

## Music Ed Facts: Academics

Public opinion polls often show great support for arts education for children and youth. However, anecdotes and research often report a decline in arts education budgets and instructional time. This paradox indicates a schism between the value of arts education that individuals perceive and the willingness of individuals to make decisions that put the arts firmly in the school day. While many school leaders, including principals and school board members, state their high esteem for arts education, their budgeting and scheduling decisions often decrease the presence or quality of arts education in the schools they manage. This conundrum must be addressed in order to secure consistent, high quality arts education for all students.

--2010 Arts Education Trends Report, Americans for the Arts

In August of 2009 U.S. Secretary of Education, Arne Duncan said: "At this time when you are making critical and far-reaching budget and program decisions...I write to bring to your attention the importance of the arts as a core academic subject and part of a complete education for all students. The Elementary and Secondary Education Act defines the arts as a core subject, and the arts play a significant role in children's development and learning process. The arts can help students become tenacious, team-oriented problem solvers who are confident and able to think creatively."

The College Board showed that students who took four years of arts and music classes while in high school scored 91 points better on their SATs than students who took only one-half year or less. (1070 vs. 979, respectively).

--Data from 2009

Arts in the schools increase test scores and lower dropout rates. The Arts Education Partnership's 2009 publication, *Critical Links* contains 62 academic research studies that, taken together, demonstrate that arts education helps close the achievement gap, improve academic skills essential for reading and language development, and advance students' motivation to learn.

Students in high-quality school music education programs score higher on standardized tests compared to students in schools with deficient music education programs, regardless of the socioeconomic level of community. Playing a musical instrument significantly enhances the brainstem's sensitivity to speech sounds. This relates to encoding skills involved with music and language. Experience with music at a young age can "fine-tune" the brain's auditory system.

--Nature Neuroscience, April 2007

Young Children who take music lessons show different brain development and improved memory over the course of a year, compared to children who do not receive musical training. Musically trained children performed better in a memory test that is correlated with general intelligence skills such as literacy, verbal memory, visiospatial processing, mathematics, and IQ.

--Dr. Laurel Trainor, Prof. of Psychology, Neuroscience, and Behavior at McMaster University, 2006

Schools that have music programs have significantly higher graduation rates than do those without programs (90.2% as compared to 72.9%). In addition, those that rate their programs as "excellent" or "very good" have an even higher graduation rate (90.9%). Schools that have music programs have significantly higher attendance rates than do those without programs (93.3% as compared to 84.9%).

--Harris Interactive poll of high school principals conducted Spring 2006; funded by MENC and NAMM.

## Results From An Elementary School Study:

- Students in top-quality music programs scored 22% better in English and 20% better in mathematics than students in deficient music programs.
- These academic differences were fairly consistent across geographic regions.
- Students at the four elementary schools with high-quality music programs scored better than students participating in programs considered to be of lower quality.  
--Journal for Research in Music Education, June 2007; Dr. Christopher Johnson, Jenny Memmott

## Results From A Middle Schools Study:

- Students in top-quality instrumental programs scored 19% higher in English than students in schools without a music program, and 32% higher in English than students in a deficient choral program.
- Students in top-quality instrumental programs scored 17% higher in mathematics than children in schools without a music program, and 33% higher in mathematics than students in a deficient choral program.
- Students at schools with excellent music programs had higher English test scores across the country than students in schools with low-quality music programs; this was also true when considering mathematics.
- Students in all regions with lower-quality instrumental programs scored higher in English and mathematics than students who had no music at all.  
--Journal for Research in Music Education, June 2007; Dr. Christopher Johnson, Jenny Memmott

Stanford University research has found for the first time that musical training improves how the brain processes the spoken word, a finding that researchers say could lead to improving the reading ability of children who have dyslexia and other reading problems... 'Especially for children ... who aren't good at rapid auditory processing and are high-risk for becoming poor readers, they may especially benefit from musical training.'  
--From "Playing music can be good for your brain," SF Chronicle, November 17, 2005

Nearly 100% of past winners in the prestigious Siemens Westinghouse Competition in Math, Science and Technology (for high school students) play one or more musical instruments. This led the Siemens Foundation to host a recital at Carnegie Hall in 2004, featuring some of these young people, after which a panel of experts debated the nature of the apparent science/music link.  
--The Midland Chemist (American Chemical Society) Vol. 42, No.1, Feb. 2005

The College Entrance Examination Board found that students involved in school music programs scored 107 points higher on the SAT's than students with no participation.  
--Profiles of SAT and Achievement Test Takers, The College Board, compiled by the Music Educators National Conference (2002)

Teaching through the arts motivates children and increases their aptitude for learning.  
--Eric Jensen, Arts With the Brain in Mind, 2001

Music enhances the process of learning. The systems they nourish, which include our integrated sensory, attention, cognitive, emotional and motor capacities, are shown to be the driving forces behind all other learning.

--Konrad, R.R., Empathy, Arts and Social Studies, 2000

Students who can perform complex rhythms can also make faster and more precise corrections in many academic and physical situations, according to the Center for Timing, Coordination, and Motor Skills - Rhythm seen as key to music's evolutionary role in human intellectual development.

--Center for Timing, Coordination, and Motor Skills, 2000.

Students who were exposed to music-based lessons scored a full 100% higher on fractions tests than those who learned in the conventional manner.

--Neurological Research, March 15, 1999

U.S. Department of Education data show that students who report consistently high levels of involvement in instrumental music during the middle- and high-school years show "significantly higher levels of mathematics proficiency by grade 12."

--James Catterall, Richard Chappelle, and John Iwanaga, "Involvement in the Arts and Human Development," 1999

Children who have received music instruction scored higher marks on tests of their spatial and arithmetic skills.

--Rauscher, F.H., Shaw, G.L., Levine, L.J., Wright, E.L., Dennis, W.R., and Newcomb, R., Music Training Causes Long-term Enhancement of Preschool Children's Spatial Temporal Reasoning, 1997

Children given piano lessons significantly improved in their spatial-temporal IQ scores (important for some types of mathematical reasoning) compared to children who received computer lessons, casual singing or no lessons.

--Rauscher, F.H., et al., Music training causes long-term enhancement of preschool children's spatial temporal reasoning, 1997

Music training helps under-achievers. Students lagging behind in scholastic performance caught up to their fellow students in reading and surpassed their classmates in math by 22% when given music instruction over seven months.

--Nature, May 23, 1996

Music majors are the most likely group of college grads to be admitted to medical school.

--Lewis Thomas, Case for Music in the Schools, Phi Delta Kappa, 1994

A study of 7,500 university students revealed that music majors scored the highest reading scores among all majors including English, biology, chemistry and math.

--The Case for Music in the Schools, Phi Delta Kappa, 1994

U.S. Department of Education data on more than 25,000 secondary school students found that students who report consistent high levels of involvement in instrumental music over the middle and high school years show "significantly higher levels of mathematics proficiency by grade 12."

--U.S. Department of Education NELL88 Database

High school music students have been shown to hold higher grade point averages (GPA) than non-musicians in the same school.

--National Educational Longitudinal Study of 1988

The schools that produced the highest academic achievement in the United States today are spending 20% to 30% of the day on the arts, with special emphasis on music.

--International Association for the Evaluation of Educational Achievement (IAEEA) Test, 1988

The world's top academic countries place a high value on music education. Hungary, Netherlands and Japan have required music training at the elementary and middle school levels, both instrumental and vocal, for several decades.

--1988 International Association for the Evaluation of Educational Achievement (IAEEA) Test

