

# What do parents need to know about music and the brain?

Every year music educators need to prepare a presentation for parents. This could be anything from a five-minute slot in a longer session for all parents, to a 30-minute presentation to parents of music students. Whatever length of time you are appointed, the question is always, “What do the parents need to know?”

There is always the procedures - the when, where, and how music learning is going to happen - and there is always expectations of the students and, less often, of the parents. Sometimes music educators want to start or end the presentation with the benefits; a justification for why music learning is beneficial and important for their children. It is this final aspect of a presentation where the neuromusical research is starting to be used. There are now so many research findings available on the benefits of music learning. The question is, which benefits would resonate most with parents?

Before we get to the list, here are a few important questions to ask yourself:

1. What do you believe parents do not know about music learning?
2. What do you believe informs parents about music learning for their child?
3. What do you want your parents to take away from this part of the presentation?
4. Where does this part of your presentation sit within the larger, broader approach to educating for your parents?

As I prepare to present to my parent groups, these would be my answers:

1. I believe my parents, by enlarge, cannot draw a straight line between how the act of learning music transfers across to other subjects and skills at school. If I ask them “is learning music beneficial for your child?” the parents would answer “yes”. If I followed up with the question, “tell me why or how?” the parents would not have a confident and well-informed answer. My role is to help them be able to answer the “why and how” of music learning.
2. I believe that parents’ understanding of the experience and benefits of music learning is informed by their own music learning experience or the experience of other children they know well. These understandings could be positive, negative or non-existent, but they are mostly individualised, not across a group or conducted using scientific methods. My role is to help parents see the difference between their experiences and their child’s individual experience and research findings that look across a group of children.
3. I aim for each parent to walk out of the presentation with at least one new piece of knowledge or understanding. This means that if I have five points to make, I need to expose my parents to those five points five times over in different ways. This could be done in newsletters, weekly emails, posters in a music area that parents frequent, etc.
4. My presentation is an important moment, but not the only moment or interaction I have with my students’ parents. There are many informal moments, such as right after a concert or in a concert program, and formal moments, such as in parent/teacher interviews and information documents. My parents are my students as well - and I know students do not understand or take in new information just by hearing about it once and in one way.

What are some of the best findings in the research that parents might need to know? This depends on the type of music learning and the age of the students, but here are some

starting points with links to the research papers so you can read more.



*Learning about music and making music at an advanced level will enhance students brain function as they deal with higher levels of stress.*



## **A presentation to parents of students commencing preschool (3 to 4 years of age) which has a daily music program based on a Kodaly/Orff approach**

Daily music learning at this age will

- Promote the reliable and fast connectivity between the auditory (ears), visual (eyes) and motor (body/movement) cortices of the brain. This helps students to establish their sensorimotor network, which is believed to be an integral foundation for effective learning.<sup>1</sup>
- Promote strong neural connectivity through consistent beat keeping activities. This specific type of connectivity has been shown to contribute to pre-literacy skills and ensure that children are neurologically ready for reading at the age of 5 (kindergarten/ prep school).<sup>2</sup>

## **A presentation to parents of students starting a compulsory music program on the violin at the age of 8 (middle years of primary/elementary school)**

Learning violin in a group situation at this age will

- Enhance students auditory processing for language sounds because music and language share an overlapping neural network. This helps students to continue to develop their reading skills but also their comprehension and syntax (grammar) skills.<sup>3</sup>
- Improve students’ inhibitory control (part of their executive function), their ability to control their behaviour in a group, because music learning helps students to be more and more comfortable with frustration and to delay the need to get their way. The success of the group becomes more important than the success of one person. This helps students stick with difficult problems for longer and think of others before themselves.<sup>4</sup>

## **A presentation to parents of students starting an elective music program in class (including playing their instruments) at the age of 12 (or first year of high school)**

Learning about music and making music in a class environment at this age will

- Enhance students’ problem solving and goal setting skills which are both part of our executive functions. Music making and music learning involve practise and the continual need to solve multiple small problems in an individual way, which is a form of resilience. Music learning also sets very long goals. Students begin learning a piece that they will perform in 2 or 3 months’ time. This requires a form of persistence. Both resilience and persistence can be used in other subject areas, such as science or physical education, as well as in relationships and managing emotions.<sup>5</sup>

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- Improve neural processing speeds and memory systems, both of which will be compromised by puberty. The less disruptive and distracting the natural process of puberty is, the more students can maintain their focus on their academic progress.<sup>6</sup>

**A presentation to parents of students starting an advanced elective music program in class (including playing their instruments) at the age of 16 (or final one or two years of high school)**

Learning about music and making music at an advanced level will

- Enhance students brain function as they deal with higher levels of stress. Music learning does this by consistently supporting the neural synchronisation of the brain and regulating the release of the reward and stress hormone. These biological factors are vital for good decision making in later adolescents, as well as stress management during academic preparation and performance.<sup>7</sup>
- Music learning at a developing and advanced level has greater career and cognitive outcomes than only a career as a musician. Students who study music have been found to perform well in their final exams and standardised tests and have achieved higher grades in English, maths and science than their peers. Music learning does this by enhancing cognitive functions related to all learning. It also promotes strong skills in social understanding and communication, and it supercharges executive function skills that serve musically trained students in their future adult lives as leaders, innovators and team members.<sup>8</sup>

To accompany this reading, we have created a powerpoint that is designed for you to use when presenting to parents about the benefits of music learning for early childhood and primary years. Visit [biggerbetterbrains.com](http://biggerbetterbrains.com) to access it.

<sup>1</sup> Degé, F., & Schwarzer, G. (2011). The effect of a music program on phonological awareness in preschoolers. *Frontiers in psychology*, 2, 124.

<sup>2</sup> Moreno, S., Friesen, D., & Bialystok, E. (2011). Effect of music training on promoting preliteracy skills: preliminary causal evidence. *Music Perception: An Interdisciplinary Journal*, 29(2), 165-172.

<sup>3</sup> Jentschke, S., & Koelsch, S. (2009). Musical training modulates the development of syntax processing in children. *Neuroimage*, 47(2), 735-744.

<sup>4</sup> Habibi, A., Damasio, A., Ilari, B., Elliott Sachs, M., & Damasio, H. (2018). Music training and child development: A review of recent findings from a longitudinal study. *Annals of the New York Academy of Sciences*, 1423(1), 73-81.

<sup>5</sup> Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. *Science*, 333(6045), 959-964.

<sup>6</sup> Bergman Nutley, S., Darki, F., & Klingberg, T. (2014). Music practice is associated with development of working memory during childhood and adolescence. *Frontiers in human neuroscience*, 7, 926.

<sup>7</sup> Getz, L. M., Marks, S., & Roy, M. (2014). The influence of stress, optimism, and music training on music uses and preferences. *Psychology of Music*, 42(1), 71-85.

<sup>8</sup> Guhn, M., Emerson, S. D., & Gouzouasis, P. (2019). A population-level analysis of associations between school music participation and academic achievement. *Journal of Educational Psychology*.

## Read More

Cooper, P. K. (2020). It's all in your head: A meta-analysis on the effects of music training on cognitive measures in schoolchildren. *International journal of music education*, 38(3), 321-336.

Sala, G., & Gobet, F. (2017). When the music's over. Does music transfer to children's and young adolescents' cognitive and academic skills? A meta-analysis. *Educational Research Review*, 20, 55-67.

“Augmented sound processing in the brain makes young musicians better learners, which can generalize to benchmarks such as standardized tests and grades that society values in education.”

Kraus, N., & White-Schwoch, T. (2020). The Argument for Music Education. *American Scientist*.



# What do parents need to know about music and the brain?

## Professional Reflection • Part 1

### Personal Brain Buzz

In preparation for your parent presentation, what are your answers to the four questions in the reading?

### Experiment Time

If possible, pose the same questions to a colleague in your school or at another school. What are their responses and how are they similar or different to yours?

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## Professional Reflection • Part 2

### Teaching Brain Buzz

Design your presentation speech, slides and/or materials. How did you decide on the order, visuals, focus and statistics and what impact do you want them to have? How will you measure the impact after the presentation?

### Experiment Time

Design a way to measure the impact of your presentation

1. One week after the presentation
2. One month after the presentation
3. One semester or term after the presentation

### Questioning Brain Buzz

After completing this professional reflection, write at least two questions you have about this topic.