

**Submission
No 71**

**INQUIRY INTO ARTS AND MUSIC EDUCATION AND
TRAINING IN NEW SOUTH WALES**

Organisation: Australian Chamber Orchestra

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SUBMISSION TO THE JOINT SELECT COMMITTEE ON ARTS AND MUSIC EDUCATION AND TRAINING IN NSW

The Australian Chamber Orchestra (ACO) is proud to be one of the preeminent string orchestras in the world, placing the finest string players on our national and international stages. We invest time and resources in programs which seek out and develop the next generation of talented string players. Over the last seven years we have invested significantly in the development and delivery of our innovative [ACO Foundations](#) program for primary school students. We do not view this program as a talent development program – rather an **educational intervention based on our knowledge, and evidence-based belief, that a quality music education will have long-lasting, and potentially life-changing, benefits for children – particularly in their formative years.**

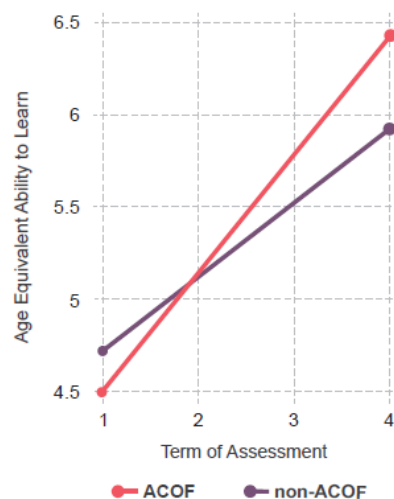
The ACO Foundations program is informed by research which shows that playing a musical instrument can have a positive impact on the structure and functioning of the body and brain. The program introduces string playing into the classroom curriculum, in a co-teaching design between generalist classroom teacher and ACO instrumental educator, with students commencing in Year One and continuing until the end of Year Three. A critical component of ACO Foundations is that students practise their instruments every day for 15-minutes during class time, facilitated by class teachers and supported with video resources developed by the ACO. The program is particularly designed to be implemented in low SES public schools, where students are often experiencing significant educational and developmental disadvantage, with little or no access to music education, and the educational approach is tailored accordingly so that no student is left behind.

ACO Foundations has been running in **St Marys North Public School (SMNPS) in Western Sydney** since 2018, and now sees every child in Years One, Two and Three (over 150 students) learning and practicing string instruments every single school day for three years – and the results have been striking. Formal evaluation, undertaken by researchers at the University of Sydney in collaboration with Dr Anita Collins, alongside ongoing informal evaluation, has provided proof of the benefits of a quality, sequential music education – with measurable improvements in students’ cognitive abilities, educational performance, physical development, and engagement and motivation at school. Standardised measures were collected through the Interactive Computer Adaptive System (InCAS) assessment which was developed by the Centre for Evaluation and Monitoring (Durham University, UK) to assess the learning gains of primary school children. Some key findings are outlined below.

INCREASE IN COGNITIVE ABILITIES

The InCAS measurement of Developed Ability, assesses language acquisition and non-verbal ability, and the ability to reason through increasingly difficult problems, and is used as an indicator of students’ ‘**ability to learn**’. The ability to learn is developed by children over time and is a critical foundation of learning and achievement over a lifetime.

Students participating in ACO Foundations tested below the comparison group at the start of the year, but after involvement in the program for 12-months their ability to learn had shown a **developmental increase of two years** (from that of a 4.5-year-old to a 6.5-year-old). ACOF students were also, on average, **six months ahead of their peers** in their ability to learn.



IMPROVED ACADEMIC PERFORMANCE

ACO Foundations is based on academic research which has explored the impact of music learning on brain development and academic performance. Across the fields of neuroscience, education, and psychology, studies have provided convincing evidence that music training is unique in its capacity to enhance cognitive functioning and academic performance. These findings have been found to be significant even when external factors such as general intelligence (IQ), socio-economic status, and parental education have been accounted for.

Using the InCAS standardised measures of **Numeracy, Reading and Spelling**, ACO Foundations students' performance **improved at a greater rate** than students not participating in the program. Significantly, by the end of the first year, ACO Foundations students were achieving, or close to achieving, **expected performance for their age in all areas**, whereas students not participating in the program had not reached expected performance for their age.

EMOTIONAL & BEHAVIOURAL DEVELOPMENT

Music education has long been recognized as a valuable tool for the development of children's emotional and behavioural skills. Learning to play an instrument requires intense focus, as students pay close attention to the notes and rhythms, their posture, the sound they are producing, and listening to their peers and their teacher. Development of this focused attention can transfer to help students concentrate better and to stay on task for longer periods of time in the classroom – essential skills for success in school and beyond.

Music education has also been found to help children develop their self-regulation skills. Playing an instrument requires a great deal of self-control as students must learn to regulate their breathing, moderate their behaviour, and manage discomfort. Through practise and performance, students learn to regulate their emotions and responses to stress, which can help them manage their emotions more effectively in other areas of their learning.

As a result of the ACO Foundations program, students are showing **better focus and concentration** towards tasks, an increasing **ability to persist at difficult tasks** ('grit'), and better **self-regulation and management of emotional responses**.

CASE STUDY: THE STORY OF JASON

Jason has been participating in ACO Foundations for three years. He is autistic and has several sensory processing challenges, meaning his participation in learning is highly influenced by the amount of sensory stimulus on any given day. As a result, his general learning is delayed, and he is significantly behind his peers in his reading levels.

Jason struggled to participate in ACO Foundations to begin with, often refusing to attend string lessons or enter the music classroom. ACO instrumental teachers and his classroom teacher worked hard to help him participate, using a set of headphones to help manage his sensory overload. After more than a year of participating the program, he is now an active and happy participant in group learning situations and can follow multiple instructions. Jason struggled with both skills prior to ACO Foundations, and they were the main barriers to his learning progression.

"We have no words for how the music program has changed Jason, it is just astonishing to see the positive change in him." School Principal, SMNPS

Jason still has his challenging days, but his learning is improving in multiple areas and most importantly his willingness to try, to attempt new tasks, and to self-regulate his own emotions and responses is improving steadily. He also exhibits a sense of pride in his achievements, and he has been able to perform for his mother at concerts. His classroom teacher has been amazed at the positive behavioural changes in Jason now that he has found a skill he can work and excel at.

IMPROVED PHYSICAL DEVELOPMENT

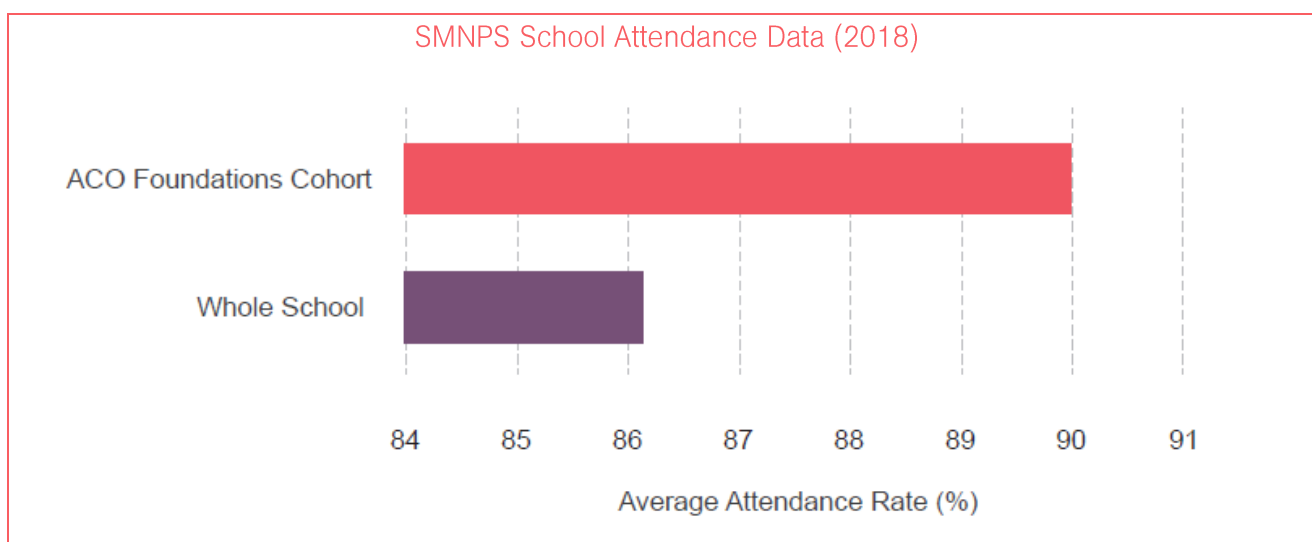
Music learning, particularly playing a string instrument, requires the progressive mastery of a significant number of motor skills, involving posture, gross, and fine motor skills. When the ACO Foundations program commenced in 2018, it was observed that students' posture and core strength was generally poor, with all students struggling to maintain the required string-playing posture for more than a few minutes. This lack of posture fitness was contributing to loss of focus, difficulty taking in new information, and some behavioural issues.

By the end of 2018, and in every subsequent year, ACO Foundations students' command of their motor skills and level of physical development has increased. They can now **maintain their posture** for a 45-minute rehearsal, they have **improved their fine motor skills** substantially so that their right and left hands work independently, and they can play more complex music in terms of fingering, hand position and bowing. Improvements in students' gross and fine motor skills has transferred to their classroom learning in several ways: students can maintain their **attention on cognitive tasks** for longer, their **handwriting skills** have improved significantly, and they can maintain their focus and **writing precision** for longer.

INCREASED ENGAGEMENT & MOTIVATION AT SCHOOL

One of the most important benefits of ACO Foundations has been the notable increase in students' **engagement in learning** and **motivation at school**. Using the InCAS measurement of **Attitude to School**, which is measured by asking students to rate various statements relating to their feelings about school on a sliding scale, students participating in ACO Foundations demonstrated greater positivity in their attitudes to school compared to their peers not participating in the program.

Using **school attendance** data as another indication of engagement and motivation towards school, the attendance of students in ACO Foundations was compared with attendance of students across the school. In 2018, ACO Foundations students' average attendance was four percentage points higher than whole school attendance average. Although this is a small percentage, the school principal reflected that this is a significant improvement when viewed in light of general school attendance. In 2019, once the ACOF cohort had moved into Year Two, this cohort had significantly improved attendance, as indicated by the lowest absentee level across Years One - Six.



IN CONCLUSION

According to 2023 NAPLAN national results, one in three Australian school students are not meeting minimum numeracy and literacy expectations, while one in ten will need additional support to catch up. Predictably, high NAPLAN scores correlate closely with socio-economic advantage, indicating that areas of disadvantage have a disproportionate pooling of students needing learning support.

We have progressively seen music and arts subjects cut from our public-school curriculum as budgets get tighter, teaching more focussed, and biases towards 'core' subjects proliferate. Investment in programs which focus on improving literacy and numeracy outcomes are being rolled out in schools in various measures, and yet results don't seem to be improving. This narrowing focus in students' early years is proving to be detrimental to overall learning, and sadly these are lessons which have already been learnt overseas.

Quality music learning has proven time and time again to be a strategy that yields positive results for students. Certainly, the ACO Foundations program has been a complete game-changer for the children at St Marys North Public School, and as a result of this relatively short intervention, will have a lasting positive impact on the educational and well-being trajectory of the participants, their families and their wider communities well into the future.

ACO Foundations is just one model of music education, and while its delivery method is resource heavy, the critical elements of the program could be applied in every school. Rather than an traditional or 'elitist' view of music education as a means of producing professional musicians, we recommend that school-based music programs should:

1. Use music making (singing, body percussion and beat keeping, or the playing of any accessible instruments) as the tool for improving cognitive, physical, emotional and academic development
2. Integrate music making activities into the classroom every day for every student, as a means of priming the brain for learning, developing auditory processing skills, helping students to develop 'grit' and a 'growth mindset' working towards challenging goals
3. Embed trained musicians in schools, in a side-by-side mentoring role, to build generalist classroom teachers' confidence and abilities for implementing music in their classrooms
4. Consider music and arts activities in the classroom as a way of improving students' well-being, enjoyment and motivation towards learning, and school attendance.

The ACO is a proud and strong advocate for ensuring that every Australian child has access to a quality music education as part of the core curriculum for every student. We know it will provide them with the recognised benefits, both in the short- and long-term, enhancing their cognitive function, their ability to persist towards challenging tasks, improve their reading, writing and numeracy, and arguably more importantly, see our them more actively engaged in classroom learning.

If investment and resources were focussed on better training and support for classroom teachers, embedding music experts in schools, and ensuring that all students are participating in ongoing, quality, and sequential music-making experiences, perhaps we would see the improvements we have yet to see in our NAPLAN results. And over time, at scale, it could fundamentally change the future of our nation.