

DOES LEARNING MUSIC POSITIVELY AFFECT IMPORTANT SKILLS NEEDED TO DEVELOP LITERACY?

- In short, yes, it appears it does!
- There is already a lot of research, particularly from the field of neuroscience, showing learning music from a young age benefits children's brain development and brain function, but so far not a lot of research has been conducted with preschool-aged children.
- Some of the benefits include positive effects upon particular aspects of language development (including phonological awareness), memory and executive function (EF includes self-regulation and other skills that help children transition into school and learn effectively).
- Neuroscientists have suggested music could be used as a form of intervention to help children with language development delays or disorders but studies haven't been conducted to investigate this.
- Allison Cameron's PhD research, conducted at the University of Wollongong, investigated the effects of a music program called 'Tuning In' on the language skills of four and five-year-old children.
- Tuning In is the music education program of the Shoalhaven Youth Orchestra, based in Nowra, NSW.
- 47 children attending four early childhood centres took part in the study.
- Children at two centres received a 30-minute Tuning In music session once per week for around five months. The children at the other two centres received the regular preschool music programs offered at their centres for the same period
- The study had two parts – one part involved pre- and post-testing aspects of children's language skills.
- The second part was a multiple case study. Each 'Tuning In' centre formed a case. The multiple case study aimed to learn about the children's experiences of participating in Tuning In music sessions and the development of their language for social purposes, what parts of the Tuning In program they particularly engaged with and how their musical skills developed over time.

What were the language skills tested in the study?

- Two important aspects of the processing of language were tested – phonological awareness (the awareness of sounds in language and the ability to use or manipulate them) and phonological memory (the ability to hold and use words and sounds of language in our memory).
- The test was called the Comprehensive Test of Phonological Processing (Wagner, Torgesen, Rashotte & Pearson, 2013).
- The aspects of phonological awareness tested were Sound Matching, Blending Words and Elision. There was also a composite score that showed a child's overall skills in phonological awareness.
- The aspects of phonological memory tested were Non Word Repetition and Memory for Digits. There was also a composite score that showed a child's overall skills in phonological awareness.
- Children who have difficulty with phonological awareness will almost always also have difficulty learning to read.

Children who have difficulty with phonological memory often have general difficulties with learning, following instructions, staying on task (because they forget what they're meant to be doing) and they also have difficulty with comprehension of long or complex sentences.

What did the testing show?

- We found that the Tuning In children showed very big improvements in the Sound Matching aspect of phonological awareness compared to the regular preschool music group. We also had a promising result for Blending Words, but Blending Words and Elision are more complex skills that continue to be developed in early primary schooling, so longer studies are needed to learn more about how music affects these skills over time.
- We found that overall in phonological awareness, although the regular preschool music group had higher results than the Tuning In group in the pre-test, the gap was closing between the groups.
- We found that for Non Word Repetition, although the Tuning In group started with lower skills than the regular preschool music group, at the end of the intervention, they had not only caught up, but had slightly overtaken the regular preschool music group.

- Overall in phonological memory there was a very strong trend showing the gap between the groups had substantially closed.
- These effects were measurable for an intervention that was only five months long and a total of around 10 hours of learning music!

What changes were observed in the Tuning In children?

- The children showed increased desire to communicate (communicative intent) and developed greater confidence as communicators. This was particularly evident in children with language disorders and disabilities that affected language development.
- The intelligibility of children's speech improved, with clearer articulation of speech sounds. This was particularly evident in children who had very poor speech at the start of the study.
- Children showed more positive self-regulation, a reduction of challenging behaviours, and increased concentration span.

How did the children respond to the Tuning In program?

- Most children engaged enthusiastically with almost all aspects of the program consistently – music became an important part of the week that children looked forward to.
- Children showed good development in a range of musical skills (beat and rhythm skills, pitch accuracy, active listening, working as part of a musical ensemble).
- The children who participated in the study became 'teachers' for younger children attending their centres, as they would sing songs they learnt in the music sessions as they played, which young children then learnt. They also role modelled how to handle and play musical instruments for younger children.
- Participating in music appeared to give the children a sense of satisfaction, aesthetic pleasure and build their self-efficacy.

How is this study relevant to early childhood and primary teachers?

- The development of oral language skills in the early years sets children up for all future learning, so it's extremely important that early childhood and primary teachers are aware of research that helps explain factors that affect children's development in this area, and how teachers can promote it.
- For primary teachers, helping children develop their literacy skills is "core business" – phonological skills are foundational skills needed to develop literacy, but sometimes it's easy to forget while we focus on literacy that we also need to develop the whole

child. Music develops the whole child, the whole brain and promotes creative thinking.

- Music also happens to also have great potential to be used - when music programs are well planned and delivered - to promote the development of these foundational skills needed for literacy. It's a 'win-win'!
- There is quite a lot of research showing that many early childhood educators and primary teachers value music but do not feel confident teaching it. Like any skill, learning to teach music effectively takes practice but it also depends on having good role models to learn from. I would really encourage teachers and educational leaders to seek out professional development and mentoring to help them develop their skills.
- It's important to learn about the aspects of high-quality music programs that also benefit children's social, emotional, physical and cognitive development.

If you'd like to know more please email me at ajc998@uowmail.edu.au

Allison Cameron has been a private and classroom music teacher but her career took an unplanned detour from education into the community sector running a supported playgroups program. In this role, Allison worked with many children with language development difficulties. The children's responses to music sessions in the playgroups piqued her interest in researching this area by bringing together her passions for music, language and literacy. She commenced her PhD research at the University of Wollongong in 2016 and aims to finish writing up her thesis by the end of 2019.

Allison has been involved with the Shoalhaven Youth Orchestra in a range of roles for almost 15 years, and has taught in the orchestra's Tuning In program since its inception in 2014. Allison teaches music in the Bachelor of Education (The Early Years) degree at UOW and is passionate that high quality music education should be available to every child from early childhood to primary and secondary schooling.

References

Wagner, R., Torgesen, J., Rashotte, C., & Pearson, N. (2013). *Comprehensive Test of Phonological Processing* (2nd ed.). Austin, TX: Pro-Ed.