

Education and Innovation Committee

From: Ric and Fiona [REDACTED]
Sent: Monday, 13 May 2013 10:36 AM
To: Education and Innovation Committee
Subject: FW: Inquiry into assessment in the Sciences and Mathematics in Qld schools

Categories: Blue Category

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Sent: Monday, 13 May 2013 10:32 AM
To: 'eic@parliament.org.au'
Subject: Inquiry into assessment in the Sciences and Mathematics in Qld schools

To whom it may concern,

The Qld school system is characterised by school based assessment and dominated by the QCS in Year 12.

Most other states have an external exam. New Zealand, South Africa, UK and California all have external exams to my knowledge. The two major international academically based senior school academically oriented systems – the IB and Cambridge International Exams all have an external exam.

It is interesting to note that the IB and Cambridge systems are mentioned in the entry requirements of prestigious overseas universities.

The assessment system designed by the QSA is unworkable. It places huge strains on students with the EEI's in the Sciences and when it comes to Mathematics you actually do not have to know anything about Mathematics you just have to write about it.

The workload on teachers is onerous in the extreme. The workload of teachers in Senior Sciences and Mathematics is about 70% greater than what is required in NSW. I know because I came from NSW. That is not to say that teaching senior Mathematics is easy in NSW. On top of this teachers are paid about \$10K less in Qld than NSW and about \$20K less than WA. It is not a good equation : more work = less pay.

No matter what assessment system in Qld will be introduced the big worry is who will teach it ?

Teaching is the least popular tertiary choice of high achieving school students.

In order to teach senior Mathematics at the top levels and senior Physics and Chemistry teachers require a major in their undergraduate degree in the appropriate discipline. Obtaining a major in any of these is not for the academically challenged. On top of this Science graduates face a higher HECS debt because of the greater number of hours that they spend in labs. The usual HECS bill is around \$40K plus for a Science degree let alone doing a Master of Teaching over 2 years on top of this. When they do start work 9 (in the 6th year out of school) the salary for a beginning teacher is around \$55K. They will spend years paying this off. PE teachers – of which there are thousands – pay a much smaller HECS fee yet are on the same salary levels.

The Australian Council of Deans of Science commissioned a report back in 2006 entitled The Preparation of Mathematics Teachers in Australia and a similar report on Science teachers.

It highlights the difficulty that schools experience in employing properly qualified Mathematics teachers and Science teachers. It provides some detailed research into the demographics of Mathematics and Science teachers across Australia. Qld has the lowest incidence of properly qualified Science and Mathematics teachers in Australia. It also highlights the fact that these teachers are also slightly older than other teachers (and teaching is a relatively old profession). There is now a tidal wave of retirements of properly trained Science and Mathematics teachers across Australia. This was back in 2006 !

The vast majority of these retiring teachers were relatively high achieving students who went through University on teaching scholarships and were paid a good salary (back in the 70's HOD's were paid the same as Parliamentary backbencher) and had a generous defined benefit superannuation scheme. No longer.

Teaching is seen by the vast majority of high achieving students as yesterday's job.

Qld is in a diabolical situation when the national curriculum is introduced in the senior years of high school. Unqualified teachers cannot effectively teach the higher levels of Mathematics and Science. Mind you, Qld will not be alone in the shortage of properly qualified Science and Mathematics teachers but as WA cannot attract such teachers already (and they pay more) then what chance Qld ?

The Smart State ? Sure.

Regards,

Richard Porter
Ex Ass Sec QAMT