SMC&PA Submission 147
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Submission to the Education and Innovation Committee

re: The Parliamentary Inquiry into Assessment Methods for Senior Mathematics, Chemistry and Physics

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Position: [redacted]

Please note that the opinions expressed below are my own personal observations and do not reflect upon the school at which I teach. ***I would like my personal details withheld.***

Brief History: I began teaching in 1982. In that time I have specialised in teaching Mathematics (including Maths 1 and Maths 2, subsequently Maths B and C), and Science (including Chemistry and Physics). In 1995 I was appointed HOD Mathematics. At the end of 2012 I relinquished the Head of Department position to return full time into the classroom. As with many of those who have made submissions to this Inquiry, I have experienced a growing frustration and disenchantment with the evolution of Senior assessment in recent years as driven by QSA. I will highlight my four main concerns with the current system.

USE OF MARKS IS BANNED

I read with considerable annoyance and frustration a report in the Courier Mail (March 8, 2013) that the head of QSA had made a statement to this committee that marks are not specifically forbidden in any of the syllabuses, and that teachers may use them as long as each student's final grade is determined by matching their submitted assessment tasks against the standards: "Let me be clear, (the) QSA has not banned the use of marks . . . this could be done by using numbers, letters or symbols," Ms Walton said. "However, these marks can only ever be a guide to how well the standards have been demonstrated in the student's work."

This statement may be technically true in theory but is belied in practice and protocol.

In 2009, as HOD of a State Secondary School, I was responsible for the submission of Work programs for Mathematics A, B and C following Syllabus updates. All three Work Programs contained sample student profiles which used marks and percentage thresholds to assess the KAP criteria, but with the statement "Marks and percentage thresholds will be used as a guide only; final standards will be matched against the standards descriptors".

I received the following feedback from the District panel Chairs of the three subjects:

MATHS A: the use of marks is not consistent with the intent of the syllabus and the Work Program will *never* be approved if marks are used. The Work Program must be resubmitted without the use of marks.

MATHS B: the syllabus does not specifically forbid the use of marks, but the Work Program will not be approved if there are marks in the profile. Feel free to use marks, but don't include them in the Work Program and when submitting student work for Moderation use a profile without marks.

MATHS C: the work program was approved with marks openly being used and evident on the profile.

My frustration with the confused and mixed message coming from QSA Panel Chairs and the subsequent disenchantment was enough for me to resign from my membership on the District Maths C panel. In that letter I made it clear to the Maths C panel chair that my frustration was not with her or any of the district panellists. I believed, and still do, that most are dedicated and hard working teachers who do the best they can in a very demanding job. Rather, my frustration was with the lack of clarity and rigor coming from the policy makers of QSA itself. I also sent a copy to the State Panel Chair of Maths C (with whom I had a very positive working relationship). His reply included the following points:

- Unfortunately, it seems that a shared vision is not always totally shared
- He regretted the mixed message that was apparent, and that the Maths C Work Program *should never have been approved*!
- He agreed that the issues that were concerning me were not due to the efforts of those teachers serving on QSA panels, but neither was it due to poor policy – more adequate funding/resourcing may have avoided such confusion had it been forthcoming.

CLARITY OF THE STANDARDS DESCRIPTORS

1. Teachers are expected to match student work against standards descriptors that are vague, subjective and confusing.

Below are two of the descriptors for the first three of the KAP standards for Maths B:

The student work has the following characteristics:

DESCRIPTOR	STANDARD A	STANDARD B
KAP 1	recall, access, selection of mathematical definitions, rules and procedures in routine and non-routine simple tasks through to routine complex tasks, in life-related and abstract situations	recall, access, selection of mathematical definitions, rules and procedures in routine and non-routine simple tasks through to routine complex tasks, in life-related and abstract situations
KAP 2	application of mathematical definitions, rules and procedures in routine and non-routine simple tasks, through to routine complex tasks, in life-related and abstract situations	application of mathematical definitions, rules and procedures in routine or non-routine simple tasks, through to routine complex tasks, in either life-related or abstract situations
KAP 3	numerical calculations, spatial sense and algebraic facility in routine and non-routine simple tasks through to routine complex tasks, in life-related and abstract situations	numerical calculations, spatial sense and algebraic facility in routine or non-routine simple tasks, through to routine complex tasks, in either life-related or abstract situations

It takes very close reading to distinguish between the two. Yet the distinction between 'and' and 'or', or the insertion of 'either' is the basis for distinguishing between an A and a B outcome. Furthermore, there is no attempt to define how frequently or consistently the student's work should display the listed characteristics – does it need to be in every task? Does once in the whole year suffice? I cannot think of a more fuzzy boundary.

2. Below are the descriptors for the second CAJ standard:

STANDARD A	STANDARD B	STANDARD C	STANDARD D	STANDARD E
organisation and presentation of information in a variety of representations	organisation and presentation of information in a variety of representations	organisation and presentation of information	presentation of information	presentation of information

This provides me with little or no guidance in determining an overall standard.

3. In his presentation, Bevan Penrose used an example of an assessment task which he rated as a 'B/C standard' question, presumably because it was not non-routine or complex. However, the A standard descriptor requires performance "in routine and non-routine simple tasks through to routine complex tasks". So success in a C standard task is necessary to determine an A standard. This strikes me as rather absurd. Furthermore, consider a student who chooses to respond *only* to A standard questions (either because of the time constraints of the test, or due to a minimalist attitude, or indeed for any other reason). Being a gifted student, every one of those questions is answered fully and correctly. Accordingly, however, it would appear that the highest this student can attain is a B.

4. I still am not sure if the student actually needs to be fully correct in his her responses. Note that the requirement for KAP 1 Standard A is:

"The student work has the following characteristics: .....recall, access, selection of mathematical definitions, rules and procedures in routine and non-routine simple tasks through to routine complex tasks, in life-related and abstract situations".

Not once does it mention the successful/accurate use of those skills (only to recall or access them, and then to select the correct one).

COMPARING STUDENTS AGAINST STANDARDS, NOT AGAINST OTHER STUDENTS

I have heard many times from the supporters of the current assessment regime (including highly placed QSA officers) that one of the evils of using marks/percentages is that it encourages students' performances to be ranked against each other. I have no particular problem with this – indeed, I found the old Radford system, where only a certain proportion of a cohort were 'allowed' to receive a 7, a different proportion a 6 etc, to be quite unjust.

Those defending the current system make much of the fact that it makes it very difficult to rank students against each other. Indeed, how do you compare the following?

STUDENT	KAP	MAPS	CAJ	OVERALL LEVEL OF ACHIEVEMENT
X	A	B	C	HA
Y	B	B	B	HA
Z	A	C	B	HA

At the end of term 3 each year, every secondary school in the state must submit a Verification package for every Authority Subject taught at that school. That requires that the entire cohort for each subject must be placed on a 50 rung ladder (from VH10 to VL1), with the students ranked against each other so that the gaps between students reflect their relative performance. This ranking is made using *the very assessment criteria which are so difficult to use to compare students.*

Once that process is completed, the school has to repeat the process at Exit, using the assessment results to rank students against each other.

Once that process is completed, the school must then assign SAIs to each student – i.e. a number between 200 and 400 (*a 200 rung scale*) so that the numbers reflect the comparative gaps between student performances.
This ultimately goes toward determining the student's OP score. Thus, the end product for every academic student whose goal is to be accepted to tertiary study is determined by a system which is designed to discourage that very process.

COST

I have never seen any costing data for the entire school based, externally moderated system but I imagine it would be considerable.

- All panel members are paid for both time spent at moderation meetings as well as private time spent reviewing submissions prior to meetings. How many such panellists are there in Queensland?
- Panel chairs are paid more (naturally).
- Many schools use TRS to cover teachers at meetings; how many casual supply teachers are paid each year to do this?
- Panellists who need to travel any significant distance to panel meetings can claim travel expenses.
- Submissions from schools are often posted to the district co-ordinator, who then post individual submissions to the various panellists. Consider that a submission for a single Authority subject will include all of the assessment tasks for the entire year to date, for up to ten students, along with blank copies of every assessment task, with marking scheme, and a copy of the Work Program. This inevitably results in a bulky, heavy package. Now consider a school such as Spinifex State College in Mount Isa which has a considerable number of Authority subject submissions, all of which are freighted to Townsville.

The total cost of this system in its entirety must be substantial. Given the large number of flaws identified by the many submissions made to this enquiry, the dispute over its merits, the enormous workload placed on students and teachers – is it value for money? For any policy regime to be viable, its benefits must outweigh the costs.