SUBMISSION FOR ENQUIRY INTO SENIOR SCIENCE ASSESSMENT IN QUEENSLAND SCHOOLS

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BACKGROUND

I am presently a teacher of senior physics in a large rural state school. I have been teaching physics for the past twenty years and have seen the introduction of two new physics syllabi over that time. I have been a member of physics and senior maths panels at different stages and in different regions during this time as well. I was a member of the [redacted] physics panel when the 1996 syllabus was introduced and have attended several professional development sessions in the [redacted] region at varying stages in the introduction of the 2007 physics syllabus. I found the introduction of the 1996 syllabus to be logical and smooth. Teachers were able to support the assessment processes because they could be understood and agreed upon.

In contrast , I have found the introduction of the 2007 physics syllabus to be surrounded by a great deal of confusion, which is still evident now in 2013. During this time period, there has been a great deal of anxiety amongst teachers of senior physics, who have been trying to figure out how to work with this syllabus to fairly judge student work, only to be shouted down at QSA professional development workshops. Teacher support for the assessment processes required has not been evident. There has also been a developing trend towards panel members with little experience in teaching, who have joined the panel in the hope of understanding how to use the assessment prescribed in the QSA syllabus, but are in fact placed in a position to judge the assessment packages of other schools. Logically, panel positions would be for mainly for experienced teachers who have a good grasp of the syllabus, so that a fair and consistent judgement of school packages could be made.

Main concerns

Relating to student outcomes:

1. ***The use of criteria to judge student work, where the meanings of some terms used are unclear , leaving them open to interpretation. Also, the professional development provided to support teachers in using the exit criteria prescribed in the QSA syllabus, where there are questions asked about vague criteria, which are not able to be answered to a satisfactory standard.***

   Terms such as “significant questions” and “ relationships between patterns” are vague and nonsensical. At a QSA workshop run by Quality Assurance personnel , these terms were questioned. Four physics teachers present , who said they felt confident with using the criteria, could confidently describe the meaning of “Significant” in this criterion. The problem, however, was that they all confidently had a different meaning to each other.

   As to the “relationships between patterns”, well even the facilitator asked us to ignore this terminology, as it was “obviously not meaningful – some sort of mistake”! I asked many questions about the criteria at this workshop, as I find myself struggling with using these criteria to consistently judge student work. My questions were quickly dismissed by the facilitator and a prepared exercise for the workshop was begun.

2. ***The use of exit standards only to judge assessment and the inconsistent application of vague criteria across regions.***

   As physics teachers, we have now been told clearly that we must only use the exit criteria to judge standards for assessment instruments. This is a direct result of teachers trying to interpret the criteria in their instrument specific criteria sheets and the interpretation varying from teacher to teacher.

   Prior to this, teachers were spending hours trying to write criteria sheets that reflected the criteria and yet were instrument specific. At early QSA workshops on writing criteria sheets, it was suggested from the "confident users" of the criteria, that criteria sheets often need to be changed after marking student work, as they proved to be lacking.

3. ***The use of Extended Response Tasks, as prescribed by the QSA. At a quality assurance workshop, the facilitator pointed out that it was difficult to use these instruments as reliable assessment instruments for producing results across all standards (particularly A standard) for the criteria.***

4. ***Finally, the difficulty of placing a cohort on a mathematical scale, when all assessment is judged on the exit criteria.***

Relating to student participation Levels:

5. ***The use of extended experimental investigations, as prescribed by the QSA, which are time consuming, do not allow for direct teaching and consolidation, and are not reflective of the kinds of experimental investigations assessed in the early years of university courses.***

   Extended Experimental Investigations must run for a minimum of 4 weeks, which is 2/5 of a term's work. This makes it difficult to have the time for direct teaching and consolidation and students are undertaking these tasks with limited background knowledge for such a task. In a term where an EEI is included, there is no time for "recipe" style experiments, which help to consolidate knowledge and prepare students for the kind of experiments they will experience in their first years of a university course.

   Assessment used in the senior school drives the type of assessment in the junior school and has a flow on to primary schools, as teachers try to prepare students for the years to come. As a good knowledge of the subject is required to complete this kind of investigation, it becomes a poor version of enquiry based learning and students become frustrated and turned off science.