB or personal best. Numerical grades allow for this much better. In athletics for example it would be ridiculous to consider an athlete's performance based on whether it was an A standard or B standard etc. Likewise it would also seem ridiculous to grade Mathematics on letter grades and not on numerical grades. (Perhaps this could be considered a contradiction about the power and usefulness of mathematics).

I understand that the same people currently part of the QSA are adamantly denying the failure of the current assessment system but the data which shows Queensland's performance compared to other states shows that they are wrong and obviously though they feel that they could never

implement a better assessment system it is time that we regrouped and assembled a team of people who are capable of developing such a system.