SMC&PA Submission 205
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Education and Innovation Committee

From: TOFT Julia [redacted]
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To: Education and Innovation Committee
Cc: TOFT Julia
Subject: concern about QSA approach to senior sciences

Categories: Blue Category

To: The Education and Innovation Committee eic@parliament.qld.gov.au

I am writing to share some concerns I have with the criteria and assessment techniques specified in the senior syllabi, chemistry, physics and biology. As a HoD (science), teacher of these sciences and district panellist I feel I am in a good position to comment on the concerns.

Firstly, the wording in the syllabii is very vague, and although I have had to seek clarification a couple of times whilst writing the work programs, I have only ever been met with re-quoting of the syllabus. The interpretation of aspects of the syllabus, especially regarding the requirement for the three techniques and for the exit standards, , is subjective: the nature of this subjectivity is seen every time panels meet (February and October) when the panel chair might suggest that , for eg, "ERT's are best having a supervised component now" or "Quantitative data is really only the data in which it is possible to demonstrate A standard analysis, evaluation & conclusion." The concerns are echoed daily on the various discussion lists which are organised through EQ. It seems that what is fine one year for assessment is not fine the next, and what is ok in some districts is "hammered" by other panels. Students don't stand a chance in interpreting the vague criteria sheets, and as teachers we are not allowed to "interpret" them for the students by writing them in plainer terms – we have to use the exit standards and nothing but the exit standards!! Helpful for grade 12s in term 3 maybe, but what about year 11's in term 1?????

Secondly, the staff time requirement for Extended Experimental Investigations is enormous – with over 30 students doing chemistry with me this year, and each group doing a different research project, requiring different guidance, the work load is extreme. And that is without the actual marking! The space required to store all these projects has also been an issue, with our laboratory technician juggling four loads of such EEIs in one tiny preparation room, and with the extra time load it has created for the Laboratory technician, it really must be asked whether EEIs have too much value attached to them. I am loathe to request practicals outside of EEI times due to the extra load on these staff, and I feel this is a shame as smaller, organised practicals are valuable to support the theoretical teaching of science.

Thirdly, it is also necessary to monitor student progress continually throughout the assignment process to ensure authenticity, but even then I am never completely certain that one student hasn't just shared all the ideas with another. And I have had some woeful drafts scrub up magically overnight…. Is this really a fair system? Exams may not be the only way of assessing student work but some smaller, supervised practicals and smaller in-class response to stimulus questions may be a more reliable guide to student ability.

Finally, the ERT and EEI reports are necessarily huge and having had two sons of my own go through this process, it is unreasonably onerous compared to other senior subjects – it is no wonder that many students call the three sciences and two maths the "Suicide Five". It also means that some students have spent a lot more time studying one aspect of the science, and less on another, and that when they then go to University, their knowledge of some areas is sketchy.

We are trying to build a culture where students embrace and enjoy the sciences and mathematics – by making these subjects so much more challenging in the senior years than the counterpart subjects, we are ending up with fewer students taking the subjects, and therefore compounding the problem of having sufficient science-trained staff to excite future students.

I hope you are looking into this matter and trust the Australian curriculum in senior science and maths is one we can be proud of in the future

Sincerely,
Julia

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