

Dr Heather Row,

SMC&PA submission 287
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To Ms Rosemary Menkens, MP.

Re Parliamentary Inquiry into Senior Maths & Science, Qld

Dear Ms Menkens,

I have been teaching maths and a variety of science subjects to Year 12 level in North Queensland and Victorian schools for almost 30 years, the last 10 years in [REDACTED]. I have served as a member of the [REDACTED] region Biology and Chemistry panels. As well, my three sons have studied maths and sciences at various secondary schools over the past 15 years, and the eldest two have studied science, maths, engineering and computing at [REDACTED] University and [REDACTED] University. Prior to beginning teaching, I qualified as a medical practitioner and I have continued to work part-time as a GP. So I have experienced and observed the effects of the current syllabus and school-based assessment from many perspectives, and I am pleased that a review is taking place.

My first concern is for the students. I believe that the current system of continuous, school-based assessment in all subjects, with the emphasis on "assignment" work causes many problems for students. Most students study six core subjects in Years 11 and 12 and each of these subjects will require 5 or 6 assessments each year, which means the students are completing about 35 tasks a year, and most of these will be written assignments, each of which would be carried out over a few weeks. This means that students who are trying to produce their best work are continually under pressure; so it is no surprise that so many are anxious and lacking sleep. They also have very little time available for traditional homework and study, reading over text books and notes, practising challenging questions and enquiring into areas that interest them. From my experience in Victorian schools, although there is intense pressure in the final term of Year 12, the students are more able to cope with this less protracted strain, and they are more able to study to prepare for the exams. I have also observed that the amount of work required of students in all subjects has escalated from when my eldest son completed Year 12 in 2001 in [REDACTED], gaining an OP of 2, to my youngest who completed year 12 last year with an OP of 3. I would estimate that the workload for the same subjects has tripled in that time. As well, the two elder sons enjoyed learning and found excitement in all their subjects (2 Maths, 3 Science, English and Music), while the youngest expressed many times the feeling that he was learning very little apart from how to write assignments the way the teacher wanted, in all his subjects (2 maths, 1 Science, Computer Programming, 2 Music and English)

I also believe that the current model encourages students to concentrate on word processing rather than learning and understanding the content of their subjects, and to rely on help from teachers, parents, tutors etc. to achieve good grades. I believe that this system does not prepare students for many of the tertiary courses and professions which are so valuable to our society. Undergraduate students and Graduates in Science, Engineering, Medical and Allied Health fields need to be able to make decisions based on their own knowledge and understanding of complex topics.

I believe that the Inquiry is particularly concerned with the EEIs in Chemistry and Physics. I have organised these tasks in years 11 and 12 Biology and Chemistry since the start of the current syllabi in these subjects. I do not believe that these tasks are necessarily onerous monsters if well designed by teachers. Particularly in Chemistry I have limited the time and out of class work required by guiding the students to pursue a reasonable topic, record all work in class time and spend a small amount of time each week over the 6-7 weeks of the task. Collecting and marking two or three sections of the work during this time also keeps it manageable and less daunting for the students.

However I do have major concerns about the EEIs. I believe that the 6 – 7 weeks spent planning, performing, and writing up one set of experiments each year, usually involving repetitive procedures, and extended analysis of large amounts of data, is a waste of valuable school time. I do not believe that this type of task is useful for any students, as it would not be required in undergraduate courses or other careers. My years of experience have helped me to plan more achievable tasks, but this may not be the case for many young teachers, and there has been little guidance from Q.S.A. or panels. I am also concerned that so much emphasis is placed on student results in the EEI, when there is so much teacher input into all aspects of this task, as well as so much opportunity for outside help for students. As well, criteria based marking in this and other assessments is subjective and unclear, as evidenced by the ongoing disagreement about grading of students from the verification process.

As for teachers, the current system has made the workload of teachers horrific, with most teachers spending most of their nights, weekends and school holidays preparing and marking assessments, and organising lessons. Being closely associated with the local rural and base hospitals, I can't help but notice that the teachers at my school are working much longer hours than the young hospital doctors. There seems to be less professional development provided for teachers than in the past, and most of this seems to be upskilling in computer use and how to manage assessment tasks, rather than content-based activities. I would like to see less assignments in all subjects, as in the previous Queensland syllabi and other states.

Yours faithfully,

Heather Row 6/6/13