

Submission to the Education and Innovation Committee inquiry into Assessment Methods in Senior Maths, Chemistry and Physics.

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### 1. Background

I have been a teacher in Queensland for 20 years. I have taught in single-sex boys, single-sex girls and co-educational schools in the Catholic, PMSA and Anglican systems. While my main teaching area is Physics, I have also taught Senior Mathematics A and B and Chemistry under a number of different syllabuses.

I was first appointed to the Brisbane Central Physics Review Panel in 1999. Since then, I have been a member of Physics review panels in the Toowoomba and Brisbane-Ipswich Districts. For the last 7 years, I have been Panel Chair of the Brisbane-Ipswich Physics review panel. I was involved in the Trial-Pilot and Extended Trial-Pilot of the 2007 Physics syllabus and, as a review panel chair, have been responsible for providing advice to schools about implementation of this syllabus.

I am currently the Head of the Sciences faculty at St Aidan's Anglican Girls' School in Corinda. This is a position I also held at The SCOTS PGC College in Warwick.

### 2. Support for moderated school-based assessment

I was very grateful for the opportunity to address the inquiry a few weeks ago. Please consider those comments as part of my submission. I would now like to explain why I strongly support Queensland's system of moderated school-based assessment.

In my opinion, the Queensland education system currently faces a number of challenges. Moderated school-based assessment is uniquely suited to addressing these challenges.

### 3. Technology

In my earlier comments to the inquiry, I discussed at some length the revolutionary impact of technology on teaching generally and the teaching of science in particular. A specific educational challenge with regard to technology is that different schools and school systems introduce technology in different ways and at different rates.

One of the advantages of school-based assessment is that it allows schools to tailor their teaching and assessment programs to suit the technology available. This means that a school's IT choices are not dictated by external bodies or syllabuses; instead, schools can choose the technologies that suit the parent and student bodies and their budgets. Teaching and assessment opportunities can be expanded as new technologies become available.

#### 4. Geographic diversity

Another significant challenge for educators in Queensland is the vast geographical diversity of our state. I am particularly aware of this because of my work as a District Review Panel Chair. The Brisbane-Ipswich district which I oversee includes schools from metropolitan Brisbane, Ipswich and country towns such as Boonah. Physics classes across this district can range in size from almost 100 students down to just one or two. As you can imagine, the levels of experience of teachers in these schools and the resources available to them can also vary widely.

Under a system of external exams, which some of the submissions to this inquiry seem to favour, these differences between schools could result in a pattern of systematic disadvantage for some students. Schools with better resources or more experienced teachers could use these to assure better outcomes for their students.

School-based assessment allows schools to compensate for at least some of the differences between them. Schools with smaller class-sizes can adapt their programs to offer composite classes or to allow students to pursue individual investigations tailored to match the equipment available. Support for inexperienced teachers is also available through the advice of review panels and from Senior Education Officers at the Queensland Studies Authority.

#### 5. Cost

Currently, the clear consensus of both educational research and public opinion is that the key to better teaching is to improve the quality of teachers. A key advantage of Queensland's current system is that it is focussed on supporting and developing teachers. Teachers are paid for their work on review panels. They also gain great professional development from their panel experience. Teachers have an incentive to collaborate within and between schools. The QSA also provides regular training for panel members and for teachers, particularly at times of syllabus change. Many of these supports and incentives for teachers would be lost under an external exam system.

Additionally, an external exam system would require the establishment of a costly new bureaucracy. Unlike the existing QSA, this new bureaucracy would have no mandate to assist or support teachers. Instead, teachers would be encouraged to find ways to help their students try to "beat-the-test". In other states, whole industries have developed to provide analysis of previous years' exam papers for those who can afford this additional advantage.

#### 6. Problems should be acknowledged

Clearly, the current system is not perfect. Over the last few years, some teachers have not received the support that they needed to make a comfortable transition to new syllabuses, particularly in Physics, Chemistry and Mathematics.

Review panel processes can seem messy and difficult at times. However, these processes provide a transparency that means that problems can be identified and addressed. This point is clearly demonstrated in an earlier submission made to this inquiry by Neil Capps. Mr Capps describes an example in which a review panel disagreed strongly with the judgements made about a particular folio of work (dropping it by 14 rungs). By itself, this would seem a great injustice and a terrible indictment on our system. However, Mr Capps then goes on to explain that the school in question was able to find evidence to support its decision-making and the placement of the folio was largely restored (to only a 1 rung drop). While it is unfortunate that the teacher had to go to so much extra work, this is actually an example of how the system has worked to make sure mistakes are corrected and to get the right outcome for the student. It is hard to see how an external exam system would provide the same level of transparency.

I believe that the problems associated with the current system can be best addressed by improving the implementation of the system, rather than dismantling it. Queensland teachers and the QSA need more support, rather than a destabilising upheaval of the current system.

One example of a relatively small adjustment that could be made to our current Physics and Chemistry syllabuses is to allow EEIs to be submitted in forms other than a written report. If a student could present her/his experimental work as a multi-media project, poster or video, this would alleviate many of the concerns about the amount of extended writing required in these subjects. It would also provide an opportunity for students to develop 21<sup>st</sup> century communication skills.

Some have suggested that a composite system that involves both school-based assessment and external exams would be an improvement. However, this is a false hope. The experience of my colleagues in other states suggests that once external exams are introduced, teachers come under over-whelming pressure to make their school-based assessment a form of preparation for the external exams. This would mean that EEIs and ERTs would gradually but inevitably be phased out.

## 7. Conclusion

Queensland has a world-class educational system. Any move towards an external exam system would be an expensive, retrograde step. This inquiry represents an opportunity for the people of Queensland to be reassured about the quality of the services being provided by the QSA and Science/ Maths teachers across the state. I encourage members of the inquiry to do all that they can to see that our system of moderated school-based assessment is supported and strengthened.

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