

Music lessons improve children's cognitive skills and academic performance: study

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Structured music lessons significantly enhance children's cognitive abilities—including language-based reasoning, short-term memory, planning and inhibition—which lead to improved academic

performance. Published in *Frontiers in Neuroscience*, the research is the first large-scale, longitudinal study to be adapted into the regular school curriculum. Visual arts lessons were also found to significantly improve children's visual and spatial memory.

Music education has been decimated in schools around the globe, due to competition with academic subjects and an increasing lack of funding. These days, the opportunity to learn an instrument is seen as more of a luxury than a necessary part of education.

"Despite indications that [music](#) has beneficial effects on cognition, music is disappearing from general education curricula," says Dr Artur Jaschke, from VU University of Amsterdam, who led the study with Dr Henkjan Honing and Dr Erik Scherder. "This inspired us to initiate a long-term study on the possible effects of music education on [cognitive skills](#) that may underlie academic achievement."

The researchers conducted the study with 147 children across multiple Dutch schools, using a structured musical method developed by the Ministry of Research and Education in the Netherlands together with an expert centre for arts education. All schools followed the regular primary [school](#) curriculum, with some providing supplementary music or visual arts classes. In these, the children were given both theoretical and practical lessons.

After 2.5 years, the children's academic performance was assessed, as well as various cognitive skills including planning, inhibition and memory skills.

The researchers found that children who received [music lessons](#) had significant cognitive improvements compared to all other children in the study. Visual arts classes also showed a benefit: children in these classes had significantly improved visual and spatial [short-term memory](#)

compared to students who had not received any supplementary lessons.

"Children who received music lessons showed improved language-based reasoning and the ability to plan, organize and complete tasks, as well as improved academic achievement," says Dr Jaschke. "This suggests that the cognitive skills developed during music lessons can influence children's cognitive abilities in completely unrelated subjects, leading to overall improved [academic performance](#)."

The researchers hope their work will contribute to highlighting the importance of the music and arts in human culture and cognitive development.

"Both music and arts classes are supposed to be applied throughout all Dutch primary schools by the year 2020," says Dr Jaschke. "But considering our results, we hope that this study will support political developments to reintegrate music and arts [education](#) into schools around the world."

More information: Artur C. Jaschke et al, Longitudinal Analysis of Music Education on Executive Functions in Primary School Children, *Frontiers in Neuroscience* (2018). [DOI: 10.3389/fnins.2018.00103](https://doi.org/10.3389/fnins.2018.00103)

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