Submission No 14

INQUIRY INTO REVIEW OF THE NEW SOUTH WALES SCHOOL CURRICULUM

Name: Name suppressed

Date Received: 17 July 2020

Dear Mark,

I share your concern about NSW education, and am submitting to provide you some information I have observed in my 30 year career - so a mix of anecdotal as well as data .

OBSERVATIONS we do have a significant decline in achievement- and we have a solution

In the last 10 years I have been very concerned by a noticeable significant drop in academic level of students as they start Year 7. In 2020, the data is strong to back my anecdotal observations. Below is evidence that music training is key to student success, activating all parts of the brain. I have researched and observed that across different schools, between our nation's states as well as across the globe the correlation of academic performance (Pisa) with a countries value on music education is consistent . Music education is creative, it is play , it is communication , promotes student initiative , critical thinking, motor skills, executive functioning, the list goes on.

Locally, I initially attributed this observed decline to the 'open classrooms' in our feeder schools as one factor, where children are easily 'lost' by the high level of distraction and noise of double/triple rooms with 60-90 children. (1.)This is still in place here despite inconsistent evidence that it is effective. Studies from the 1970s showed students in traditional classrooms consistently outperformed the 'innovative' spaces (2.)

While this may be a factor, the academic decline also correlates with an increase of non-musical generalist teachers who have unsatisfactory training to be confident in providing any music training to their students.

Below the focus is particularly on the importance of music to brain development . You may already be aware of the wealth of research. My overall message for your review is that the best curriculum decision we can make for our young people's education is to provide EVERY child with high quality and extended music training.

As a high school music educator, I've observed each year that while less than 10% of students were learning an instrument, 80% of the nominated candidates for school captains were the musicians . Many of our current and past politicians have also had the benefit of a strong music education. I've also tracked a correlation with many countries policies and funding of music education with their Pisa results: Finland who had a remarkable upsurge when they created an egalitarian educational approach where music was embedded across the curriculum in ALL schools

for ALL children until Year 9 . In recent years they have been ousted from top PISA rankings by China whose music education program is even stronger than Finland's. (see below). All children in China can read music well and play at least one instrument by the time they start high school. In my 30 years as a music educator, success has been completely dependent on the executive at schools choosing to support a program and yes finding avenues to fit it in to the crowded curriculum - it does not need to be this way! Meanwhile Finland achieve their top rating despite children starting school at age 7 and daily finishing school at 1pm.

We now have evidence for what Plato recognised thousands of years ago.

"Musical training is a more potent instrument than any other, because rhythm and harmony find their way into the inward places of the soul."
— Plato, The Republic

I would teach children music, physics, and philosophy; but most importantly music, for the patterns in music and all the arts are the keys to learning"
— Plato

I need to qualify what I'm referring to with regard to music education: The 2005 National review into Music Education articulated clearly what is wrong and the 2009 Petrova **survey** revealed that music is being taught in 37% of Australian schools. Of that 37% we must accept that a significant proportion of that figure includes generalist teachers simply pressing play on a music recording with little discrimination between passive and active listening, let alone development of practical or musical literacy skills.
Music education, that is, music training by skilled music specialist educators is essential for our student's higher level education . Public and Private schools in Australia with the benefit of strong instrumental tuition programs present as our top academic schools. Nearly two out of three Australian primary schools offer no music. In Petrova's study 63% of schools responded that they do not offer classroom music instruction.
(I held hope for Victoria with their 2013 Parliamentary review but also hasn't yet been acted upon.)

RESEARCH - music education is essential to brain development

A powerful study regarding secondary music training ...

2019 Guhn et al - **Music training advances cognitive and academic achievement (particularly reading, science maths)**

110,000 public secondary school students in British Columbia, **Canada**, data set comprised all students in all public schools of British Columbia. The analytic sample did not include private/independent schools,

Findings demonstrated that the (14%)public secondary school students who took school music courses, on average, outperformed their peers who took no school music courses, in standardized exams on English, mathematics, and science. Furthermore, higher levels of school music course engagement corresponded to even higher levels of academic achievement. A multiyear involvement in instrumental music learning/practicing is required for cognitive and academic achievement benefits to more prominently emerge.

While dispositional factors are doubtless important to childhood activities, research suggests it is unlikely that they can fully explain the academic achievement differences observed in our study.

The observed effect sizes, particularly regarding instrumental music, were substantive. In fact, the effect sizes observed when comparing those in the very highly engaged instrumental music group with the no music group (even after adjustment for numerous confounders) were of a magnitude greater than the average annual gains in **reading, science, and math** that are seen during the high school years in the U.S. context (Bloom et al., 2008). In other words, students in the present study sample that were highly engaged in instrumental music were, on average, over 1 year ahead in their math, English, and science skills, compared with those peers not engaged in school music. As mentioned, the effect sizes reflect associations after controlling for socioeconomic back- ground variables and previous academic achievement.

Additionally, analysis of over 7,000 high school students yielded evidence of positive associations between music lessons and **reading** test scores even after adjustment for a host of individual difference variables including cultural background, family SES, sex, prior academic (reading) achievement in Grade 8, and number of books read (Southgate & Roscigno, 2009).

1993 Switzerland - 3 hours music a week

Swiss children who spent more time with music education did better on many counts than those who just followed the normal curriculum

A two-year Swiss study involved 1,200 children in 50 schools. They were taken from regular classes for three one-hour music classes per week. At the end of the experiment, these students were better at languages, learned to read more easily, had better social relations, demonstrated more enjoyment in school, and had a lower stress level than those who remained in regular classes. [9][7] There are many studies that show similar outcomes.

Weber, E., Patry J.L., Spychiger, M. (1993).Musik macht Schule. [Music makes the school].

Neuroplasticity and **Drumming - increased functional connectivity - 2017** Ahmad et al

Neuroplasticity (NP) is defined as the ability of the nervous system to respond to intrinsic or extrinsic stimuli by reorganizing its structure, function, and connections. Neuroplasticity underlies not only normal development and maturation but also skill learning and memory. Thirty-one young healthy volunteers (16–19 years) with no prior drumming experience and with no psychiatric or neurological disorders participated in the study after providing written informed consent. In The King's College, London, College Research Ethics Committee approved the experimental protocol. Participants were randomly divided into 2 groups: drum group and control group.

Method : three 30-minute low intensity group drumming sessions per week for 8 weeks. Each session was delivered by a professional drum tutor and comprised 4 integrated parts: (1) a warm up, focused on beating the drum with a relaxed and consistent motion of the drum sticks; (2) snare drum "rudimental" exercises, played on a single drum surface, adopting a "flow sticking" approach to sequences of left and right hands (Queen 2007); (3) coordinated "groove" patterns, incorporating the interplay of bass drum (right foot) and the hi-hat pedal (left foot) with rock/pop back beat ostinato patterns played on the hi-hat or ride cymbal and snare drum, including eighth note (quaver), quarter note (crotchet), sixteenth note (semiquaver), syncopated quarter note and shuffle ostinato patterns (Chaffee 1980); and (4) performance of learned "grooves" and "fill-ins" to accompany well-known popular music songs. The complexity of drumming tuition was increased on a weekly basis in line with participants' demonstration of improved drumming coordination and technique.

The brain regions showing significant functional connectivity (FC) differences before and after drumming, without a priori regions of interest, a multivariate pattern analysis was performed. Drum training was associated with an increased FC between the posterior part of bilateral superior temporal gyri (pSTG) and the rest of the brain (i.e., all other voxels). The pSTG presented an increased functional connectivity (FC) with the premotor and motor regions.

drum training regimen is a relevant task to highlight the neuroplastic mechanisms involved in motor learning in a naïve population and that drum-based intervention could be relevant to overcome impairments due to brain diseases.

1992 -2015 summary

Music lights up many parts of the brain - sensory , motor and high order cognitive .

Playing a musical instrument is a highly complex task and requires multimodal skills such as bimanual motor activity dependent on multi-sensory feedback, fine motor skills coupled with metric precision, musical memorization (Wan and Schlaug 2010), and improvization (Pinho et al. 2014; Beaty 2015). These skills involve complex interactions, between sensory and motor systems and high-order cognitive processes, which have to be coordinated at a high degree of synchrony and accuracy (Zatorre et al. 2007).

Music Tuition in schools works!

being excused from nonmusic classes to attend instrumental lessons does not adversely affect academic performance (Corral, 1998; Cox, 2001; Dryden, 1992; Engdahl, 1994; Kvet, 1982).

DATA SOURCES

Main **PISA** insights - **equity** and excellence tend to be jointly achieved with deliberate policy that matches resources with needs.

2018 PISA

I've investigated Finland Australia, Macau, Poland , Singapore , Wales and there is a clear correlation between results and music training, Below are two examples.

CHINA No1 2018 — music priority

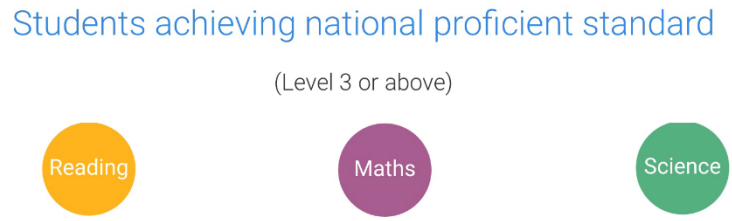
China population 1.5 billion takes music education seriously. It employs our British exam system (mainly the ABRSM, Trinity College London and the London College of Music exam boards) and apparently has now overtaken the UK in the number of instrumental entries each year. The results of their music study are impressive. All children will be able to read music, play an instrument, and most are encouraged to learn at least two instruments, participate in music exams and music festivals (so will have been exposed to plenty of performance practice) and consequently classical concerts are well patronised. Young families frequent concerts and recitals regularly; they don't

view them as 'high-brow' or obsolete. The music curriculum recommends **three lessons each week** of "music **games**" for first and second grade students, **two** lessons

Western classical training is highly regarded, play an instrument successfully, it is viewed as a useful intellectual accomplishment, and widening perception of a global village perspective

More pianos are sold in **China** than anywhere else in the world.

2000-2018 Pisa **Australia** steadily declining trend in all three see graph



Australian school music education crisis was clearly articulated in comprehensive 2005 National Review - highlighting package of recommendations - actions recommended are yet to be implemented ; this decline (particularly in NSW more than Victoria) is corresponding to deteriorating PISA results.

Data shows what we as experienced educators know. Australian schooling is deteriorating.

Solution: implement recommendations of National review 2005 and 2013 Victorian Parliamentary review.

NATIONAL DATA - NAPLAN results

Canberra : corresponding strong academic /music training combo:

ACT substantially better results than all other states across all areas.

Equity of music training - IMPACT Program has 2 year band class program in 59/63 (94% learning to read and play music) in public primary schools 2x45min lessons weekly . IMPACT is specifically for student not already having lessons, strongly subsidised the cost is $110 year lessons, instruction and ensemble. Total additional music training =120 hours

ACT 63 public primary

19 high schools yr7-10

11-12 colleges - ten

Additionally, 100% private schools providing music training in the ACT . Some internal music educators, others using external 'Canberra music tuition'- 20 schools - private lessons during school time.

This is affordable, deliverable tactic to improve academic achievement as well as build a stronger united culture. What's not affordable is not taking action. Experts that have warned about an Australian brain drain in sciences, technology and innovation would not need to be concerned if our education system was robust, strong and high performing.

Thankyou for heading up this inquiry Mark, let's see what you will do with your findings.

Kindly,

1.) http://www.noiseandhealth.org/article.asp?issn=1463-1741;year=2010;volume=12;issue=49;spage=225;epage=234;aulast=Shield

2.) http://www.iletc.com.au/wp-content/uploads/2018/07/TR4_Web.pdf p39

3.) https://www.aare.edu.au/blog/?p=4629