SMC&PA Submission 24
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Education and Innovations Committee -

Inquiry into assessment methods for senior maths, chemistry and physics

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Q. Whether you believe assessing against defined standards, rather than numerical grades, provided a valid indicator of your achievements and knowledge of maths, chemistry or physics

A. I found that while it was better to assess me against criteria than to assign my works with numerical grades, the criteria themselves do not provide the most valid assessment of my knowledge. In having the criteria, it enabled teachers to provide good feedback on the assessment pieces, enabling them to go through the criteria with students and have them understand what they are or are not doing in their assignments. Also, and especially in relation to maths, having a criteria in a test assessment means that even if, under the stressful time constraints of the test, you have made simple errors in calculations, the teacher is still able to mark fairly the knowledge of the concept used to arrive at an answer. Now that I am in university where a numerical marking system is used, final answer and working and marked equally, when clearly they are not of equal value. In saying this, you can also be marked negatively for not showing working out, even if the answer is correct. Also the criteria are near impossible to understand, I was a top achieving student in all these classes and only started to understand the criteria in year 12, although none of my peers could. This can disadvantage those who don't understand what their assessment should be striving towards, but also means that in having that understanding you can figure out the easiest ways to cut corners and get the marks.

Q. How well you understood how your grades were assessed and how helpful your teacher or school were in explaining it to you.

A. My teachers in all three of these subjects strove to make the class understand the marking criteria, but the truth of it is, we just can't understand that wording. It's horrendous. Eventually I worked it out, but by harassing my modern history teacher with questions about it, and then I was able to understand the criteria in other subjects as well. Especially in maths based subjects like physics, maths and chemistry the criteria are especially difficult. I think one of the main complaints about it is the packing together of so much information in one sentence, I think that's what confused us mainly. For instance: Reproduction and interpretation of complex and challenging concepts, theories and principles, Comprehensive identification and interpretation of physical aspects relating to housing design. While I now understand this, I know almost no other my age who does.

Q. whether the assessment process allowed you to prioritise your workload

A. It is an old complaint in my school, a sentiment that my whole cohort can share: don't make everything due in the same week. Simple put, the last 3 weeks of term are the hardest because you

have everything due in the same week and you have to get 6 pieces of assessment to do at once in the 2 weeks before. Not impossible, only marginally hard, but horribly annoying. If perhaps the assessments were spaced out along those final 3 weeks it would relieve the work load and stress. It can be done, almost no one starts their assessment for at least a week after its been handed out, if the due dates for some were a little sooner than others it may force students to do more work earlier in the term as well.

Q. How adequate the timeframe for completing EEI or ERT tasks was

A. Fine. We get almost an entire term to do an assignment, practicals are done in a few lessons.

Q. Whether the recommended word limit for EEIs (1500 words) is reasonable and/or achievable

A. 1500 words is incredibly easy to achieve, it ensures that there is some semblance of an introduction and discussion for low to mid achieving students and is never an issue for assignments which have had an adequate amount of effort put in. As long as there is not penalty for going over the word limit, 1500 is very reasonable for any student in an academic class. I was an 'A' student and in terms of words I would achieve between 2000-3500 in Physics and chemistry. I would say that a good introduction and discussion could use 1000-1500 words each.

Q. How the assessment workload in senior maths, chemistry and physics compares to other subjects

A. If I was to rank the workload of subjects I have taken in senior it would go something like the following (least to most): English, Maths B, Physics, Chemistry, Modern History, English Extension, Art. Keeping in mind this may also be because I understand Maths B, Physics and Chemistry well enough to get through the work quickly. What consumes time for me in any subject is the amount of research you would have to do for an assignment. English – almost none, Maths B – all learnt in class time, Physics and Chemistry – just for assignment introductions, Modern History and English Extension – way too much (fries the brain), Art – lots of time hands on. The subjects of this survey, unless you are struggling with the concepts, do not require that much of your time in my experience (please note however that as an 'A' student a lot of my work could be written up in a night or two once all the information was there).

Q. Ways to improve the maths, chemistry and physics assessment process

A. In physics (at least at my high school) I think the assignments needed more direction, I always struggled somewhat with what we were even meant to be doing in the assignments and how we were going to be able show certain criteria in the work and how the more complex parts of concepts were being used. In Maths B more work should be done with students, especially before they reach senior, on what to do with worded answers. In my whole class I knew only one girl who knew what sort of thing to write for worded answers, I felt like I was just bull crapping it when I wrote them. I do

not understand questions about strengths and weakness etc, this needs to be taught, it is not something we can just figure out on our own. I never had any problems with chemistry and neither did my class mates, it was all made rather clear by our teacher and tied in with what we were learning.

Q. Any other comments you may wish to make.

A. There is one problem I always encountered in classes (and I'm not alone in this), especially in Maths B and Chemistry, students who are doing these subjects because of their status as prerequisites for many university courses yet do not having a good grasp of maths or science and do not put in the effort outside of class to remedy that cause distraction in the classes and take up time with the teacher and also with the need to repeat concepts during teaching time. I don't know how to put this, but if your not passing in senior, your bringing the class down in terms of OP and allotment of the teacher resource. It is frustrating for not only high achieving students in terms of needing quick answer questions and little distraction, but also mid-range achievers who require the teacher assistance and need to concentrate and strive to get the best OP from their own performance. I'm not discriminating, but perhaps these individuals could be moved to class that they could pass.