9 May 2011

Ms Kerryn Risely, Executive Officer
Education and Training Committee
Parliament House
Spring Street
EAST MELBOURNE VIC 3002

Dear Ms Risely

RE: Parliamentary Inquiry into the Education of Gifted and Talented Students

Thank you for your invitation to submit to this inquiry. I will structure this submission according to the dot points of the letter I received. I should also note that the Olympiad sections of our programs (in mathematics and informatics) and those of Australian Science Innovations (which runs parallel programs in physics, chemistry and biology) are subject to a review funded by the Australian Government Department of Innovation, Industry, Science and Research which is being conducted by PricewaterhouseCoopers. The report from this report was due for release in late April. We have seen the draft version, which is highly favourable to our activities, but the final version is not yet available. I hope to have approval to submit this separately when available, hopefully later this month.

Programs we currently provide to gifted and talented students

We are the largest national provider of enrichment programs in mathematics and informatics for school students throughout Australia, and some are available overseas also. The largest event is the Australian Mathematics Competition, which is the longest running event of its kind in Australia, having run since 1978. It attracts entries in recent years averaging about 400,000 students. It is designed to stimulate interest in mathematics for students of all standards. The mathematics is checked for curriculum compatibility by experts in each state. There is a significant problem-solving component in which the students are challenged to use the mathematics they know in situations which may be unfamiliar from classroom experience.

The next step is the Challenge. This event, open to all, has a challenge stage, in which students have three weeks to explore and solve some problems, and an enrichment stage, in which students undertake formal course work to extend their problem-solving skills beyond what can be taught in class. In each case students work under supervision of their teachers, who are supplied with solutions and other notes to help them deal with anticipated situations. Nationally over 20,000 students participate in this event per annum from about 600 schools.
After the Challenge, students are identified for further invitational instruction and activity which can lead them to represent Australia in the International Mathematical Olympiad. So a student in these programs can be challenged and developed to their full intellectual potential.

A similar program is available in informatics, enabling students to develop their problem solving with computer programming to a very high level, up to including participation in the International Olympiad in Informatics. These programs are smaller, as there is very little Informatics taught in Australian schools, particularly compared with some other countries, with about 4000 students participating in the entry level Australian Informatics Competition.

The above programs are described in more detail, and in a structured way, on our website at http://www.amt.edu.au/parents.html, where pyramids show the events and relationship between them.

**Our experiences and issues surrounding these programs**

When we first started the Australian Mathematics Competition in 1978 we expected some resistance to the word “competition”, as there was evidence in some jurisdictions that schools were backing away say from having sports teams. In fact, whereas there is a very small number of private schools which have an anti-competition philosophy, the overwhelming majority of schools, including government schools, allow students to access programs such as ours.

The main key performance indicators would be entry numbers in open events, which are given in the description above, and which are arguably strong in our case.

Albeit there is definitely some negative attitude towards giftedness by some educators. We are aware that some educators do not feel it necessary for students to be provided with more instruction than schools can provide, and when they do approve, that this instruction should be experiential rather than have any form of associated assessment. It is difficult to tell how widespread such attitudes are, but we do detect it on occasions, particularly when seeking support from Australian Government officials.

**The experiences of students participating in these programs**

In our large open events, most actual feedback is relatively small compared with participation volume. As noted above, the best key performance indicator is the entry level, which is strong. We do observe some resistance at the Australian Mathematics Competition level however, along the lines that there are some difficult questions (even though much of it is highly accessible).

Because of the size of the competition, and the range of standards of students, we have questions covering the complete range of mathematical abilities. Even though all students can solve the easiest problems, we understand the mere existence of more challenging problems is not always viewed favourably.
I would note that Victorian students perform in our activities at least to the level we would expect on a population basis, and also with distinction. Victorian students also have a strong record of performing at the Olympiad level as well as at the introductory levels.

**Our views about the concepts of ‘giftedness” and “talent” should be defined**

There is a range of discussion on this in the research literature and various interpretations. There is not much doubt that the general community usage of the terms is applied to students with high academic performance.

My own views on this are a little different. My general view is that there is a high variation of abilities, and students of lower academic performance might have the ability to perform better. So my view is that we should be trying to help students across the board achieve their potential performance.

Demonstrated ability in the classroom is not always the best indicator of student potential. We find some students with relatively high ability have been able to train for examinations, however sometimes they do not deal with new learning situations as effectively as other students with lower marks in examinations.

One of the things we find (and so do some teachers who comment to me on this) is that sometimes a competition will help discover a latent talent which had not always shown in the traditional way. So whereas the normal methods of assessment are really the only ways to measure achieved ability, there should be scope for alternative methods.

Basically then my view is that the terms “giftedness” and “talent” should not be defined merely in terms of already high achievers and their potential to achieve higher, but in general, the potential of a student to achieve more. We feel we should do this where possible because schools will necessarily have finite resources to do this.

Naturally though, in the end, it will be the higher achieving students seeking advancement and these will be those participating in programs such as ours.

**Mechanisms to improve the capacity of teachers to identify and adequately respond to gifted and talented students**

Many teachers feel inadequate when they discover a talented student in their class, yet we do not believe they should. The psychological component of teacher training is very thorough when it comes to helping teachers cope with students with learning difficulties, broken homes, or students coming from homes with poor socio-economic circumstances. However little is done on dealing with gifted students.

In fact dealing with gifted students need not be difficult as long as the teacher is aware of available directions in which to point the student. One of the most fundamental things is that the teacher should not be expected to be “smarter” than such a student, and should feel in fact positive about the student’s presence.
My basic conclusions are that:

1. more emphasis should be placed on dealing with talented students in teacher training

2. education departments should provide some information to in-service teachers, in some form, whether via an information document or workshops.

Any broader implications for school communities arising from the education of gifted and talented students

This point will probably be better made by the comprehensive review about to be released by PricewaterhouseCoopers on the Mathematics and Science Olympiads. It addresses issues such as the value of our programs to the country, survey results, etc.

Final comments

I am happy to help more with your Inquiry, whether by providing more information or more detailed information or clarifying points made here.

I can also be contacted via mobile phone at [redacted] or email at [redacted]

Yours sincerely

[Signature]