

Education and Innovation Committee

From: Carolyn Mcilvenny [REDACTED]
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To: Education and Innovation Committee
Subject: Math/ chemistry and Physics

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Carolyn Mcilvenny
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To: Education and Innovation Committee,

Re: Math, Chemistry and Physics education experience in Brisbane.

My children have been educated in Japan, USA, China (through an international school) and in Brisbane using both internal (St Peters Lutheran) and finally external exams through Hubbard's. My children's opinion of math in Queensland and my own is that math in Queensland is a joke. English education should not be part of the math curriculum or form any part in how a math question is answered. The ability to answer a math question using numbers alone is all that is required. She and her siblings have experienced a range of education and have all found the Queensland experience did nothing to improve their level of math education above what they already had before they arrived back in Australia. The level of math being taught is no where near as difficult as overseas which goes a long way to explain why our kids are being left behind.

My youngest had significant difficulty in understanding why if she had the correct answer she did not get full marks as she had in other schools in other countries. Was her answer wrong no, did she use some weird method to get there no, in all instances she did not have enough junk words to go with the answer, words not required to actually get to the answer or form any part of the actual calculation and yes she is a native English speaker. In math an answer is either right or wrong. How can an answer that is wrong numerically but has a good story be more right than the actual numerical answer. My daughter was continually frustrated because she would have the answer in a very short time but then have to make up some story to go along with it that had nothing really to do with the correct answer. These extra words would take considerable time to come up with and added nothing to her understanding of how to do the actual calculation, it was not productive use of her time. Further as part of the internal assesement structure vast amounts of homework was set just so they had something to assess.

In Chemistry it was ok to forget the units with an answer and provided you had sufficient words still get a better mark than someone who did not forget the units. What a load of rubbish, as a working scientist myself, you can never forget to add the units associated with an answer or measurement. No matter what the back story that answer would be useless in the real world. The whole reason you make students do math with science is so they have sufficient algebra to use scientific formula but now because the emphasis is on words rather than the numbers and use of the formula itself they fail to understand how to use the formula and the significance of the units. It is unfortunate that the writers of Queensland curriculum have never worked in real science or math or they would know that when a calculation is done outside of high school there are very few words associated with either the calculation or the the answer aside from units. We do our kids and the industries they eventually

work in a disservice by not teaching our kids numbers based math and science. Kids who love numbers are being turned off by the extra english baggage which in turn means they do not continue on to science or engineering as a career.

I was recently in a number of villages in Baglung District in Nepal and kids who have nothing are getting a better math and science education than ours. The levels being studied by these kids was 2 years higher than what I had experienced in Brisbane for a similar age. These kids do not have to write pages of words, they in fact do very little homework, 5 to 10 questions outside of class just to confirm they have a concept, 15 minutes maximum in time. All of these children do national external exams no matter where they live every year. In all the other countries I have lived, children do external exams for all subjects. An external exam is the only way to fairly grade all children and treat all equally. It is also the only way to ensure that all teachers teach to a minimum standard. If a third world nation such as Nepal can get it right why can't we?

Regards
Carolyn Mcilvenny