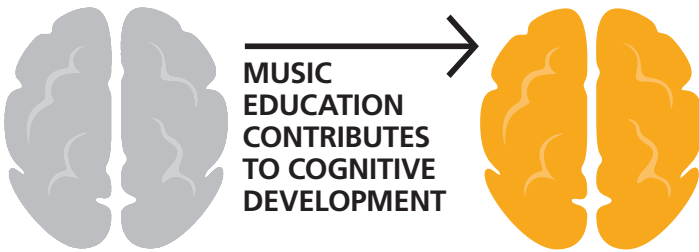


The Benefits of Music Education

NEUROSCIENTISTS HAVE DEMONSTRATED that learning to play an instrument or sing leads to changes in a child's brain that make it more likely they will reach their full cognitive and academic potential.

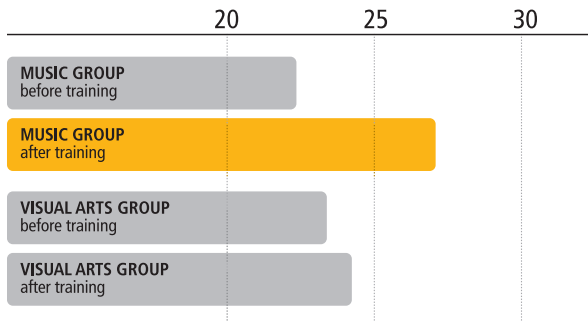


- STRONGER CONNECTIONS BETWEEN BRAIN REGIONS
- MORE GREY MATTER
- IMPROVED BRAIN STRUCTURE AND FUNCTION
- BETTER MEMORY AND ATTENTION
- HIGHER IQ

SPEECH AND READING

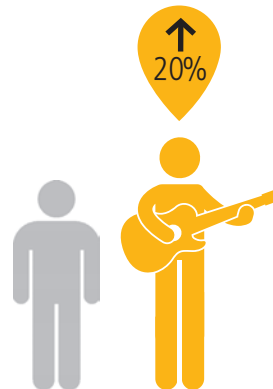
Young children taking music lessons showed dramatic improvement in their verbal intelligence after only four weeks of music training.¹

Raw Vocabulary Score



ACADEMIC SUCCESS

The quality of a child's music education is linked to their academic achievement.²



Elementary school students in higher quality music education programs had **20% improvement** in standardized tests of English and math.²

COGNITIVE BENEFITS OF MUSIC EDUCATION

WORKING MEMORY

Individuals who are musically trained show better working memory abilities than those who are not. Working memory allows us to remember things and is crucial to mental arithmetic and reading comprehension.⁴

CREATIVITY

Scientists found a marked difference in communication between the right and left sides of the brain, which foster creativity, in individuals with musical training than in those without.⁵

IQ

In a study conducted through the University of Toronto, researchers showed greater increases in full-scale IQ scores among children in music lessons versus children in drama lessons or no extra lessons at all.³



“The theory of relativity occurred to me by intuition, and music is the driving force behind this intuition. My parents had me study the violin from the time I was six. My new discovery is the result of musical perception.” **Albert Einstein**

1. Sylvain Moreno et al, *Musical Training Influences Linguistic Abilities in Eight-year-old Children: More Evidence for Brain Plasticity, Cerebral Cortex*, (Volume 19, Issue 3, 2009)

2. C.M. Johnson and J.E. Memmott, *Examination of Relationships between Participants in School Music Programs of Differing Quality and Standardized Test Results*, *Journal of Research in Music Education* (Winter 2006), Volume 54, Number 4

3. E. Glenn Schellenberg, *Music Lessons Enhance IQ* (Psychological Science, 15)

4. E.M. George, D. Coch, *Music training and working memory: An ERP study*, *J. Neuropsychologia*, Vol. 49, issue 5, April 2011

5. Gottfried Schlaug, *The Brain of Musicians – A Model for Functional and Structural Adaptation*

