

**Submission to the Inquiry into Education in Queensland, including Assessment Methods for Senior Maths, Chemistry and Physics**

QLD State Government

About myself

I have 16 years' experience in independent and Catholic schools teaching junior and senior science, in particularly Biology and Chemistry. I have been Head of Science at a Catholic P-12 College for the past 3 years and have been a district panel member in Biology and Chemistry for 15 years. Although I do not have the teaching experience compared to some individuals who have made submissions, I do come to this process by way of life experience. I initially graduated high school in 1980 and again in 1993 after 13 years out of the school system, so have experience with the previous assessment regimen associated with the TE score and the current system but am unfamiliar with the external examinations proposed by some.

As a HOD and before, I have written work programs for Chemistry, Biology and Physics. I became a member of the Gold Coast Biology Panel before the advent of the 2004 syllabus so also have experience with work programs that were very much content driven and were assessed by way of the three criteria – Knowledge, Scientific Process and Complex Reasoning Process.

Although, initially apprehensive at first when the Biology syllabus was thrust upon unsuspecting teachers and schools, it has made the transition to the Physics and Chemistry syllabuses somewhat easier to contend with in terms of their intent. Having said that, I have had the opportunity to work with teachers new to the QSA system and those more experienced to implement the Physics and Chemistry syllabuses.

From the outset, let me say that all three syllabuses represent refreshing changes from the content heavy syllabuses weighing down the ability of teachers to generate interest in students for learning science and introduce variety in pedagogy and assessment practices. Not to say that there isn't content to teach but it is just that the content is taught in context and not disconnected from reality. This brings us to EEIs and ERTs and some inaccurate comments about the assessment practices and protocols inherent in these syllabuses.

Many of the submissions at odds with the current system focus on EEIs and ERTs and seem to forget that SA's (Supervised Assessment in the Physics and Chemistry Syllabuses) and WT's (Biology) also exist and represent opportunities for students to complete examinations. However, the issues seem to be about EEIs and ERTs and the collective stress they put on students and teachers and the angst they cause university lecturers.

EEIs and ERTS represent a departure from examinations as the primary source of assessment. Instead they make up the two-thirds of the assessment tasks that students need to be proficient in to complete their senior science studies. Unlike examinations and tests, EEIs and ERTs are opportunities for students to develop and refine their research and reporting skills, and so students who are proficient in these skills are not disadvantaged by having to complete an

examination as their primary assessment. Likewise, students who are proficient in exam taking are not disadvantaged by EEs and ERTs because they do not constitute 100% of assessment. They offer the opportunity for students to demonstrate their proficiency in a range of skills and disciplines in addition to developing in-depth knowledge of a topic of interest. EEs can be difficult to manage if a teacher is inexperienced or unwilling to facilitate them; however, they do have the potential to enhance students' understanding about a topic or topics. As well, the use of three different types of assessment tasks provides opportunities for equity for teachers to obtain a clearer and more complete picture of the chemistry or physics ability of students than a single examination.

While the current system of assessment in senior science subjects is not perfect it is better in terms of equity, student outcomes and interest and the ability of teachers to assign grades based on standards than a single examination at the end of 18 months of intensive memorisation of disconnected facts. Personally, I am in favour of the current protocols but suggest that funding needs to be assigned to QSA to address issues that have recently surfaced with how moderation panels judge assessment and student achievement levels.

Anthony Fraser

Academic Coordinator – Science

St Eugene College

Burpengary