SMC&PA Submission 193
Received: 13 May 2013

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Personal submission to parliamentary committee inquiry into Assessment Methods for Senior Maths, Chemistry and Physics

Background

I have been teaching Senior Mathematics (Mathematics A, B and C), Chemistry and Physics for over 23 years with Education Queensland. I have also been on Mathematics B, Physics and Chemistry panels during this time and I am currently a District Panel Chair for Chemistry.

Submission

Summary statement: I support the current system of school based, criteria based decision making as the primary process for assessment currently in place in Queensland, as the best system to make decisions about student standards because it has been shown to make the fairest judgement of what students know and can do. I would not like to use a completely mark based or exam based system as it gives poorer decision making data and is more likely to result in unfair decisions about individual student performance. There is also evidence that a completely mark based or exam based system does not offer the opportunities for students to demonstrate the breadth and depth of knowledge and processes.

From a teacher and Head of Department's (Curriculum (Mathematics and Science)) perspective, the assessment processes in current use by the QSA for Mathematics B and C, Physics and Chemistry are not only viable and doable but are preferred by myself and the teachers I have worked with over the years. The primary reason for this statement is that these assessment processes have been shown to be more fair to students than a purely mark based system. Teachers regularly examine the validity of their decisions with regards to student assessment against their anecdotal observations and have overwhelmingly stated that criteria based assessment leads to better decisions. In internal moderation processes, decisions have been shown to be valid and reasonably consistent. These decisions have been overwhelmingly accepted by panels of teachers examining the consistency of decisions across a number of schools.

As a panellist and district panel chair in charge of 15 – 20 teachers from a range of schools tasked to examine the validity of school decisions in Chemistry, there has been remarkable consistency over the years. Similarly, most of the teachers involved in these panels have supported and valued the current system.

In Response to Professor Peter Ridd's submission

I took particular offence against Peter Ridd's description of marking an exam to criteria as fundamentally '*a guess'*. This is an opinion, unsupported by observations in schools. He chose to describe the worst case scenario for the process. Teachers use much more systematic and intelligent versions of the process to come to a meaningful decision. He made the point that marks are banned in Queensland, which is not true. Marks can be used and are used, where their use is valid with respect to criteria. Teachers are remarkably consistent in their decisions. This does not mean that improvements cannot be made to the system, mostly with respect to professional development of strategies to be employed.

Professor Ridd also commented about the time spent on Extended Experimental Investigations (EEI) and Extended Responses (ERT). He stated that as much as a term could be spent on a single investigation. This indicates a lack of understanding of what really happens in these tasks. It is true that a whole term (10 weeks) is often spent on the task, however 5 to 7 weeks of that time is actually spent teaching the range of concepts required. The 3 to 4 weeks remaining gives time for students to research and develop the understandings in a more specific manner that they demonstrate in the performance of the task. This process gives students a very rounded and complete approach to what science is all about; understanding concepts then researching and testing ideas related to those concepts.

Regarding workload of teachers: It is true that teachers spend more time marking extended writing than marking exams to a simplistic mark based system. My observation of myself and the teachers, for whom I am responsible, is that they gladly give this time because the result is fairer to their students. For teachers, a decision that is unfair to any particular student is anathema, something to be avoided at all costs. In this respect, the only benefit of an external examination system is that any unfairness is usually hidden from the teachers and so they do not have to be responsible for the problem.

I find it interesting that as a teacher and Head of Department that a person of Professor Ridd's standing should cause to make comment on Secondary Education (particularly Senior Mathematics, Physics and Chemistry) when he has not taught for a substantial period in the Queensland system and thus has no understanding of the inner workings of the system, as a person would who has been in the system for a substantial period of time. A teacher teaching these subjects (as I do at the moment with Year 12 Mathematics B and 11 and 12 Chemistry) day in and day out find it perplexing to say the least that Professor Ridd has continued to bring up issues similar to this over a period of time even though his concerns have been addressed. Professor Ridd seems to have the idea that the QSA controls the system when in fact it is the schools that control the system. The people with the most responsibility in the whole process are District and State Panel Chairs, who are ultimately responsible for the decisions made by schools about where their students sit.

Peter Ridd's desire to return to the 'good old days' for the purpose of getting more boys into university engineering is not a valid option, but this does not mean that research related to his point is not useful. The QSA could be tasked and funded to do more research into the problems he describes to search for sophisticated, valid and above all, fair responses.

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