SMC&PA Submission 170
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To: Education and Innovation Committee,
Queensland Parliament
From: Neil Daly – Physics and Chemistry Teacher

Re: Submission to the Parliamentary Inquiry into Senior Mathematics, Physics and Chemistry Assessment

I am the Science Co-ordinator at an inner-Brisbane Catholic girl's school, a position I have held for a long period of time. I have taught Physics, Chemistry and Senior Mathematics in Queensland, and overseas, for over 40 years. In that time, I have had extensive experience working on different moderation panels.
It is with considerable dismay that I find myself, in recent years, working with and implementing, what I consider to be deeply flawed syllabi in subjects that I love to teach. Whilst I have reservations about the structure and content of the syllabus documents, my concern is mostly focused on the assessment processes demanded by the QSA, and are outlined below.

1. Assessment Processes.
    a. The assessment demands on students, in general, are ridiculous.
    b. Whilst I enjoy the creativity and "buzz" of the EEI tasks, they have been poorly implemented by the QSA with initial exemplars being provided far too late to be of great assistance. In addition they modelled a size and complexity that has distorted the requirements of this sort of task. I feel that this type of assessment is valuable but needs to be drastically scaled down.
    c. The ERT tasks are of limited value. Like the EEI, the subject content focus is too narrow to justify the amount of limited course time spent on them. In addition, some ERT tasks appear to accentuate the style of delivery at the expense of content.
    d. The class time spent on EEI and ERT tasks has meant that less content is covered adequately in the course. A past student who lectures first year Chemistry at the University of Queensland has observed that she has noticed considerable gaps in the knowledge of incoming students in recent years. The problem is compounded by the fact the deficiencies vary among different schools.
    e. The requirement to assess in three criteria has meant that examinations have become longer, more complex and more onerous on both students and staff. The QSA has compounded this by arbitrarily restricting the number and style of test.
    f. The assessment makes inordinate demands on student time, particularly if they are doing several sciences.
    g. The assessment makes inordinate demands on teacher time, at the expense of class teaching and preparation, as well as personal and family time. Too many good, conscientious teachers feel pressured to neglect other obligations in an attempt to make this flawed system work.

2. Participation Levels.
   My experience is that Year 11 enrolments are probably a little lower under these syllabi. However, I have certainly observed a greater rate of students dropping out of the subjects.

3. Validity of Assessment Processes.
   There are significant problems with making valid and reliable interim and exit judgements.
   a. With the best will in the world, teachers are still struggling with the precise meaning of the syllabus criteria.
   b. Interpreting student profiles to arrive at a global judgement of grade and “rung position” is fraught with inaccuracy. For example, it seems to be acceptable to the QSA to “weight” some tasks more highly in some criteria. For example, an EEI would contribute more to the IP criterion than would a written test. However the quantum of weighting is not explicit.
   c. Many teachers, I feel, struggle with the fear that given the same profile on different days, they would arrive at different decisions. These fears could be significantly allayed by the use of numerical marks.
   d. The QSA intransigence on the use of numerical grading is mystifying, given how such schemes have overwhelmingly operated successfully in other jurisdictions, and previously, in these same subjects, in Queensland.
   e. It is disingenuous in the extreme of the QSA to maintain that schools are free to use “marks” if they wish. They are most certainly not; or at least not in the sense that most people would understand by the term.
   f. Panellists, in general, work hard in helping schools validate judgements however skills are learned “on the job” and with a lack of significant training by QSA there are inevitably different interpretations of requirements.
   g. Students do not have a “level playing field” when completing ERT and EEI tasks in science, or assignments in mathematics. Those with access to people with appropriate skills can gain enormous insight into the design and analysis of tasks. Schools have no reliable way to monitor or detect such help.
   h. The current assessment requirements tend to favour students with superior written and possibly oral communication skills. Whilst important, I feel that demonstrated mastery of the content and skills is the most important aspect of assessment in mathematics and science subjects.

In short, I feel that our students, their teachers, and the wider society are poorly served by these ill-conceived, overly-demanding and flawed modes of assessment.