Music: at the core of learning

The need to support musical talent & strengthen educational outcomes for our future generations

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Education and Training Committee
Inquiry into the Education of Gifted and Talented Students

Via email to
Executive Officer
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Parliament House
Spring Street
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Gifted, talented or advanced - the tag under any name is comfortably applied to young people starring in the core academic areas where test and examination results from the earliest years of schooling can chart significant incremental development.

On the sporting fields, a young player’s acumen is also easy to document with impressive statistics in games and displays of skills that set them apart from peers and often ahead of elders.

These young Einsteins, Bradmans and Barassis are quickly identified in the school environment and provided with specialist pathways to ensure a level of engagement that is appropriate to their rising level of skill and one that will quench their thirst of knowledge and challenge.

They juggle the demands of rigid curriculum expectations – usually without realising the frenetic pace they set for themselves (and teachers and parents). Why? Their areas of achievement are at the core of all curricula whether academic or sport.
But are the next young Mozarts being accommodated within an education system where the pursuit of musical excellence is not given universal, nor uniform, commitment in Victoria and the curriculum perhaps lacks flexibility to include music as a core subject for those with identified talent in that discipline?

It is the area of music education generally, and the talented young performers specifically, that I ask committee members to give consideration to in the course of your inquiry and subsequent report.

The music program in Victorian schools ranges from the minimal and non-existent to the token and the outstanding. The 2005 Commonwealth Government report on National Review of School Music Education in Schools concluded that a uniform music component of the Australian curriculum was vital to the development of children.

In fact, that report provided a number of recommendations to lift the profile and quality of music education in Australian schools. It also referenced a number of overseas studies that clearly demonstrated the link between music and improved results in core academic subjects for students at primary and secondary levels.

Key areas of the report undertaken by Murdoch University were to consider:

- The current quality of teaching and learning of music in Australian schools;
- Factors that affect the quality and status of teaching of music in Australian schools;
- Examples of best practice of teaching and learning of music both in Australian schools and schools overseas; and
- Key recommendations, principles and priorities for enhancing school music education.


The report stated:

Many writers such as Charles Fowler (1996) and others (Oddleifson, 1992; Reimer & Smith, 1992) have articulated eloquently the rationale for including the arts in schools, and the numerous virtues of the arts have been explicated (see Chapman & Aspin, 1997). For years the arts were justified mainly from the aesthetic and utilitarian perspectives. But today, the arts are increasingly being advocated for their practical relevance to ‘serve the educational and human priorities of the moment’. This is to satisfy community desire to see prevailing concerns such as ‘dropout rates, school reform, cultural diversity and violence’ addressed through arts education (Fowler, 1996, p. 37). Since the 1990s, numerous research projects across the world have been successful in documenting and proclaiming the value of arts education. One American study found that ‘engagement in art activities provide more intrinsic rewards than engagement in mathematics or science’ (Reimer & Smith, 1992, p.
Music was an effective tool used for language intervention purposes in an Australian study (Wilmot, 2002). Case study research by Bresler (1996) and others indicate that the arts can effectively build up a community and promote self-expression. Participants in an innovative integrated arts programme experienced the unexpected connection with their inner selves, and were excited to discover their own voices of creativity, delight and wonder through constructing their own realities (Powell, 1997). A university study found significant increases in the overall self-concept of children at-risk after participating in an arts programme that included music, movement, drama and art (Barry, Project ARISE, 1992). The Cultural Interaction Projects in Saskatchewan, Canada, demonstrates the potency of the arts in fostering interaction between cultural diverse groups (Bush & Therens, 1997). And in Norway, the impact of music in ‘reducing] harassment and ethnic tension’ surprised researchers of a programme which introduced multicultural music to fourth-graders in 18 inner city schools (Skjellstad, 1997, p. 73).

Studies have highlighted “advanced” results in mathematic subjects particularly by those students who learn a musical instrument.

Evidence linking music performance to increased academic achievement is overwhelming and provides strong reason, I suggest, for the music component of the Victorian school curriculum to be strengthened and aligned to developmental success in core academic subjects and assisting students reaching their potential.

A study released last year by Northwestern University Illinois - “Music training for the development of auditory skills,” by Nina Kraus and Bharath Chandrasekaran drew together converging research from the scientific literature linking musical training to learning that spills over to skills including language, speech, memory, attention and even vocal emotion.

“The science covered comes from labs all over the world, from scientists of varying scientific philosophies, using a wide range of research methods.

“The explosion of research in recent years focusing on the effects of music training on the nervous system, including the studies in the review, have strong implications for education, said Nina Kraus, lead author of the Nature perspective, the Hugh Knowles Professor of Communication Sciences and Neurobiology and director of Northwestern’s Auditory Neuroscience Laboratory.

“Scientists use the term neuroplasticity to describe the brain’s ability to adapt and change as a result of training and experience over the course of a person’s life. The studies covered in the Northwestern review offer a model of neuroplasticity, Kraus said. The research strongly suggests that the neural connections made during musical training also prime the brain for other aspects of human communication.
“An active engagement with musical sounds not only enhances neuroplasticity, she said, but also enables the nervous system to provide the stable scaffolding of meaningful patterns so important to learning.

“The brain is unable to process all of the available sensory information from second to second, and thus must selectively enhance what is relevant,” Kraus said. Playing an instrument primes the brain to choose what is relevant in a complex process that may involve reading or remembering a score, timing issues and coordination with other musicians.

“A musician’s brain selectively enhances information-bearing elements in sound,” Kraus said. “In a beautiful interrelationship between sensory and cognitive processes, the nervous system makes associations between complex sounds and what they mean.” The efficient sound-to-meaning connections are important not only for music but for other aspects of communication, she said.

“The Nature article reviews literature showing, for example, that musicians are more successful than non-musicians in learning to incorporate sound patterns for a new language into words. Children who are musically trained show stronger neural activation to pitch changes in speech and have a better vocabulary and reading ability than children who did not receive music training.

“And musicians trained to hear sounds embedded in a rich network of melodies and harmonies are primed to understand speech in a noisy background. They exhibit both enhanced cognitive and sensory abilities that give them a distinct advantage for processing speech in challenging listening environments compared with non-musicians.

“Children with learning disorders are particularly vulnerable to the deleterious effects of background noise, according to the article. “Music training seems to strengthen the same neural processes that often are deficient in individuals with developmental dyslexia or who have difficulty hearing speech in noise.”

“Currently what is known about the benefits of music training on sensory processing beyond that involved in musical performance is largely derived from studying those who are fortunate enough to afford such training, Kraus said.

“The research review, the Northwestern researchers conclude, argues for serious investing of resources in music training in schools accompanied with rigorous examinations of the effects of such instruction on listening, learning, memory, attention and literacy skills.

“The effect of music training suggests that, akin to physical exercise and its impact on body fitness, music is a resource that tones the brain for auditory fitness and thus requires society to re-examine the role of music in shaping individual development,” the researchers conclude.

Ref: http://nuin.northwestern.edu/taking-music-seriously/
What the Kraus study highlights is the strong relationship between music and advancing achievement in a range of academic pursuits, potentially increasing the number of students who could fall into the gifted, talented or advanced categories and thus lifting academic excellence in Victoria.

Ideally, I would suggest the introduction to music and rhythm should occur at kindergarten level and progress throughout primary level so that a reasonable level of sophistication exists by secondary level and certainly there is no reason to think the attributes of a gifted, talented or advanced musician will only emerge at tertiary level.

Exposure and participation to music and rhythm at those early ages will not only assist in core curriculum performance but also in the nurturing of our next Young Mozarts with a musical talent born of a passionate desire to learn, to perform, to develop proficiency and to understand musical styles that are translated from dots on a piece of manuscript to the presentation of a musical journey that takes listener and performer into the mind and times of a particular composer. Each of these attributes is special and when married with a maturity beyond the performer’s years, there is a clear indication of a gift, a talent, of advanced understanding.

These can be evident in young musicians throughout primary school years and certainly strengthened well before the aspiring professional artist undertakes tertiary education – therefore in Victoria I would encourage the committee to look at the creation a uniform and supportive framework to nurture and grow young musicians who have demonstrate an early gift or talent in one or several musical disciplines, eg, piano, instrumental, voice, composition.

In the case of students in regional and rural areas, the paramount importance of both peer and professional development networks is even more important. A “rare talent” in a country school may not fit in with other members of his/her student cohort because music is not cool, the student avoids sporting activities and devotes after school time to music practice instead of computer games. The teaching cohort, too, may have a bent towards sport and as a result, potentially let the Young Mozart slip through the gaps on the keyboard.

A viable, comprehensive network of support can be activated quite easily if thinking and implementation is not limited to the confines of the education system. Exposure to experienced musicians in the community (some experienced with qualifications, others through years of practice) will aid the development of a young musician.

Regular regional programs that bring together primary students of like minds could also be established to act as a bridge until at a level, and age, suitable to regular travel to Melbourne for participation in such worthy programs as Melbourne Youth Music.
A peer and mentor program for country students using the internet could establish regular contact with performers and educators at leading metropolitan schools and our universities with links further solidified during regular face-to-face gatherings of program participants. The program could potentially include discussions on a student’s current composition, new music for their instrument and genre, looking at classic composers and their works.

Establishment of programs for the gifted, talented and advanced in upper primary years can help establish pathways and reduce the drop-out rate of students in 10-13 age group, and particularly boys.

Our young musicians must believe and be shown that they belong to a group with special gifts (music is a indeed a special gift!), that they are not alone or isolated.

For musicians in the non-metropolitan areas of Victoria – country, rural, regional – there are certainly fewer opportunities to experience and to be inspired. There exists the regional touring programs for Melbourne Symphony Orchestra and Orchestra Victoria that visit an area once a year to provide “live” highlights in musical enrichment.

As Orchestra Victoria said only this month when promoting its On the M.O.V.E Education Workshops:

"Unfortunately, kids in regional Victoria don’t have access to the same learning opportunities as their metropolitan counterparts, so our workshop aims to bridge that gap and hopefully prepare them for a career in music."

It is acknowledged that the Melbourne-based Victorian College for the Arts Secondary School is the state’s specialist music tuition provider for secondary school students providing a structured program in music and dance disciplines and over the years many students have made to trip to Melbourne to advance study and performance.

Again, however, this exceptional facility is Melbourne-based with accommodation options for country students limited to home-stay arrangements at the VCA or the family moving to Melbourne.

I would encourage this inquiry in its deliberations to address four keys areas in relationship to gifted, talented and advanced music students in all Victorian schools –
1 Should music be defined as a curriculum or extra-curricula subject?

2 Should students who fall within any of these three definitions be afforded opportunities for development based on their demonstrated ability rather than existing programs that are restricted by age?

3 Should programs, networks and mentoring be integrated through all levels of conventional schooling and university years to ensure a seamless and supportive environment at all times: and

4 Should performance, peer support and mentor programs be established in regional centres to increase accessibility for students in country Victoria?

Forging truly positive partnerships between schools and universities, education and community, music ensembles and government would result in a “yes” to all four of these areas.

I would be pleased to further comment on matters raised in this submission should the committee wish.

The work of the committee can lead to Victoria taking a real role of leadership through innovation and creativity in the field of music – assisting all high-achieving students and importantly establishing all-of-state programs to nurture our next young Mozarts.

Chris Earl has been involved in community music at local, state and national level for more than 35 years. In the brass genre, he has conducted some of Victoria’s leading brass bands, acted as an adjudicator across Australia and for 15 years published the national brass band magazine. As a music publisher he commissioned major new works from Australian composers and in 2006 was a finalist in the Australian Classical Music Awards. He has worked with major international brass soloists and produced major musical performances. As a private teacher, he has prepared students for eisteddfod performances and AMEB and VCE examination performances. Chris is also the father of a young 13-year-old musician currently performing and studying piano, trumpet and composition.