

MAKING MUSIC MAKES YOU SMARTER

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Scientists have long suspected a neurological connection between making music and intelligence, but is not until recently that specific data became available directly linking the two. Plato said, "Music is a more potent instrument than any other for education." Recently, dramatic new research regarding the benefits of music making might have altered Plato's views to read, "Making music is a more potent instrument than any other for education."

Research completed at the University of Nünster in Germany discovered enlarged portions of the brain in children who took music lessons. An area used to analyze the pitch of a musical note is 25% larger in those who participate in music making regularly than in those who have never played an instrument.

Furthermore, a research team exploring the link between making music and intelligence reported that music training (specifically piano instruction) is far superior to computer instruction in dramatically enhancing children's abstract reasoning skills, mental tools necessary for learning subjects like math and science, or for playing chess and mastering concepts of engineering. Thirty-four percent of the children performed higher on tests measuring these criteria after only six months of piano lessons.

In addition, students with course work/experience in music performance scored an average of 52 points higher on the verbal portion of the SAT and 36 points higher on the math portion of the SAT than students with no coursework or experience in the arts. Finally a study in the March 1999, issue of *Neurological Research* showed that after learning eighth, quarter, half and whole notes, second and third graders scored 100% higher than peers who were taught fractions using traditional methods. Because of this research, we know there is a direct connection between making music and intelligence in children. However, how and why does this connection take place?

The brain's cortex, the center of our intellectual functions, represents 85% of brain mass. The remaining 14% of the brain, the limbic system, handles our emotional functions. Researchers at McGill University in Montreal found that music functions as a key link between the cortex and limbic systems, suggesting that it's virtually impossible to study or play a musical instrument without feeling a wide range of positive emotions such as joy, happiness, love and tenderness. From this research, Author Sharlene Habermeyer, in her book, *Good Music, Brighter Children*, concluded, "...and when we allow these emotions to be a part of the learning process, our education becomes richer, more meaningful, longer lasting, and has greater impact in our lives." Of course, Emile Jaques-Dalcroze, the namesake of my alma mater in Switzerland and creator of Eurhythmics wrote this in 1915.

Another landmark study published in the March 1999 issue of *Neurological Research* by Gordon Shaw was based on tests done with 135 second-grade students at 95th Street School in Los Angeles. Shaw was one of the famous discoverers of the phenomenon known as "The Mozart Effect" along with musician and psychologist Fran Rauscher. It is a significant study for piano keyboard students since it demonstrated that children given four months of piano keyboard training, as well as time playing with newly- designed learning software, scored 27% higher on proportional math and fraction tests than other children who had not received training. "Piano instruction is thought to enhance the brain's 'hardwiring' for spatial- temporal reasoning, or the ability to visualize ratios, fractions, proportions and thinking in space and time" said Shaw. Shaw's findings are significant because a grasp of proportional math and fractions is a prerequisite to math at higher levels, and children who do not master these areas of math cannot understand more advanced math critical to those high-tech fields.

Dr. Shaw's latest research reinforces an important point about brain functionality and the differences between listening to music and making music. It also underscores the fact that the long-term benefits provided by music making activities are much greater for brain development than passive music activities. In mid-September, Academic Press published a new book by Shaw called *Keeping Mozart in Mind*, especially 'written for nonscientists to help everyone understand the practical implications of his work.

There are additional studies on how Eurhythmics lessons enhance the brain's development and performance with the students who study Eurhythmics also develop faster and score higher than students who do not. In fact, the study of eurhythmics takes the student beyond what he would learn when studying piano lessons alone.

Eurhythmics develops small and large-motor coordination, encourages social integration, teaches spatial orientation, it stimulates the listening and memory centers of the brain and promotes physical and mental self-awareness.

I hope that by now, you have a clearer picture of the connection between music study and increased intelligence in children. Spread the word and be sure that music education remains a central aspect of your child's total education. Support and help promote music education in the local school systems. Be sure your children listened to music, good music, occasionally. Take them to concerts such as the BACH 2000 programs coming up this summer; help them to appreciate the work of the masters such as Mozart and Brahms. Above all, be sure they practice at the piano a little every day. There is nothing better or for them than piano practice! I also have videotape on this subject provided to me by Jacobs Music in Whitehall. It is a promotional tape by Yamaha. It is very well done and very well documented.