

Dear Sir,

**Trendy education methods are extremely damaging to students and teachers. They should be replaced with prior methods of teaching that worked (STRUCTURED SYLLABUSES, TEXTBOOKS, MARKS AND PERCENTAGES).**

In Western Australia, a teachers' representative group PLATO became compelled to inform governing education authorities in WA of problems in education. It indirectly contributed to new Federal policies by pin-pointing the folly of forcing teachers to use wishy-washy curriculum and non-numerical marks. The Senate Inquiry: "Academic Standards of School Education" included Igor Bray and Steve Kessell from the PLATO committee, eminent scientists who both testified at the same Perth hearings. The evidence was presented that Australian students were being dumbed-down. It is a matter of urgency that they be taught the necessary content of their maths and science subjects, and other subjects. The use of unproven ideology (OBE) to measure students' learning was a terrible failure. OBE had already been thrown out of education systems in other countries.

#### **FAILED SYSTEM SHOWED THAT STATE GOVERNMENTS HAVE DUTY TO RETURN TO FOUNDATIONAL CURRICULUM**

The failed OBE (Outcome Based Education) school system of the early 1990s, which relied on sorting students into vague 'levels', from 'developing' to 'proficient' in approximate two-year periods, was adopted by some Australian states without consideration of its harmful effects. It was consequently found to be more about ideology and less about evidence-based learning. It served only to divert teachers from subject content and destroy accountable reporting. Now, despite employers and the public looking for a back-to-basics system, another similar vague 'criteria-based' learning and assessment ideology has been adopted by Queensland and it is also showing evidence of causing harm to students' learning as well as impossible workloads for teachers. It is apparent that standards are dropping even more so in recent years (\*see Belward et al, 2007 and other references from University academics who must adjust University courses to adapt to dumbed-down high school graduates). QSA is the statutory body responsible for curriculum development. It was charged with developing 'standards' and last year it claimed to produce 'standards' for teachers to work from.

#### **OBSERVATIONS BY CONCERNED CAREER MATHS AND SCIENCE TEACHERS**

The new system of 'criteria-based' 'standards' assessment in Qld does not provide workable 'standards'. The new assessment system, which arguably culminated in 2009 when Mathematics teachers were given workshops in how to mark maths tests *without* maths, is convoluted. The most disturbing outcomes of the new system are

- 1/ in crushing the students' confidence by ignoring additive marks and percentages,
- 2/ causing inequity and poor results by introducing written assignments,
- 3/ hiding test results from parents with complex jargon, and,
- 4/ obstructing teachers in doing their jobs.

Teachers feel very conflicted because making students do complex written work in maths and sciences is knowingly causing disadvantage to many children, is eating up teachers' time in inefficient ways ( goes against the Code of Conduct principles of ethics) and is not addressing the 'Equity' policy.

## **WHY HAS THE QSA IGNORED DIRECTIVES FOR REAL STANDARDS THAT PROVIDE CLEAR FEEDBACK TO STUDENTS AND PARENTS AND INSTEAD HAS IMPOSED MORE UNPROVEN PROCESSES, AND WORK, ON QLD TEACHERS?**

This is in complete defiance of the directives of both Liberal and Labor Federal Governments which were given mandates to improve education in Australian schools. It is important to note that for some unexplained reason Queensland continues to have no common external exams. This seems to have led to the situation where the QSA has made teachers responsible for justifying the content of their teaching, exams and assignments with excruciatingly detailed work plans, assessment designs and criteria 'matrix' sheets. Each school is forced to 'reinvent the wheel' for every subject every single year. Ad hoc exemplars are given (\*see example), which require insurmountable work for many students (\*see comment), especially in low-SES or multicultural schools. A survey of teacher satisfaction and of student drop-outs and failures in the maths and sciences should be conducted. What is the QSA being paid for? It would be better if a rigorous external exam was introduced to take some load off the teachers.

## **UNFAIR TO MATHS AND SCIENCE STUDENTS TO USE HUMANITIES APPROACH**

The current assessment system in Qld forces teachers to divide up and mark their subjects according to three implied 'morally-equivalent' *criteria*, which consist roughly of:

1. knowledge and skills base;
2. analytical/ synthetic/ investigative / creative pursuits (with reliance on assumptions of the importance of 'higher-order' thinking); and,
3. communication or in-depth evaluation, in technological and written English form

This expectation is regardless of the subject being pure maths, in which students should NOT have to be assessed in great detail in their written language skills nor on resources for internet research at home. It is high school maths - not English. It is not an IT course and not PhD post-graduate research. The same goes for Physics and other sciences.

## **EXTRA WORK TO DEFINE ALL TESTS AND ASSIGNMENT TASKS BY 'LETTERS'**

To add to teachers' woes, it cannot be overstated that, all Maths, Chemistry, Physics and Biology teachers have been told plainly in documents and workshops to pre-sort all assessment items (whether a test section, homework quiz or weekly hand-outs) into alphabetical levels of worth (before marking) which feed incorrectly into the A-E spectrum of report cards and Senior student's tertiary entrance OP (Overall Position) scores. This not only completely disguises the *aggregated achievement* of the students *and* fails to give students and parents timely and transparent feedback, *but also* compounds errors of teacher judgment and proves the new system to be *severely confounded*.

## **THERE IS NO EVIDENCE FOR NEW TRENDY METHODS**

There is no solid base of evidence for the construction of this convoluted and non-empirical assessment system and there is no mandate for its overly complex matrix system of cross-checking and splitting hairs (in further subdivisions under the arbitrary criteria). Where are the QSA written anonymous surveys of high school maths and science teachers? Where is the informed consent for these suffocatingly detailed new assessment requirements? The so-called 'criteria' for assessment in each subject have little or no resemblance to the actual year-by-year content that should indeed be cross-checked in each subject. Content checking is essential even just to ensure that students transferring between schools are getting a consistent education.

## **TICKING OFF JARGON DOES NOT CHECK STUDENTS' WORK**

When the Federal Government directed the States to develop clear-cut standards (for achievement obviously), teachers were recently shocked to find that the QSA instead came up with so-called 'standards' that merely defined student work in vague rhetorical terms. Teachers are expected to check if students can 'define' knowledge and 'analyse' concepts. Well, of course teachers must check this but the QSA is no help because it does not define the knowledge, concepts or skills. It merely wastes a teacher's time to type out and tick off these jargon-filled sheets. These are massive time-wasting documents that must be ticked off for each child's test after marking - yet they provide no obvious evidence of work covered.

## **QSA EVIDENCE?**

Contrary to a QSA representative's comment in the Australian on December 11, 2009 (Ferrari, 2009) that the "majority" of teachers supposedly support this system, there has been no poll of teachers to prove support for the latest culmination of overly detailed criteria sheets, essay-based assignments and non-numerical marking. The most damning evidence of obstructing teachers and confusing students are the newly required profile sheets that teachers have to fill out for every exam and assignment on which - instead of adding up marks - they are made to fill with alphabetical letters. These are as scientific as ouija boards from which teachers are expected to make transcendental proclamations. They are pseudo-psychological nonsense. It is unlikely that you will find a majority of support from teachers, or students and parents for that matter, for these new systems - both the non-numerical lettering and the overly burdening written assignments for every subject at high school.

## **QSA DENIALS UNDERMINE THE STATE GOVERNMENT COMMITMENT TO PARENTS AND STUDENTS**

Here is a quote by a QSA representative from The Australian, Dec 11, School ban for numerical marking: "Only a small minority of teachers had concerns about the assessment requirements, but the vast majority were satisfied". Where is the evidence, the survey, the numbers - PROOF that the majority approve of the latest system? - particularly regarding the maths and science subjects? What is the date of this published survey results? What about public opinion? Has that been measured? Here is a quote from the March 2009 State Election publications : Anna Bligh was elected on these issues; that is how important this issue is to the public:

The Bligh Government is apparently "committed to improving literacy and numeracy", including programs to: **"ensure all teachers have the content knowledge ... to lift the achievement of all students."** *In the publication: Making Real Progress: "Some of Labor's recent achievements in education: (include...)*

**"Improved Student and School Reporting to produce consistent school report cards that parents can understand and transparent school reporting so the community is informed of school outcomes."**

The outwardly easy-to-read A-E 5-point scale report card was introduced by the Federal Government. QSA is making a mockery of it by making teachers mark students' work in unaccountable ways using no marks or percentages.

Transparent reports cards are **not** occurring in Qld high schools where this system is being used and instead inconsistent assessment and non-transparent reporting is occurring and will get worse if not reined in.

An urgent reform is required to bring back the required syllabus content and methods that teachers need to assess students and the respect that the Education Department should bestow on teachers.

## APPENDIX

Evidence of University observations of dumbing-down of high school students' abilities.  
Observation in Mathematics conference publications by JCU academics, abstract BELOW  
Observations by Professor Peter Ridd of JCU Physics department  
Observation by Qld teachers' group member (university work and teacher): Matthew Dean

Belward, S.R., Mullanphy, D.F.T., Read, W.W., and Sneddon, G.E.

**(2007) Preparation of students for tertiary studies requiring mathematics. Proceedings of the 7th Biennial Engineering Mathematics and Applications Conference In: 7th Biennial Engineering Mathematics and Applications Conference (EMAC 05), September 2005, Melbourne, Victoria, Australia.**

<http://anziamj.austms.org.au/ojs/index.php/ANZIAMJ/article/view/1078>

Belward, S.R., Mullanphy, D.F.T., Read, W.W., and Sneddon, G.E. Preparation of students for tertiary studies requiring mathematics ANZIAM Journal, Vol 47 (2005)

### Abstract

Mathematics education in Queensland seems to be on a never-ending downwards spiral. This is the opinion of the majority of the staff in the School of Maths and Physics at James Cook University. Over recent years the staff in our School have struggled to output students at a standard third year tertiary mathematics level. There are two reasons for this: firstly the intake is from a less well prepared student body and secondly, perhaps more critically, the indicators used to measure the ability of secondary school leavers are most often useless. It is at this lower end where decisions about which subjects a student is to pursue are paramount, both in the short term (success in a semester) and the long term (completion of a degree). In this article we detail what we think is lacking in the preparation of students and demonstrate this by presenting the results of a case study centred on a selection of first year students at James Cook University. We also discuss some of the approaches we have tried in an attempt to overcome these difficulties.

### **Ridd, Tuesday, 8 March 2005 12:59:50 PM, From The Forum**

QUOTE: "On the subject of problems that I see with first year Maths Science and Engineering students... We have diluted our first year Maths course twice in the last 10 years and also introduced an even lower level course. Other Universities have done the same.

### **Skene K, 2008. Townsville experts say Queensland education system lags. Townsville Bulletin September 21st, 2008**

QUOTE; "...the results of the latest Trends in International Mathematics and Science Study showed our nation was outclassed by the top country, Singapore, especially in mathematics. The percentage of children reaching the advanced benchmark in Singapore was a remarkable 43 per cent compared to 7 per cent for Australia," Dr Ridd said. "For the smart state the figure is a pathetic 3 per cent."

Associate Prof Read said Queensland students were poorly prepared compared to students from other states, particularly for maths, physics and engineering.

## TYPICAL COMMENT BY TEACHERS:

Below is a typical comment by teachers that backs up public concern regarding inappropriate written assignments in high school (see news) especially for maths and science subjects. (NOTE importantly: While the public has not been surveyed, newspapers publish representative letters, which generally indicate a flow of supportive letters.)

Many teachers are reporting through representatives of this teachers' group that 15 and 16-year-olds are simply not capable of the complex abstract analysis expected by QSA's descriptors (the terms used in the so-called 'standards'). By contrast, people who defend the abilities of students to complete open-ended, lengthy assignments appear to teach or know children with much contextual background education and good support in the home.

Unless you were gifted with eloquent prose and exceptional organizational skills, one should reflect on memories of own intelligence at high school age, and remember that the majority of 16 year olds are capable of straightforward study BUT not well-coordinated original research projects. Their subject knowledge should not be judged by any lack of mature reflection. The subject content is what is important. Short tests, lab reports or homework quizzes are enough in addition to examinations. Maths, in particular, should have no written assignments. However, QSA insists that students complete specialised research projects.

Take, for example, the enclosed Maths A assignment requirements. It is only after working, paying off mortgages or running a household that you could speak authoritatively on the nuances of annuities or house or car loans with fluctuating market rates in a hypothetical sense - so necessary to produce a quality report. The effort and collaboration with teachers, parents and tutors to produce such lengthy reports is taking away from study routines and necessary homework for maths and science students. Note, there is also huge inequity.

Yet, such an assignment as the above was touted by QSA for students in the *simplest* Maths authority subject (OP-eligible Maths course in Grade 11 and 12, that is, Maths 'A'). Figures are not given - each child has to come up with their own scenario AND learn how to construct and vary formula-driven interest rates and payment terms on approx a minimum of ten different Excel spreadsheets (as complex as your bank manager's) AND THEN discuss current market conditions with hypothetical changes and with reference to and analysis of long newspaper essays - for ... Economics? Business at University?... no Mathematics.

This evidence that student workload (and consequential parental help needed) causes situations of extreme inequity proves that QSA's insistence that teachers must use and mark wordy criteria for assessments is wrong - *they do not benefit learning - they harm it..* Yet, it does not even touch the surface of the teacher's workload in trying to prepare students for such an assignment NOR does it factor in the 30+ hours workload in marking the complex mathematics of each student's individual scenarios in just one class of assignments handed in. This is in addition to the wordy exam matrix sheets now required to be planned and marked for each student, AFTER marking the actual exams.

Quote on teacher workload from a published study by Timms, Graham and Cottrell, 2007. "Participants spoke of their workloads as inexorably and continually increasing, for example: What tires me out (after 30 years of teaching) is the EVER increasing tasks that are placed into my "teachers' work wheelbarrow". Never does anyone take tasks off, so the barrow gets harder to push, more TIME consumed, and often on tasks not directly related to face to face, classroom contact with children."