

### Some general statistics and facts:

- Students of the arts continue to outperform their non-arts peers on the SAT, according to reports by the College Entrance Examination Board. In 2006, SAT takers with coursework in music performance scored 57 points higher on the verbal portion of the test and 43 points higher on the math portion (100 points combined) than students with no coursework or experience in music performance. — *The College Board, Profile of College-Bound Seniors National Report for 2006*
- The arts provide young people with authentic learning experiences that engage their minds, hearts, and bodies. Engagement in the arts nurtures the development of cognitive, social, and personal competencies.
- While learning in other disciplines may often focus on development of a single skill or talent, the arts regularly engage multiple skills and abilities. Music requires the integration of eye-hand coordination, rhythm, tonality, symbol recognition and interpretation, attention span, and other factors that represent synthetic aspects of human intelligence. In addition, critical thinking, problem-solving, and learning how to work cooperatively toward shared goals are all skills which are reinforced through music education.
- Music is one of the seven intelligences identified in the brain and the only one that utilizes all seven intelligences simultaneously. Thus, students who participate in music courses exercise more of their brain than in any other course they take in school.
- Band reinforces the skills of cooperation which are among the qualities now most highly valued in business and industry, especially in high-tech contexts. Members are required to shift from an I/Me focus to a We/Us focus. Instead of the logic being, “what’s in it for me,” it becomes, “what’s in it for us?” Band is a group effort which focuses on group goals and the completion of those goals in each and every rehearsal and performance.

The benefits conveyed by music education can be grouped into four categories:

- Success in society
- Success in school
- Success in developing intelligence
- Success in life

### Benefit One: Success in Society

- The U.S. Department of Education lists the arts as subjects that college-bound middle and junior high school students should take, stating "Many colleges view participation in the arts and music as a valuable experience that broadens students' understanding and appreciation of the world around them. It is also well known and widely recognized that the arts contribute significantly to children's intellectual development." In addition, one year of Visual and Performing Arts is recommended for college-bound high school students. — *Getting Ready for College Early: A Handbook for Parents of Students in the Middle and Junior High School Years, U.S. Department of Education*
- The College Board identifies the arts as one of the six basic academic subject areas students should study in order to succeed in college. — *Academic Preparation for College: What Students Need to Know and Be Able to Do, The College Board*
- The very best engineers and technical designers in the Silicon Valley industry are, nearly without exception, practicing musicians. — *Grant Venerable, "The Paradox of the Silicon Savior"*

- In an analysis of U.S. Department of Education data on more than 25,000 secondary school students (NELS: National Education Longitudinal Survey), researchers 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.” This observation holds regardless of students’ socio-economic status, and differences in those who are involved with instrumental music vs. those who are not is more significant over time. — *Catterall, James S., Richard Chappleau, and John Iwanaga. “Involvement in the Arts and Human Development: General Involvement and Intensive Involvement in Music and Theater Arts.” Los Angeles, CA: The Imagination Project at UCLA Graduate School of Education and Information Studies*
- Students with coursework/experience in music performance and music appreciation scored higher on the SAT: students in music performance scored 57 points higher on the verbal and 41 points higher on the math, and students in music appreciation scored 63 points higher on verbal and 44 points higher on the math, than did students with no arts participation. — *College-Bound Seniors National Report: Profile of SAT Program Test Takers. Princeton, NJ: The College Entrance Examination Board, 2001*
- Data from the National Education Longitudinal Study showed that music participants received more academic honors and awards than non-music students, and that the percentage of music participants receiving As, As/Bs, and Bs was higher than the percentage of non-participants receiving those grades. — *NELS: First Follow-up, National Center for Education Statistics, Washington DC*
- Physician and biologist Lewis Thomas studied the undergraduate majors of medical school applicants. He found that 66% of music majors who applied to medical school were admitted, the highest percentage of any group. 44% of biochemistry majors were admitted. — *As reported in “The Case for Music in the Schools,” Phi Delta Kappan*

### **Benefit three: Success in Developing Intelligence**

- “The musician is constantly adjusting decisions on tempo, tone, style, rhythm, phrasing, and feeling--training the brain to become incredibly good at organizing and conducting numerous activities at once. Dedicated practice of this orchestration can have a great payoff for lifelong attentional skills, intelligence, and an ability for self-knowledge and expression.” — *Ratey John J., MD. A User’s Guide to the Brain. New York: Pantheon Books, 2001*
- A research team exploring the link between music and intelligence reported that music training is far superior to computer instruction in dramatically enhancing children's abstract reasoning skills, the skills necessary for learning math and science. — *Shaw, Rauscher, Levine, Wright, Dennis and Newcomb, “Music training causes long-term enhancement of preschool children's spatial-temporal reasoning,” Neurological Research, Vol. 19*
- Researchers at the University of Montreal used various brain imaging techniques to investigate brain activity during musical tasks and found that sight-reading musical scores and playing music both activate regions in all four of the cortex's lobes; and that parts of the cerebellum are also activated during those tasks. — *Sergent, J., Zuck, E., Tenial, S., and MacDonall, B.*
- Researchers in Leipzig found that brain scans of musicians showed larger planum temporale (a brain region related to some reading skills) than those of non-musicians. They also found that the musicians had a thicker corpus callosum (the bundle of nerve fibers that connects the two halves of the brain) than those of non-musicians, especially for those who had begun their training before the age of seven. — *Schlaug, G., Jancke, L., Huang, Y., and Steinmetz, H. Proceedings of the 3d international conference for music perception and cognition (pp.*

#### **Benefit four: Success in Life**

- “The nation’s top business executives agree that arts education programs can help repair weaknesses in American education and better prepare workers for the 21<sup>st</sup> century.”— *“The Changing Workplace is Changing Our View of Education.” Business Week*
- At perhaps no other time have music and arts education been more important. Apart from their obvious benefits, music and the other arts produce critical thinkers, people who are decision makers. In the information age, our company needs people with these critical thinking skills. — *Susan Driggers, Bell South Corporation*
- “Music education opens doors that help children pass from school into the world around them — a world of work, culture, intellectual activity, and human involvement. The future of our nation depends on providing our children with a complete education that includes music.” — *Gerald Ford, former President, United States of America*
- “During the Gulf War, the few opportunities I had for relaxation I always listened to music, and it brought to me great peace of mind. I have shared my love of music with people throughout this world, while listening to the drums and special instruments of the Far East, Middle East, Africa, the Caribbean, and the Far North — and all of this started with the music appreciation course that I was taught in a third-grade elementary class in Princeton, New Jersey. What a tragedy it would be if we lived in a world where music was not taught to children.” — *H. Norman Schwarzkopf, General, U.S. Army, retired*

*For additional information, see MENC—The National Association for Music Education "Benefits of Music Education" Brochure*