



*Essential*  
**Advocacy Resources**  
For Music



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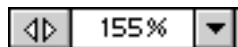


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## *Top Ten for 2000*

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## Music Advocacy's Top Ten for Directors

1. In a 1995 study in Hamilton, Ohio, string students who participated in pullout lessons averaged higher scores than the non-pullout students in all areas of the Ohio Proficiency Test. Sixty-eight (68) percent of the string students achieved satisfactory ratings on all sections of the test, compared to fifty-eight (58) percent of the non-pullout students.

- Michael D. Wallick, "A Comparison Study of the Ohio Proficiency Test Results Between Fourth-Grade String Pullout Students and Those of Matched Ability," *Journal of Research in Music Education*, 1998.

2. According to a 2000 survey, eighty-one (81) percent of people responding believe that participating in school music corresponds with better grades and test scores. This is an increase of fourteen (14) percent over the 1997 results for the same question.

- *Attitudes*, NAMM (International Music Products Association), 2000.

3. More music teachers are role models for minority students than teachers of any other subject. Thirty-six (36) percent of surveyed minority students identified music teachers as their role models, compared to twenty-eight (28) percent for English teachers, eleven (11) percent for elementary teachers, and seven (7) percent for physical education teachers.

- "Music teachers as role models for African-American students," *Journal of Research in Music Education*, 1993.

4. Only thirty-one (31) percent of teenagers and adults in a 2000 survey who do not play an instrument feel they are too old to start learning.

- *Americans Love Making Music – And Value Music Education More Highly Than Ever*, American Music Conference, 2000.

5. Researchers at the University of California and the Niigata Brain Research Institute in Japan have found an area of the brain that is activated only when reading musical scores.

- "Musical Brain – Special Brain Area Found for Reading Music Scores," *NeuroReport*, 1998.

## Music Advocacy's Top Ten for Directors

6. In the 1998 federal study *Gaining the Arts Advantage*, music teachers in many of the strongest arts programs nationwide are encouraged by their schools to perform in their communities and to improve their own performing skills.

- *Gaining the Arts Advantage*, The President's Council on the Arts and Humanities, 1998.

7. Ninety-two (92) percent of people who play an instrument say they were glad they learned to do so, according to a 2000 Gallup Poll.

- *Gallup Poll Shows Strong Support for Putting Music in Every School's Curriculum*, Giles Communications, 2000.

8. In academic situations, students in music programs are less likely to draw unfounded conclusions.

- *Champions of Change*, Federal study, 1999.

9. The scores of elementary instrumental music students on standardized math tests increased with each year they participated in the instrumental program.

- "Music Training Helps Underachievers," *Nature*, May 26, 1996.

10. Nine out of ten adults and teenagers who play instruments agree that music making brings the family closer together.

- *Music Making and Our Schools*, American Music Conference, 2000.

# Music Advocacy's Top Ten for Parents

1. In a 2000 survey, 73 percent of respondents agree that teens who play an instrument are less likely to have discipline problems.

- *Americans Love Making Music – And Value Music Education More Highly Than Ever*, American Music Conference, 2000.

2. 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.

3. A ten-year study indicates that students who study music achieve higher test scores, regardless of socioeconomic background.

- Dr. James Catterall, UCLA.

4. A 1997 study of elementary students in an arts-based program concluded that students' math test scores rose as their time in arts education classes increased.

- "Arts Exposure and Class Performance," *Phi Delta Kappan*, October, 1998.

5. First-grade students who had daily music instruction scored higher on creativity tests than a control group without music instruction.

- K.L. Wolff, *The Effects of General Music Education on the Academic Achievement, Perceptual-Motor Development, Creative Thinking, and School Attendance of First-Grade Children*, 1992.



## Music Advocacy's Top Ten for Parents

6. In a Scottish study, one group of elementary students received musical training, while another other group received an equal amount of discussion skills training. After six (6) months, the students in the music group achieved a significant increase in reading test scores, while the reading test scores of the discussion skills group did not change.

- Sheila Douglas and Peter Willatts, *Journal of Research in Reading*, 1994.

7. According to a 1991 study, students in schools with arts-focused curriculums reported significantly more positive perceptions about their academic abilities than students in a comparison group.

- Pamela Aschbacher and Joan Herman, *The Humanitas Program Evaluation*, 1991.

8. Students who are rhythmically skilled also tend to better plan, sequence, and coordinate actions in their daily lives.

- "Cassily Column," *TCAMS Professional Resource Center*, 2000.

9. In a 1999 Columbia University study, students in the arts are found to be more cooperative with teachers and peers, more self-confident, and better able to express their ideas. These benefits exist across socioeconomic levels.

- The Arts Education Partnership, 1999.

10. College admissions officers continue to cite participation in music as an important factor in making admissions decisions. They claim that music participation demonstrates time management, creativity, expression, and open-mindedness.

- Carl Hartman, "Arts May Improve Students' Grades," *The Associated Press*, October, 1999.

# Music Advocacy's Top Ten for Students

1. A 2000 Georgia Tech study indicates that a student who participates in at least one college elective music course is 4.5 times more likely to stay in college than the general student population.

- Dr. Denise C. Gardner, *Effects of Music Courses on Retention*, Georgia Tech, 2000.

2. On the 1999 SAT, music students continued to outperform their non-arts peers, scoring 61 points higher on the verbal portion and 42 points higher on the math portion of the exam.

- Steven M. Demorest and Steven J. Morrison, "Does Music Make You Smarter?," *Music Educators Journal*, September, 2000.

3. Students who participate in All-State ensembles consistently score over 200 points higher on the SAT than non-music students. This figure indicates that students can pursue excellence in music while also excelling academically.

- Texas Music Educators Association, 1988-1996.

4. Students with good rhythmic performance ability can more easily detect and differentiate between patterns in math, music, science, and the visual arts.

- "Rhythm seen as key to man's evolutionary development," TCAMS Professional Resource Center, 2000.

5. Students in arts programs are more likely to try new things, and they can better express their own ideas to friends, teachers, and parents.

- *Champions of Change*, the President's Council on the Arts and Humanities, 1999.

## Music Advocacy's Top Ten for Students

6. College students majoring in music achieve scores higher than students of all other majors on college reading exams.

- Carl Hartman, "Arts May Improve Students' Grades," *The Associated Press*, October, 1999.

7. Music students demonstrate less test anxiety and performance anxiety than students who do not study music.

- "College-Age Musicians Emotionally Healthier than Non-Musician Counterparts," *Houston Chronicle*, 1998.

8. The average scores achieved by music students on the 1999 SAT increased for every year of musical study. This same trend was found in SAT scores of previous years.

- Steven M. Demorest and Steven J. Morrison, "Does Music Make You Smarter?," *Music Educators Journal*, September, 2000.

9. A majority of the engineers and technical designers in Silicon Valley are also practicing musicians.

- *The Case for Sequential Music Education in the Core Curriculum of the Public Schools*, Center for the Arts in the Basic Curriculum, 1997.

10. Nine out of ten people with instrumental music experience are glad that they have learned to play an instrument.

- "Music Ed Survey," *Giles Communications*, 2000.

## Music Advocacy's Top Ten for Administrators

1. A group of second grade students in inner-city Los Angeles received piano training twice a week, and they used specialized computer software that related the piano lessons to math concepts. On standardized math tests, fifty (50) percent of the second graders scored as well as fifth grade students in affluent Orange County, California. The scores of the entire second grade group were equal to the scores of fourth grade students in Orange County.

- "Music On the Mind," *Newsweek*, July 24, 2000

2. In a 2000 Gallup Poll, seventy-five (75) percent of respondents believe learning a musical instrument helps students do better in other subjects, such as math and science.

- *Gallup Poll Shows Strong Support for Putting Music in Every School's Curriculum*, Giles Communications, 2000.

3. Second and third grade students who were taught fractions through musical rhythms scored one hundred (100) percent higher on fractions tests than those who learned in the conventional manner.

- "Rhythm Students Learn Fractions More Easily," *Neurological Research*, March 15, 1999

4. Students involved in arts programs had significantly higher class attendance rates than a comparison group.

- Pamela Aschbacher and Joan Herman, *The Humanitas Program Evaluation*, 1991.

5. Classroom teachers in Rhode Island noted improved behavior and attitudes among a test group of students given intensive arts training.

- "Music Training Helps Underachievers," *Nature*, May 26, 1996

## Music Advocacy's Top Ten for Administrators

6. More than nine out of ten people believe that schools should offer musical instruction as part of their regular curriculum.

- *Americans Love Making Music – And Value Music Education More Highly Than Ever*, American Music Conference, 2000.

7. Teachers in schools with strong arts programs report greater professional interest, motivation, self-development, and increased innovation in the classroom.

- *Champions of Change* federal study, 1999.

8. States should mandate music education for all students, according to seventy-eight (78) percent of respondents in a 2000 survey.

- *Attitudes*, NAMM (International Music Products Association), 2000.

9. Ninth grade students in a Chicago arts program achieved reading scores that were a full grade level higher than students not in the program. All other variables, including race, gender, and socioeconomic status, were equal in this study.

- *CAPE Study*, President's Council on the Arts and Humanities, 2000.

10. When faced with a problem to solve, students in music and the arts produce more possible solutions, and their solutions are more creative, according to a nationwide study.

- N. M. Weinberger, "Arts Education Enhances 'Real Life' Personal Skills," *MuSICA Research Notes*, Spring 2000.

# Music Advocacy's Top Ten Advocacy Quotes

1. "During the Gulf War, the few opportunities I had for relaxation I always listened to music, and it brought 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."

- General H. Norman Schwarzkopf — United States Army

2. "Music is exciting. It is thrilling to be sitting in a group of musicians playing (more or less) the same piece of music. You are part of a great, powerful, vibrant entity. And nothing beats the feeling you get when you've practiced a difficult section over and over and finally get it right. (yes, even on the wood block.) Music is important. It says things you heart can't say any other way, and in a language everyone speaks. Music crosses borders, turns smiles into frowns, and vice versa. These observations are shared with a hope: that, when schools cut back on music classes, they really think about what they're doing - and don't take music for granted."

- Dan Rather — CBS News

3. "In every successful business...there is one budget line that never gets cut. It's called 'Product Development' – and it's the key to any company's future growth. Music education is critical to the product development of this nation's most important resource – our children."

- John Sykes — President, VH1

4. "The things I learned from my experience in music in school are discipline, perseverance, dependability, composure, courage and pride in results. . . Not a bad preparation for the workforce!"

- Gregory Anrig – President, Educational Testing Service

5. "Music is an essential part of everything we do. Like puppetry, music has an abstract quality which speaks to a worldwide audience in a wonderful way that nourishes the soul."

- Jim Henson – television producer and puppeteer

## Music Advocacy's Top Ten Advocacy Quotes

6. "Should we not be putting all our emphasis on reading, writing and math? The 'back-to-basics curricula,' while it has merit, ignores the most urgent void in our present system – absence of self-discipline. The arts, inspiring – indeed requiring – self-discipline, may be more 'basic' to our nation survival than traditional credit courses. Presently, we are spending 29 times more on science than on the arts, and the result so far is worldwide intellectual embarrassment."

- Paul Harvey – syndicated radio show host

7. "It's [music education] terribly important, extremely important -- because when you are a child, you are in a receptive age ... In high schools, public schools -- that's where they must have the best influence, the first influence, which will go through their whole life."

- Eugene Ormandy – conductor of The Philadelphia Orchestra

8. "It is our job, as parents, educators, and friends, to see that our young people have the opportunity to attain the thorough education that will prepare them for the future. Much of that education takes place in the classroom. We must encourage our youngsters in such pursuits as music education. In addition to learning the valuable lesson that it takes hard work to achieve success, no matter what the arena, music education can provide students with a strong sense of determination, improved communication skills, and a host of other qualities essential for successful living."

- Edward H. Rensi – President and Chief Operation Officer, U.S.A. McDonald's Corporation

9. "A grounding in the arts will help our children to see; to bring a uniquely human perspective to science and technology. In short, it will help them as they grow smarter to also grow wiser."

- Robert E. Allen – Chairman and Chief Executive Officer, AT&T Corporation

10. "Some people think music education is a privilege, but I think it's essential to being human."

- Jewel – singer, songwriter, and instrumentalist

# Music Advocacy's Top Ten for Everyone

1. Ninety-five (95) percent of people responding to a 2000 Gallup Poll believe that music is part of a well-rounded education.

- *Gallup Poll Shows Strong Support for Putting Music in Every School's Curriculum*, Giles Communications, 2000.

2. Practicing musicians demonstrate 25 percent more brain activity than non-musicians when listening to musical sounds.

- *Exposure to Music Is Instrumental to the Brain*, University of Muenster.

3. In a 1998 study, retirees who participated in group keyboard lessons reported decreased anxiety, decreased depression, and decreased loneliness when compared to a control group.

- *Scientific Study Indicates That Making Music Makes the Elderly Healthier*, American Music Conference, 1998.

4. People who participate in the arts live longer than others, according to a Swedish study.

- *British Medical Journal*, 1996.

5. At-risk children participating in an arts program that includes music show significant increases in self-concept, as measured by the Piers-Harris Children's Self-Concept Scale.

- *Project ARISE: Meeting the needs of disadvantaged students through the arts*, Auburn University, 1992.



# Music Advocacy's Top Ten for Everyone

6. Martin Gardiner of Brown University tracked the criminal records of Rhode Island residents from birth through age 30, and he concluded the more a resident was involved in music, the lower the person's arrest record.

- "Music Linked to Reduced Criminality," *MuSICA Research Notes*, Winter 2000.

7. The part of the brain responsible for planning, foresight, and coordination is substantially larger for instrumental musicians than for the general public.

- "Music On the Mind," *Newsweek*, July 24, 2000.

8. Students who participate in school band or orchestra have the lowest levels of current and lifelong use of alcohol, tobacco, and illicit drugs among any group in our society.

- *H. Con. Res 266*, United States Senate, June 13, 2000.

9. In a French study, the use of melodies was shown to stimulate speech recovery in stroke victims.

- *Neurology*, December, 1996.

10. Taking a music elective course is a better indicator that a student will stay in college than high SAT scores or high GPA.

- Dr. Denise C. Gardner, *Effect of Music Courses On Retention*, Georgia Tech, 2000.

## *Top Ten for 1999*

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# Music Advocacy's Top Ten for Directors

1. The 1997 Gallup Survey on Americans' attitudes toward music revealed that eighty-six percent (86%) of adults agree that all schools should offer instrumental music as part of the regular curriculum. The same percentage endorses community financial support for school music education.

2. Students with coursework/experience in music performance scored 52 points higher on the verbal portion of the SAT and 36 points higher on the math portion than students with no coursework or experience in the arts.

- *Profiles of SAT and Achievement Test Takers*, The College Board, 1998.

3. A 1985 study by Edward Kvet showed that student absence from class to study a musical instrument does not result in lower academic achievement. He found no difference in academic achievement between sixth grade students who were excused from class for instrumental study and those who were not, matching variables of sex, race, IQ, cumulative achievement, school attended, and classroom teacher.

- Cutietta, Hamann, and Walker, *Spin-Ofs: The Extra-Musical Advantages of a Musical Education*, United Musical Instruments U.S.A., Inc., 1995.

4. Researchers at the University of California - Irvine report that second-grade students given four months of piano keyboard training, as well as time playing with newly designed computer software, scored 27% higher on proportional math and fractions tests than other children.

- Shaw, Graziano, and Peterson, *Neurological Research*, March 15, 1999

5. The nation's top business executives agree that arts education programs can help repair weaknesses in American education and better prepare workers for the 21st Century.

- "The Changing Workplace is Changing Our View of Education," *Business Week*, October 1996.

## Music Advocacy's Top Ten for Directors

6. A study of 811 high school students indicated that the percentage of minority students with a music teacher role model was significantly higher than for teachers of any other discipline. Thirty-six percent (36%) of these students identified music teachers as their role model, compared to 28% English teachers, 11% elementary teachers, and 7% physical education/sports teachers.

- D.L. Hamann and L.M. Walker, "Music Teachers as Role Models for African-American Students," *Journal of Research in Music Education*, 1993.

7. Longer arts study means higher SAT scores. Students participating in arts courses for two years averaged 29 points higher on the verbal portion and 18 points higher on the math portion of the SAT than students with no coursework or experience in the arts. Students with four or more years in the arts scored 57 points higher and 19 points higher on the verbal and math portions, respectively.

- *Profiles of SAT and Achievement Test Takers*, The College Board, 1998.

8. Admissions officers at 70 percent of the nation's major universities have stated that high school credit and achievement in the arts are significant considerations for admission to their institutions.

9. In a study of approximately 7,500 students at a medium-size university between 1983 and 1988, music and music education majors had the highest reading scores of any students on campus, including those majoring in English, biology, chemistry, and mathematics.

Peter H. Wood, "The Comparative Academic Abilities of Students in Education and in Other Areas of a Multi-focus University," *ERIC Document Number ED327480*.

10. Physician and biologist Lewis Thomas studied the undergraduate majors of medical school applicants. He found that sixty-six percent (66%) of music majors who applied to medical school were admitted, the highest percentage of any group. Forty-four percent (44%) of bio-chemistry majors were admitted.

"The Case for Music in the Schools," *Phi Delta Kappan*, 1994

# Music Advocacy's Top Ten for Parents

1. Music — specifically song — is one of the best training grounds for babies learning to recognize the tones that add up to spoken language.

- Sandra Trehub, University of Toronto, 1997.

2. Researchers at the University of Muenster in Germany have discovered that music lessons in childhood actually enlarge parts of the brain. An area used to analyze the pitch of a musical note is enlarged 25% in musicians compared to people who have never played an instrument. The earlier the musicians were when they started musical training, the bigger this area of the brain appears to be.

- Pantev et al., *Nature*, April 23, 1998.

3. A research team exploring the link between music and intelligence reports that music training - specifically piano instruction - is far superior to computer instruction in dramatically enhancing children's abstract reasoning skills necessary for learning math and science.

- Dr. Frances Rauscher and Dr. Gordon Shaw, *Neurological Research*, University of California at Irvine February, 1997.

4. Studying music strengthens students' academic performance. Studies have indicated that sequential, skill-building instruction in art and music integrated with the rest of the curriculum can greatly improve children's performance in reading and math.

- Martin Gardiner, Alan Fox, Faith Knowles, and Donna Jeffrey, "Learning Improved by Arts Training," *Nature*, May 23, 1996.

5. There is a very high correlation between positive self-perception, high cognitive competence scores, healthy self-esteem, total interest, school involvement, and the study of music.

- O.F. Lillemyr, "Achievement Motivation as a Factor in Self-Perception," Norwegian Research Council for Science and the Humanities.

## Music Advocacy's Top Ten for Parents

6. On the basis of observations and experiments with newborns, neuroscientists now know that infants are born with neural mechanisms devoted exclusively to music. Studies show that early and ongoing musical training helps organize and develop children's brains.

- Susan Black, "The Musical Mind," *The American School Board Journal*, January, 1997.

7. Research shows when a child listens to classical music the right hemisphere of the brain is activated, but when a child studies a musical instrument both left and right hemispheres of the brain "light up." Significantly, the areas that become activated are the same areas that are involved in analytical and mathematical thinking.

- Dee Dickinson, "Music and the Mind," *New Horizons for Learning*, 1993.

8. Courses in music, as well as in art and drama, positively influenced the decisions of high school students not to drop out of school.

- N.H. Barry, J.A. Taylor, and K. Walls, "The Role of the Fine and Performing Arts in High School Dropout Prevention

9. The U.S. Department of Education recommends that middle/junior high school students take courses in the arts, 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 well known and widely recognized that the arts contribute significantly to children's intellectual development."

- "Getting Ready for College Early: A Handbook for Parents of Students in the Middle and Junior High School Years," U.S. Department of Education, 1997.

10. College admissions officers give special consideration to students who have mastered the arts in depth by taking arts courses in high school.

- Thomas C. Duffy, "Can Colleges Help School Fine Arts Programs?" *Connecticut Music Educators Association News*.

# Music Advocacy's Top Ten for Administrators

1. Surveys show that a majority of parents believes the arts are as important as reading, writing, math, science, history, or geography. Most parents want their children to have more experience with the arts than they had when they were young.

- Louis Harris, *Americans and the Arts VI*, 1992.

2. Students in two Rhode Island elementary schools who were given an enriched, sequential, skill-building music program showed marked improvement in reading and math skills. Students in the music program who had started out behind the control group achieved statistical equality in reading and pulled ahead in math.

Gardiner, Fox, Jeffrey, and Knowles, *Nature*, May 23, 1996.

3. Over nine in ten adults (93%) surveyed agree that music is part of a well-rounded education.

- *Americans' Attitudes Toward Music*, The Gallup Organization, 1997.

4. The Kettle Moraine school district in Wales, Wisconsin is requiring piano lessons for all K-5 pupils after seeing encouraging results from a district pilot program. District officials based their pilot program on research findings that show music training - specifically piano instruction - is far superior to computer instruction in enhancing children's abstract reasoning skills.

- Karen Abercrombie, *Education Week*, October 14, 1998.

5. The arts are recognized as a core subject in the *Goals 2000: Educate America Act* approved by both houses of Congress in 1994.

- National Education Goals Panel.

## Music Advocacy's Top Ten for Administrators

6. A two-year Swiss study involving 1,200 children in 50 schools showed that students involved in the music program were better at languages, learned to read more easily, showed an improved social climate, demonstrated more enjoyment in school, and had a lower stress level than non-music students.

- E.W. Weber, M. Spychiger, and J.L. Patry, 1993.

7. Research shows when the arts are included in a student's curriculum, reading, writing, and math scores improve.

- J. Buchen Milley, A. Oderlund, and J. Mortarotti, "The Arts: An Essential Ingredient in Education," *The California Council of the Fine Arts Deans*.

8. 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 Should Know and Be Able to Do*, The College Board.

9. When researchers analyzed the NELS:88 database of the U.S. Department of Education, which tracked 25,000 students over a ten-year period, they discovered that students who were involved in music scored higher on standardized tests and reading tests than students not taking music courses. This finding was consistent for students of all socioeconomic backgrounds.

- Dr. James Catterall, UCLA, 1997.

10. School districts with strong arts education programs report that superintendents and school principals who collectively support and regularly articulate a vision for arts education are critically important to the successful implementation and stability of district arts education policies.

*Gaining the Arts Advantage*, The President's Committee on the Arts and the Humanities, 1999.



# Music Advocacy's Top Ten Advocacy Quotes

1. "Music is about communication, creativity, and cooperation, and by studying music in school, students have the opportunity to build on these skills, enrich their lives, and experience the world from a new perspective."

- Bill Clinton, President of the United States of America

2. "Perhaps we've all misunderstood the reason we learn music, and all the arts in the first place. It is not only so a student can learn the clarinet, or another student can take an acting lesson. It is that for hundreds of years it has been known that teaching the arts, along with history and math and biology, helps create the well-rounded mind that western civilization, and America, have been grounded on."

- Richard Dreyfuss, actor

3. "Music is a more potent instrument than any other for education, because rhythm and harmony find their way into the inward places of the soul."

- Plato

4. "Our society is committing cultural genocide. When the economy tightens and school budgets shrink, programs in music and the other arts are most often the first to be cut back or even totally eliminated from the curriculum. This deprives children of a unique opportunity to develop their creativity, learn self-discipline and teamwork, and increase their sense of self-worth. It strikes me as being supremely ironic that today, we still have to try to make the case that music is indispensable if the term 'educated' is to mean anything."

- Michael Greene, President of the National Academy of Recording Arts & Sciences

5. "I believe arts education in music, theater, dance and the visual arts is one of the most creative ways we have to find the gold that is buried just beneath the surface. They [children] have an enthusiasm for life, a spark of creativity, and vivid imaginations that need training ...training that prepares them to become confident young men and women."

- Richard W. Riley, U.S. Secretary of Education

## Music Advocacy's Top Ten Advocacy Quotes

6. "While most of us will never sing like Aretha Franklin or Celine Dion, an education in the arts can help all of us reach our individual dreams. Research now shows that music education not only lifts our children's hearts, but also dramatically increases their abstract reasoning, spatial skills, and their scores on math and verbal exams. At a time when too many arts education programs are the first to be cut and the last to be added, all of us must send a clear message. When it comes to igniting our children's ability to learn and imagine, the arts must be just as central to our children's education as the three R's."

- Hillary Rodham Clinton, former First Lady and Senator of the United States

7. "The arts are an essential element of education, just like reading, writing, and arithmetic ...music, dance, painting, and theater are all keys that unlock profound human understanding and accomplishment."

- William Bennett, former U.S. Secretary of Education

8. "I have a premonition that one day we will soon wake up...to the realization that stripping instrumental music from our elementary schools was a true blunder of twentieth century American education."

- James S. Catterall, professor of education, UCLA

9. "Whoever has skill in music is of good temperament and fitted for all things. We must teach music in schools."

- Martin Luther

10. "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 of the United States

# Music Advocacy's Top Ten for Everyone

1. The Pittsburgh, Pennsylvania School District analyzed its 1997 dropout rate in terms of students' musical experience. Students with no ensemble performance experience had a dropout rate of 7.4 percent. Students with one to two years of ensemble experience had a dropout rate of 1 percent, and those with three or more years of performance experience had a dropout rate of 0.0 percent.

Eleanor Chute, "Music and Art Lessons Do More Than Complement Three R's," *Pittsburgh Post-Gazette*, April 13, 1998.

2. Two research projects have found that music training - specifically piano instruction - can dramatically enhance children's spatial-temporal reasoning skills, the skills crucial for greater success in subjects like math and science.

Shaw, Grazianow, and Peterson, *Neurological Research*, March 1999.

3. School leaders affirm that the single most critical factor in sustaining arts education in their schools is the active involvement of influential segments of the community. These community members help shape and implement the policies and programs of the district.

- *Gaining the Arts Advantage*, The President's Council on the Arts and Humanities, 1999.

4. Students with band and orchestra experience attend college at a rate twice the national average.

- *Bands Across the USA*.

5. Music students out-perform non-music on achievement tests in reading and math. Skills such as reading, anticipating, memory, listening, forecasting, recall, and concentration are developed in musical performance, and these skills are valuable to students in math, reading, and science.

- B. Friedman, "An Evaluation of the Achievement in Reading and Arithmetic of Pupils in Elementary School Instrumental Music Classes," *Dissertation Abstracts International*.

## Music Advocacy's Top Ten for Everyone

6. One in three of today's school-aged children will hold an arts-related job at some time in his or her career.

- Education Commission on the States.

7. The College Board, in a publication about college admissions, states, "preparation in the arts will be valuable to college entrants whatever their intended field of study."

- *Academic Preparation for College: What Students Need To Know and Be Able To Do*, The College Board.

8. Music therapists working with Alzheimer's patients have found that rhythmic interaction or listening to music resulted in decreased agitation, increased focus and concentration, enhanced ability to respond verbally and behaviorally, elimination of demented speech, improved ability to respond to questions, and better social interaction.

- Carol Prickett and Randall Moore, "The Use of Music to Aid Memory of Alzheimer's Patients," *Journal of Music Therapy*, 1991.

9. Medical researchers have reported that subjects lowered both their systolic and diastolic blood pressure as much as five points (mm/Hg) and reduced heart rates by four to five beats per minute following music listening sessions. People with high blood pressure can help keep their blood pressure down by listening to tapes of relaxing low frequency music in the morning and evening.

- Tony Wigram, "The Psychological and Physiological Effects of Low Frequency Sound and Music," *Music Therapy Perspectives*, 1995.

10. A 1997 Gallup Survey on Americans' attitudes toward music revealed that 89% of respondents believe music helps a child's overall development, and 93% believe that music is part of a well-rounded education.

- *Americans' Attitudes Toward Music*, The Gallup Organization, 1997.



## *Articles*

- *Music and School Policy*
- *Music and Learning*
- *Music and Quality of Life*
- *Music Advocacy Strategies*
- *Arts Advocacy Websites*

## Articles: Music and School Policy



*2000 Gallup Poll Indicates Public Support of Music Education is Growing*



*The Arts Come Back to Class*



*Arts are a 'Core Subject' in No Child Left Behind Act*



*Arts Education Brings School Community Success*



*Arts Education For the 21st Century*



*The Arts' Impact on Learning*



*Concurrent Resolution of US Congress Supporting Music Education*



*The Case For Music In The Schools*



*Class Absence For Musical Study*



*Comparing School Music Programs and Science Test Scores Worldwide*



*DOE Database Unveils Drop in Rate of Student Participation in the Arts*



*The History And Future Of Arts Education Policy*



*Keys To Success In The Arts And Student Achievement*



*MENC President Offers Testimony Before Senate HELP Committee*



*Music: A Key To Learning*



*Music: A Vital Part of Education*



*New Survey Of Americans Indicates Broad Support But Little Action On Behalf Of Arts*



*Pull-Out String Lessons Do Not Harm Academic Achievement According to Ohio Study*



*Research, Music and Policy Debates*



*Resolution Affirming Value of Music*



*Schools Fail To Expose Kids To Arts*



*Strategies for Low-Performing Schools and At-Risk Youth*



*United States Representatives Introduce Resolution Affirming the Value of Music Education*



*VH1 President Offers Testimony Before Senate HELP Committee*



*What Do We Want Our Schools To Do?*



*Why Music? The 4 Cs*



*Wisconsin District Requires Piano Lessons For K-5 Students*

## 2000 Gallup Poll Indicates Public Support of Music Education is Growing

CARLSBAD, Calif.—According to a new nationwide survey conducted by the Gallup Organization, more than nine in ten Americans believe music education should be a part of every student's day. In fact, more than three-quarters of the people questioned feel that states should mandate it.

"American Attitudes Toward Music," conducted for NAMM — International Music Products Association, also found that active music making takes place in half the homes in America. Music participation and support for school music education are both significantly stronger than in an identical poll conducted in 1997. Another significant finding is the sharp increase in the number of people who believe music education helps students succeed in other academic areas. "The results of this national survey leave no doubt that Americans feel strongly about music," says NAMM President and CEO Larry Linkin. "It's especially dramatic to see the growing clamor for music education in our schools."

### **Attitudes**

Among more than 1,500 people surveyed, 95 percent stated that they feel music is part of a well-rounded education (up from 90 percent in 1997), 93 percent feel schools should offer musical instruction as part of the regular curriculum (up from 88 percent), and 78 percent (up from 70 percent) feel states should mandate music education for all students.

Among respondents who said they currently play a musical instrument, 92 percent feel that music is a very important part of their lives, 92 percent said that music brings the family together and 92 percent said learning to play an instrument was something they were always glad they'd learned. Even among non-players, only 31 percent said they feel they're too old to start learning. Recent scientific findings about the broad benefits of music education have had an effect on people's attitudes. Eighty-one percent of respondents said they feel participating in school music corresponds with better grades and test scores, up sharply from 69 percent in 1997. Seventy-five percent said they believe learning a musical instrument helps students do better in other subjects such as math and science, and 73 percent said they believe teens who play an instrument are less likely to have discipline problems.

The 1997 study took place just as the new wave of music research was beginning to build. Since then, scientists in a variety of disciplines have published findings that reinforce the value of music education — not only for its own sake, but as a key to intellectual development, physical wellness, and improved academic grades across the curriculum.

For example, researchers at Michigan State University, led by Dr. Frederick Tims, have found that making music improves the health of the elderly. At a Miami Veterans Administration hospital, Tims also found that group music therapy raised the levels of important neural hormones in Alzheimer's disease patients. A study from the University of California at Irvine led by Dr. Gordon Shaw found that elementary school students at the 95<sup>th</sup> Street School in Los Angeles who took piano lessons boosted their math performance. In fact, the same researchers who conducted the 95<sup>th</sup> Street study have also found that the neural firing patterns at the most basic level of brain activity seem to resemble the patterns in music.

### **Participation**

The survey found that 50 percent of households have one person age five or older who currently plays a musical instrument, up from 38 percent in 1997. Forty percent of households have two or more persons who play a musical instrument, up from 34 percent in 1997. In all, 53 percent of households own a musical instrument, up from 43 percent.

Participation in various musical activities is up as well from three years ago: private lessons (from 18 to 21 percent of households that report at least one person participating), school instrumental programs (from 23 to 29 percent) and other types of instrumental music programs (from 7 to 11 percent) are all more popular than before.

### **Survey methodology**

The survey consisted of 1504 telephone interviews with participants aged 12 or older from February 5 through 28, 2000. By gender, respondents were 57 percent female and 43 percent male; 21 percent were students; 62 percent were over age 35, with 29 percent aged 18-34 and 9 percent aged 12-17. College graduates made up 64 percent of the people surveyed. Fifty-five percent of respondents reported a household income of less than \$45,000.

"Across this country, families, voters and school boards are facing tough choices," says Linkin. "For some time, researchers have made the case that music has a place in every person's life. Now, we know the people of America feel the same way. We'll work hard to translate these sentiments into concrete change."

From the American Music Conference



# The Arts Come Back to Class

From the Los Angeles Times, September 9, 2001

By Beverly Beyette

Los Angeles Times Staff Writer

After decades of pummeling by Proposition 13, theater, music and drawing are slowly returning to the schoolroom. But educators face new hurdles, including a lack of qualified teachers.

Gregory Lawrence Jefferson was a fifth-grader at Daniel Webster Elementary in Pasadena when he heard the sound that changed his life. After the Pasadena Symphony played at his school, the kids were invited to try the various instruments. "I was the one who picked up the flute," he says. "It was like a spark."

He talked his parents into buying him one, started band and orchestra classes, and "things just took off from there." Jefferson, now 24 and a renowned classical flutist who has performed worldwide and with singers ranging from Luciano Pavarotti to Diana Ross, says he was lucky to get a taste of the arts when he did: Not long afterward, school programs were radically cut back.

The arts have long struggled to hold their place in schools. But now, after years of being battered by funding crunches and a back-to-basics movement, they are beginning to return to classrooms alongside reading, writing and arithmetic. While some are ready to declare a renaissance in arts education, others are more cautious. They see frustratingly uneven progress. But clearly change is taking place.

\* The State Board of Education in January adopted standards that for the first time spell out what students need to know to develop and demonstrate literacy in dance, music, theater and the visual arts, just as in languages, math, science, history and social science. Though short of a mandate, it is a step toward integrating the arts into the public schools' core curriculum.

\* Admissions requirements at the state's public universities are being amended to require more arts instruction in high school.

\* In February, the state PTA launched "SMARTS: Bring Back the Arts," an awareness and advocacy campaign targeted at legislators, school boards, media and parents with a goal of seeing that every public school student gets quality arts education from pre-kindergarten through grade 12. Last October the 1.8 million-member organization adopted arts education as its top priority.

\* Statewide, 211 school districts have received a total of \$6 million in California Department of Education grants, seed money to help them start implementing effective arts programs.

\* A 10-year Arts Education Plan adopted by the Los Angeles Unified School District in 1999 recognizes the "powerful role" of the arts in education and has as a primary goal that every graduating senior will be proficient in one art form and have an overview of arts throughout history.

\* Last week, the L.A. school board gave final approval to an \$18.6-million budget for arts education, up \$5 million from last year. "We fought for it," school board president Caprice Young said. "It was controversial because the superintendent did not initially include the arts money in his budget. We amended it back in."

Despite signs of a revival, there are significant issues confronting the integration of the arts into curriculum. Some educators worry that the growing focus on learning that can be measured solely by standardized tests presents a threat to subjects in which assessment is more subjective. And, pressed to meet testing goals, schools may well continue to give short shrift to the arts in favor of subjects that produce hard numbers. Other issues range from a shortage of qualified teachers to ongoing financial pressures on schools.

"It's going to be a long haul before we have universal acceptance, but I think we're on the road to arts education for every child," said Don Doyle, arts consultant at the state Department of Education. "We have moved from the doldrums of the '80s and early '90s and now are pressing forward to making arts education an equal partner in the curriculum."

Current developments are in stark contrast to the dark days for the arts in schools, a decline that began after passage in 1978 of Proposition 13, the property tax freeze. The freeze sapped funding to schools and, in the scramble for dollars, the arts were seen as frills. Schools cut programs, sold band instruments and gave pink slips to art and music teachers.

For many schools, arts education turned into a 20-year hit-or-miss proposition, a legacy not easily reversed. But arts organizations, parents groups and educators who have been fighting to bring back the arts feel they have won a crucial victory: a change in attitude about the importance of the arts in their own right and about their ability to foster creativity and shape learning in more subtle ways.

As school board president Young puts it: "If you have a kid who's stood up in front of a crowd and sung, or painted a picture and shared it with classmates, that's a kid who's a courageous learner, someone who's not afraid to dive in, ask probing questions and express opinions."

A national survey conducted in February by Americans for the Arts, a New York [City]-based arts advocacy organization, found that 91% of adults think the arts are vital to a well-rounded education for children, 95% agree that the arts teach creativity and self-expression and 89% think arts education is important enough to be included in the curriculum. In October, the group will launch a national public service campaign to

champion art education and motivate parents to take action.

Among factors seen as influencing thinking about the arts is the emergence of studies finding links between music and, say, math reasoning. The studies and the relentless efforts by arts advocates, who even when the arts lost a formal place in the classroom found a way to get them in, have combined to catch the attention of policy makers.

In endorsing the new state standards, Delaine Eastin, state superintendent of public instruction, said that students must be prepared to fill the increasing number of arts-related jobs in California. The entertainment industry contributes more than \$25 billion to the state's economy.

#### INVESTING MENTALLY—AND FINANCIALLY

This school year, about one-fourth of [Los Angeles Unified School District's] 400 elementary schools will have a prototype arts program--music, dance, theater, visual arts. In middle schools, there are arts specialists in place, but programs vary widely.

Richard Burrows, who joined LAUSD last year in the new position of director of arts education, says having state standards is "a remarkable step forward ... We are at a watershed moment." He sees L.A. schools as beginning "an intensive journey" toward arts education for every child in the 730,000-student district.

The \$5-million increase in the district's arts budget, though still a small part of the overall budget, will enable schools to hire additional arts staff, acquire textbooks and other resource materials and to enhance and expand its development program for professionals.

Other California school districts are experiencing what Ella Steinberg, director of visual and performing arts for San Diego Unified, calls a "bit by bit" comeback after "a big decline."

Jim Thomas, visual and performing arts coordinator for the Orange County Department of Education, says seven of the county's 27 school districts, together serving most of the county's 495,000 students, have a strong commitment to K-12 arts programs and have hired arts coordinators. In other districts, the quality of programming varies, with "concentrations of arts" here and there.

Two schools with intense concentrations are the Los Angeles County High School for the Arts, which opened on the Cal State Los Angeles campus in 1985 and has 500 students and a waiting list, and the Orange County High School for the Arts, founded in 1987 at Los Alamitos High School and which moved last year to a site in Santa Ana. Each is open to students who have demonstrated exceptional talent.

In many districts, in-school programs presented in partnership with arts institutions and community groups have been an important component in keeping arts education alive.

When cutbacks came, L.A.'s Music Center, art museums and theaters brought the arts to hundreds of thousands of children who otherwise would have had no exposure. In Orange County, the Performing Arts Center, museums and theaters stepped in too.

And, even in the leanest years, the arts had a powerful ally in the PTA. Said state PTA president Jan Harp Domene, "We felt very strongly that if we brought arts back to our schools, it would give kids a reason to get up in the morning. Some kids need to have that little hook that gets them excited to get out of bed and go to school."

The PTA cites statistics such as a study by the College Entrance Examination Board showing that students with four years of arts education outperformed peers with no arts education or arts work experience on the SAT--by 59 points on the verbal and 44 points on the math.

A UC Irvine study found that preschoolers who took eight months of keyboard lessons boosted their spatial reasoning scores by 46%. An Auburn University study found significant increases in self-concept among at-risk children participating in an arts program.

The recent Harvard Project Zero of Boston College and Harvard Graduate School of Education, found three areas with a reliable causal link between arts education and achievement in non-arts academics.

They are music and spatial-temporal reasoning; music and spatial reasoning; and classroom drama and verbal skills. The survey looked at almost 12,000 published and unpublished studies and suggests that correlations between excellence in other subjects may just be that high achievers also study the arts.

Further, the study warns, arts education should not be justified "in terms of what the arts can do for mathematics or reading." That, it says, is a "double-edged sword"--the arts could quickly fall out of favor if they do not fulfill that secondary role.

#### SURVEY FINDS A REALITY GAP

Last spring, the first countywide study of the state of arts education in Los Angeles County schools, Arts in Focus, found a reality gap between how people assess the importance of arts education and what is being offered.

Commissioned by Arts for L.A., a coalition of arts leaders advocating public support of the arts, it was based on interviews with officials of 80 of the county's 82 school districts.

Laura Zucker, executive director of L.A. County Arts Commission, one of the study funders, said: "One hundred percent of the people interviewed believe that arts education is important. What that says is that we've won the battle. Everyone's with us now on the importance issue. But there's a gulf between the belief and the implementation."

Other findings: A shortage of qualified arts teachers, with one arts specialist for every 1,200 students countywide; no real incentives to develop sequential systems; and lack of instructional time.

Few of the county's school districts reported that they are implementing the Department of Education's framework and standards. "There's nothing about them that's mandatory, and they do not come with any resources for implementation," Zucker said. "There is not one school among those in the study providing sequential arts education."

The good news: The survey found that the county's five most populous school districts--LAUSD, Pomona, Compton, Montebello and Long Beach--have arts education policies and future plans.

The Arts Commission has just brought on board a director of arts education programs who will work with a counterpart at the County Department of Education to help schools implement state standards.

"It's definitely not hand-wringing time," Zucker said. "The pendulum is swinging back, but it's not going to keep swinging on its own momentum." The pattern has been that when educators who are passionate about the arts leave, the arts leave with them. Zucker wants to see arts education institutionalized "so the next time the pendulum is getting ready to swing back, it doesn't."

The new admissions criteria at the UC and California State University systems may add stability. Now high school students can choose between one year of arts or foreign language classes to meet state graduation requirements.

By 2004, graduates will need at least one year in a single arts discipline to get into the state's universities.

#### FOR EDUCATORS – DOUBLE CHALLENGE

At one time, the arts were a dumping ground for students, said Larry Peeno, deputy executive director of the National Art Education Assn., a visual arts teachers' group based in Reston, Va. The attitude was, "Give us your poor and downtrodden and we will make them artists. I think the arts community in the public schools has learned that that's not a good idea."

He said, "We were drawing on cave walls 9,000 years before we were writing on them. We feel that children who come to school on the first day, regardless of their socioeconomic background, bring with them innate skills that more closely resemble art, music and P.E. than they do reading, writing and arithmetic. But it's ground out of them by third grade. The curriculum drives creativity underground."

Still, Peeno said, 15 years ago, one or two states had a fine-arts requirement for graduation; now 30 do. Asked if there is cause for optimism, Peeno laughed and said,

"Oh, yes. In the arts we deal in illusion."

Gai Jones of El Dorado High in Placentia heads the California Educational Theater Assn., an organization of theater education advocates. "Our big push," she said, is to get theater teachers credentialed. Of course, proper theaters in all schools would be nice too. Right now, she said, it "varies from the multipurpose room to a 1,200-seat auditorium to a room shared with volleyball or wrestling."

The payoff for her, as a teacher, is when everything comes together and "the magic finally works." One magic moment was the school's spring production of "The Diviners," in which there is a drowning scene, an illusion that had to be created without water.

"The kids that designed the lighting and ran the light board and the kids that ran the sound and the actors worked so closely together. Just to see the smile that crosses a theater kid's face when he's accomplished something he didn't think he could do," is tremendous, she said.

Jones remembers too a "wonderful, positive kid" who was a student in the '70s and played the mother abbess in "The Sound of Music." Deborah Voigt is now a Metropolitan Opera soprano, teaching opera to young students.

John Larrieu, executive director of the California Assn. for Music Education, a public school teachers' organization, said there has been a resurgence of music education. "Our biggest problem is that the teachers are not coming out of school. There was a good period of time after Proposition 13 when people didn't major in music education."

The result? "A very serious shortage of music teachers. Our job site is listing 50 or 60 openings that haven't been filled for this year." On the positive side, he said, orchestral programs are making a comeback, and "there's a lot of interest in electronic music, which is a credit course in many schools, and a lot of multicultural focus in California. Mariachi education is moving in some areas."

He is hopeful that the new UC and Cal State admissions standards will boost arts education but knows that when schools have options, "they have a tendency to offer the classes that cost the least money, like drawing. Music classes are notoriously more expensive," and it's cheaper to "offer another class in pottery."

The executive director of the National Assn. for Music Education, John Mahlmann, sees the state of music education as better than a decade ago "but still threatened. We're regaining lost ground. I'm not so sure we're better off than we were 20 years ago."

His organization is a consultant to "Sesame Street," which is planning programming to expose young TV viewers to music. Overall, he describes the status of music in the schools as "precarious. We're always on the verge of being eliminated."

Donna Banning, president of the California Art Education Assn., an organization of

teachers and parents promoting arts in the schools, said arts teachers are a "graying population" and wonders if there will be a cadre of qualified arts teachers in the future. Many artists, who might in another era have earned an education credential, have for years instead found other careers.

"Since Proposition 13, we now have teachers in the elementary schools who have never had art in their own lives. There is no longer a requirement for elementary teachers to take a music or arts education class in our state universities. They don't have the skills. They're afraid to sing and dance and draw."

Banning, who has taught for 31 years at El Modena High School in Orange, would like too to see credentialing of theater and dance teachers. "Right now we have theater as part of language arts. Teachers can get a credential and never have theater arts. And dance is part of P.E. There are lots of 'walk-on' dance teachers" going from school to school.

She speaks of the thrill of seeing students "find that art is where they want to be" and going on to become artists. But she also mentions a special-ed student who came to her ceramics class as a shy ninth-grader and went on to be her teaching assistant, to mentor new students and to win recognition in juried exhibitions and sell her art.

#### SQUEEZING ART BETWEEN TESTS

Although the state has set standards for arts education, the Legislature has not wanted to mandate assessment. "To be perfectly frank, we're really in the beginning stages of determining what would be appropriate to assess," said Doyle of the state Department of Education. To encourage districts to self-assess, the department, in cooperation with 30 districts, has developed a tool kit with guidelines for measuring achievement.

National and state standards notwithstanding, Doyle acknowledged that "if it's not tested, it's not taught. It's not on the radar screen for some people. Those test scores for math and reading, there's big dollars attached" for districts. "There are no such rewards right now for the arts."

Frank Philip of the Washington-based Council of Chief State School Officers, a professional organization of superintendents of education in the 50 states, believes the momentum for arts education has actually "slipped somewhat" since a decade ago.

Specifically, he points to President Bush's proposal, now before Congress, to require states to test all children in grades three through eight in math and reading, and how such legislation might lead to "a de-emphasis of concern for other areas."

Philip sees arts education today as a victim of "benign neglect. There's no conspiracy out there to diminish arts education. It's just that people are frying other fish. I think we're in a holding pattern," with California as "one of the brighter spots."

In Los Angeles, said school board president Young, "one of the advantages we have is

that this is an arts town," one with a large number of families working in the entertainment industry and a strong constituency for art.

Flutist Jefferson, who got his start at Webster Elementary, went on to L.A. High School for the Arts and won honors in the Music Center's Spotlight competition, is among those adamant about interesting children in the arts.

His talent has taken him before audiences large and small. He has played before former President and Barbara Bush, in Japan and China and for kids in inner-city classrooms. "The arts are our culture," he said. "It's so important for kids to be exposed at a young age. If I had not been, who I am now and what I'd be doing would be very, very different, which is sort of frightening."



# **Arts Are a CORE Subject in “No Child Left Behind Act”**

commentary by David Madara of WhyMusicEd

The No Child Left Behind Act was signed into law by President Bush in January, 2002. Near the very end of the legislation the definition of a core subject appears:

## **TITLE IX — GENERAL PROVISIONS**

### **PART A — DEFINITIONS**

#### **SEC. 9101. DEFINITIONS**

Except as otherwise provided, in this Act:

(11) **CORE ACADEMIC SUBJECTS-** The term core academic subjects' means English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography.

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There you have it. The arts are on equal footing with the subjects that have been traditionally considered the “core” subjects. This definition is tucked away in the glossary, and policy makers may not notice it there. It is our responsibility as arts educators and advocates to make it known to the decision-makers at our state and local levels that according to federal law the arts are a CORE subject, eligible for federal funding to boost student achievement and teacher training.

#### **HOW DO WE MAKE THE BEST USE OF THE ABOVE DEFINITION?**

The No Child Left Behind Act requires each state to determine its own standards and assessments for school subjects. States are currently working to implement “challenging academic standards” for content and achievement in math and reading. Science standards must be in place by the 2005-06 school year, and states must have yearly assessments in math and reading for grades 3-8 starting in 2005-06. Beginning in 2007-08, science assessments must be in place for grades 3-5, 6-9, and 10-12. States also have the **OPTION** to establish standards and assessments in other subjects.

There is a flurry of planning going on right now at the state level. The decisions that are currently being made will shape the educational system for the next several years. By providing input to state planners, arts educators, advocates, and professional organizations have the opportunity to make the arts an important part of education in schools throughout our states. President Bush and Congress, through the No Child Left Behind Act, have given us this great opportunity by designating the arts as a core subject, vital for the complete education of students.

However, if we allow our state planners to set the standards and assessments for math, reading, science, and possibly other subjects without our input, the arts could be left behind for the next decade or so in our schools. Right now, while the states are planning standards and assessments, and even after the planning and during the implementation of these new guidelines, our input determines the status of arts education in our schools.

Pasted below is an excerpt from “NO SUBJECT LEFT BEHIND: A Guide to Arts Education Opportunities in the 2001 Education Act” available online at ([www.artsusa.org/pdf/no\\_subject\\_left\\_behind.pdf](http://www.artsusa.org/pdf/no_subject_left_behind.pdf)). The excerpt suggests ideas we can offer to state planners, and it also provides ways to contact the decision-makers in our states. I also suggest that you contact the representatives of your state Music Education Association (MEA). Make sure that they are familiar with the No Child Left Behind Act and with the opportunities it gives to arts educators. You can find your state MEA officers and links to most MEA websites at ([www.menc.org/connect/stateinf.html](http://www.menc.org/connect/stateinf.html)).

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from “NO SUBJECT LEFT BEHIND”

#### WHAT TO RECOMMEND TO STATE PLANNERS

From the standpoint of arts, the plans present many opportunities. At a minimum, arts educators can urge states to:

- Include the arts, as appropriate, in both the content standards and assessments in math, reading, and science. Also encourage states to consider assessments in the arts. To find the status of arts standards and assessments in your state, visit the Arts Education Partnership’s 2001-2002 State Arts Education Policy Database (<http://aep-arts.org/policysearch/searchengine>). Also learn more about: the national math standards (<http://www.nctm.org/standards>); the national science standards (<http://www.nap.edu/books/0309053269/html/index.html>); and the national language arts standards (<http://www.ncte.org/standards>).
- Use open response questions in assessments of student progress. This type of assessment requires the ability to solve problems and think critically, abilities that arts education fosters. Examples may be found in the 1997 National Assessment of Education Progress in the Arts (<http://nces.ed.gov/nationsreportcard/arts>).
- Recognize arts education as one of the many viable strategies for whole school reform. Examples include the Galef Institute’s Different Ways of Knowing model (<http://www.galef.org>), and the A+ Schools Program (<http://www.aplus-schools.org/index.htm>), initiated by the Thomas S. Kenan Institute for the Arts.
- Develop and disseminate best practices for partnerships between schools and community-based organizations. One resource for school-based programs that involve the community can be found at the Coalition for Community Schools (<http://www.communityschools.org/tech.html>).

- Perform an audit of the state of arts education in local school districts.  
The Kennedy Center's Alliance for Arts Education Network has an online tool titled "A Community Audit for Arts Education: Better Schools, Better Skills, Better Communities" (<http://kennedy-center.org/education/kcaen/specialinitiatives>).

**CONTACTING STATE PLANNERS:** While the planning process will likely vary from state to state, in most states it will be driven by four main people: the governor, and the heads of the state department of education, Title I, and the state board of education. Find your state planners by clicking on the following:

Governors – (<http://www.nga.org/governors/1,1169,,00.html>)

State Departments of Education - (<http://www.ccsso.org/seamenu.html>)

Title I Directors – ([http://www.titlei.org/Contacts/contact\\_directors.html](http://www.titlei.org/Contacts/contact_directors.html))

State Boards of Education – (<http://www.ibiblio.org/cisco/schoolhouse/schools/boards/>)

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Sources:

The "No Child Left Behind Act" can be found in its entirety at ([www.ed.gov/legislation/ESEA02](http://www.ed.gov/legislation/ESEA02)).

A federal guide to the "No Child Left Behind Act" is at ([www.nochildleftbehind.gov](http://www.nochildleftbehind.gov)).

One of the best resources about the "No Child Left Behind Act" for arts educators is the guide "No Subject Left Behind" available at ([www.artsusa.org/pdf/no\\_subject\\_left\\_behind.pdf](http://www.artsusa.org/pdf/no_subject_left_behind.pdf))

## Arts Education Brings School Community Success

Is there such a thing as kids who actually want to go to school on snow days? At Adams Elementary School in Hamilton, Ohio, there are parents and teachers who will proudly tell you this strange devotion to their school really exists.

The credit, they believe, goes to a beloved program, SPECTRA+, whose guiding principle is reaching the whole child with an arts-rich curriculum. The program integrates arts instruction across the disciplines at every grade level.

### WHAT IS SPECTRA+?

Children at Adams experience the arts as part of each of their core subjects – math, science, language arts, and social studies. They also participate in a class in each of four art disciplines – visual art, music, dance, and drama – every week, taught by a certified arts instructor. Teachers work together on lesson plans so concepts learned in both arts and non-arts classes are coordinated and reinforce each other. SPECTRA+ brings the fine arts into the curriculum and the curriculum into the arts.

“When the children at Adams are learning about George and Martha Washington in social studies, they’re also learning the minuet in dance,” says Kathy Leist, the principal at Adams for eight years who now serves as director of continuous improvement for the Hamilton school district. “In second grade, the children are learning U.S. geography in social studies and singing the states of the union in music.” The result is kids who love what they’re doing at school, and it shows.

SPECTRA+ -- which stands for Schools, Parents, Educators, Children, Teachers Rediscover The Arts – was developed by Hamilton’s Fitton Center for the Creative Arts. The Hamilton school district provides basic funding for SPECTRA+. Fitton provides training for school staff, some financial resources, and administrative support. Schools in New York and California have also adopted the program.

SPECTRA+ grew out of a cultural action plan instituted during Hamilton’s bicentennial. The first goal was to build an arts center – the Fitton Center – then to build an arts-in-education program for children. The partnership that ensued included the Ohio Arts Council, which came up with funding for the program.

### HOW DOES IT AFFECT STUDENTS?

“One of the values of integrating art into the curriculum is it gives children multiple opportunities to learn a concept,” says Jackie Quay, who administers SPECTRA+ for the Fitton Center. In other words, if children aren’t learning a concept through one experience, they’ll learn it through another. Children have a better chance to “get” a concept if they’re learning it from multiple sources.

Kids at Adams don’t learn to just tell time, for example, by hearing a description of an abstract concept and watching the teacher move arrows on a cardboard display. They’re

taught a dance where they become a clock, with their movements changing to reflect the changing hours. They become time.

“SPECTRA+ also gives us a chance to apply the concept of multiple intelligences,” says Quay. “Kids are smart in different ways. Some kids read and write well, other kids do better showing you what they know through their hands. The program gives a child more options to express what they know, and it gives teachers other ways to know if a child understands what’s being taught.”

The program also gives kids a chance to watch and interact with artists of all types, including visual artists, folk and traditional artists, authors, puppeteers, quilters, musicians, and composers. Residencies of one to three weeks are tied to teaching units in any of the core subjects.

“If the kids are studying short stories in language arts,” says Leist, “we’d invite an illustrator to show how pictures can work with words.” At another SPECTRA+ school in Hamilton, a media artist demonstrated the creative and technical aspects of a video production, a tie-in for a language arts segment. Kids learned how a story is created, made clay animation figures, and learned special-effects features such as how to show the passage of time.

“Art can be the hook, the vehicle, that gets a child into the world of learning,” says Mike Fox, who knows the program as both the parent of a SPECTRA+ student and as a policymaker in his role as county commissioner. “It’s a nurturing context for learning to occur because there are no right or wrong answers.

“It can be especially beneficial to kids who have been brought up hearing a lot of prohibitions, like ‘no’ and ‘you can’t,’” Fox adds. “Kids who start their lives with non-nurturing communications are at a disadvantage. An arts-rich program addresses the whole child and how they feel about themselves.

“When teaching kids, you’re usually addressing a lot of energy and emotions. Art allows students to give expression to feelings and emotions in a way that’s safe because it’s part of the academic regimen. And, those positive affirmations that come from experiences with art can carry over to other areas.”

#### HOW DOES IT AFFECT THE SCHOOL?

“When a school becomes a SPECTRA+ school, the school climate changes,” says Quay. “There’s a more positive atmosphere.” Attendance rates go up and serious misbehavior decreases. The teachers work well together because they’re working toward a common goal.

#### HOW DOES IT AFFECT THE STAFF?

Staff development is central piece of SPECTRA+’S success. “When the SPECTRA+ program started at Adams, teachers liked the idea of integrating the arts, but they didn’t know how to do it,” says Leist. “We offered in-services and brought in guests –

including Bruce Campbell, author of *Multiple Intelligences* – to speak. We showed teachers how art could help them reach their instructional goals. The staff often used their own time, after school and during the summer, to learn what they needed to make the program a success.”

The Fitton Center offers an array of hands-on, arts-related learning opportunities for teachers, all with a curriculum component aligned with local, state, or national standards. “We provide the curriculum, the tie-ins with standards, and the assessments,” says Quay.

Adams also gives its teachers time to work together to plan innovative lessons. “This part is so important,” Leist adds. “The staff needs the opportunity to grow professionally, and they need time to integrate that growth as well.”

### PRIDE ALL AROUND

The word pride comes up frequently in conversations about SPECTRA+ -- school pride, professional pride, student pride, and parent pride. “The value extends to everyone involved,” says Quay. “The principal, the school board, the superintendent, the parents, the local arts center, they’re all working together in a successful partnership. Plus, it’s more fun for everyone.” Even on snow days.

### BRINGING THE ARTS TO YOUR SCHOOL

To bring SPECTRA+ -- or a program like it – to your school, Quay and Leist offer these suggestions:

- Start by getting a task force together. Elicit partners in the local arts agency, the local arts council, the PTA, and the school board. The whole community needs to be focused in the same direction, and everyone should refer back to their shared vision frequently.
- Research other model programs and talk with their developers.
- Find out who the key people are who have to be won over. Then, when you make a presentation to them, your material should show first and foremost how this is going to benefit kids.
- Get your stakeholders involved. Invite them to performances or to an arts class.
- You may want to visit the Fitton Center and spend some time visiting a SPECTRA+ school. To win over prospective stakeholders, nothing works better than showing them what success looks like.

For information on SPECTRA+, visit the Fitton Center website at [www.fittoncenter.org](http://www.fittoncenter.org)

Source: “An Arts Integration Program Enriches the Curriculum And Brings a School Community a New Level of Success” from the website of Americans for the Arts  
[http://www.artsusa.org/public\\_awareness/pac\\_article.asp?id=648](http://www.artsusa.org/public_awareness/pac_article.asp?id=648)

# Arts Education for the 21<sup>st</sup> Century

– AN INTERVIEW WITH ELLIOT EISNER

(Elliot Eisner has been a professor of art and education at Stanford University since 1970. During his career he has authored hundreds of papers, articles and books about arts curriculum, assessment, cognition, and the foundations of education. In this article, Dr. Eisner answers questions from the “Kappa Delta Pi Record.”)

## WHAT IS THE STATE OF THE ARTS IN TODAY’S SCHOOLS?

Although there are some schools, even school districts where the arts are regarded as educationally significant, on the whole, in the United States, the arts have a marginal position in schools. The press for what is regarded as academic forms of learning – the attainment of academic standards, for example – has directed the attention of policymakers, school administrators, and teachers toward achievement in subjects that will be or are likely to be assessed. As a result, the arts are provided when it is possible to do so, but they are not generally considered a part of the core academic program.

At the same time, as I indicated, there are schools and school districts that take the arts seriously as a significant part of the child’s academic and intellectual development. In such schools and school districts, it is largely because school administrators, parents, and other members of the community have a conception of a decent education that includes work in the arts.

## WHAT KIND OF LEARNING DO THE ARTS PROMOTE?

Work in the arts promote[s] many kinds of intellectual skills and forms of thinking. For example, work in the arts requires that children learn how to pay attention to relationships. The writing of a poem, the painting of a picture, the performance of a piece of music always requires students to notice what is subtle in an image, whether the image be visual or auditory. In addition, attention to such relationships depends on their “feel,” a kind of somatic knowledge that is extraordinarily important. So many of the decisions that are made in life are decisions that cannot be made by appealing to formula, recipes, or algorithms. They require attention to relationships judged by their felt quality. The arts promote that kind of perception and engender that sort of thinking.

The arts also afford youngsters an opportunity to work on problems that can have more than one correct solution or address questions that can have more than one correct answer. There is so much in our schools that emphasize[s] convergent forms of thinking – the once correct answer, learning how to fill in the right bubble – that the arts provide a welcome relief from the relentless press for always being “right.”

The arts promote the use of imagination. The rules, so to speak, are relaxed in the arts, and students have an opportunity to take off into spaces that only a rich imaginative life

can make possible. Although the development of the imagination is not a part of our national educational agenda, it ought to be. And the arts, when well taught, promote it.

### CAN ARTS EDUCATION SUCCEED IN SCHOOLS COMMITTED TO STANDARDS AND ASSESSMENT?

The arts, like the academic subjects, do have standards. Indeed, the arts are a part of the standards movement. As long as standards are held flexibly, there need not be any debilitating effects of standards on the teaching of the arts. And as far as assessment goes, of course the arts must be assessed if they are to be well taught.

There is a widespread belief that learning in the arts cannot be evaluated or assessed. This conclusion is incorrect. Good teachers make assessments all the time and, in fact, use their assessments for formative purposes; they modify their own teaching practices and develop activities for youngsters to engage in on the basis of their assessment of what students know and what they need to know. The idea that the arts are unassessable is simply an indefensible romantic metaphor that has no bearing in fact. As I have indicated, good teachers engage in assessment virtually every time they interact with students or look at the work their students have created.

### PROGRAMS IN THE VISUAL AND PERFORMING ARTS OFTEN ARE CUT DUE TO THEIR COST. WHAT DOES A SCHOOL RISK LOSING IF ADMINISTRATORS DECIDE TO CUT FUNDING FOR ARTS EDUCATION?

When the arts are cut from school programs, opportunities for youngsters to “be in the world” in the ways in which arts make possible are reduced or eliminated. Every subject that is taught in the school curriculum makes possible certain qualities of life and certain forms of meaning. Poetry, for example, makes meanings possible that are impossible to express in prose. Music provides forms of experience that cannot be secured in mathematics. Science provides forms of meaning that are not grasped in the visual arts. The kind of meanings that we have in life are very much related to the various forms of literacy that we attained during the course of our education. When the arts are absent, the meanings they provide are also likely absent.

In addition, when the arts are absent from schools, students whose aptitudes or interests lie in the arts are denied the opportunity to find their place in our educational sun. The ultimate deprivation when it comes to absent arts programs is a reduction of the variety and depth of meaning that youngsters can have and the inequities they confer, particularly upon students for whom the arts would be an important area of work.

### WHAT IS YOUR IDEAL VISION OF ARTS EDUCATION FOR THE 21<sup>ST</sup> CENTURY?

For U.S. schools, my ideal vision is the provision of programs that give youngsters opportunities to be engaged in the creation of one or more art forms and programs that pay particularly intensive attention to the education of vision, the refinement of hearing,



and the development of those sensibilities needed to experience both works of art AND the world at large in aesthetic ways. I would love to see a variety of programs in our schools that help students recognize the connections between art and culture, particularly the ways in which the values and visions of a culture are expressed and influenced through the arts that they generate.

In many ways, the well-taught arts program can serve as a model for the rest of education. When well done, students in the arts are deeply engaged, their sensibilities refined, their imagination promoted, the development of technical skills fostered; furthermore, they employ all of the former to articulate ideas that have some significance. When the arts are well taught, teachers pay attention to individuality, groups of children collaborate in reviewing and discussing each others' work, the problems pursued in classrooms are, in part, defined by the students themselves. Moreover, students are encouraged to appraise the quality of their own work and to make plans for its future improvement.

When well taught, the arts model the best forms of educational experience. It is that message that we need to help families and communities to understand.

Source: "Arts Education for the 21<sup>st</sup> Century." Published in "Kappa Delta Pi Record," Vol. 35 No. 3, Spring 1999.

# The Arts' Impact on Learning

by Richard J. Deasy and Harriet Mayor Fulbright

From "Education Week," January 24, 2001

Things are looking up for the arts in American schools. Los Angeles has adopted a 10-year plan to rebuild its arts programs, at an estimated annual cost of \$190 million when fully implemented. Chicago just announced that it is converting 47 neighborhood elementary schools to arts magnets. Baltimore's mayor has made arts education one of three education priorities and is backing a school board plan to target \$93 million in added arts funding by 2005. New York City, still recovering from the drastic cutbacks of the 1970s, is spending \$75 million a year to hire new arts teachers.

Public officials in other parts of the country are taking similar steps to restore arts in their schools, convinced that they play a vital role in meeting public demands for quality education. School board members, superintendents, and administrators from 30 demographically diverse school districts gathered in mid-October in Washington to report on their success in implementing and enhancing arts programs throughout their schools. The districts—along with 60 others—were profiled in the report "Gaining the Arts Advantage: Lessons From School Districts That Value Arts Education," released by the Arts Education Partnership and the President's Committee on the Arts and the Humanities in 1999.

Researchers had spent 18 months in 1997 and 1998 examining the districts to probe the conditions and rationales that enabled them to give high priority to arts learning for all students, countering the all-too-frequent tendency to push the arts to the margins of the school day. Representatives from the profiled districts attending the meeting were asked for an update. They reported that policy and financial support for the arts continues to be strong and, in many cases, has increased since the research was conducted.

Bill Press, the host of CNN's "Crossfire," cited the pressures of high-stakes testing, teacher shortages, and other challenges when he asked board presidents and superintendents at the meeting how they convince fellow board members, city hall, or legislative bodies to fund the arts. They responded with arguments drawn from their personal understanding and appreciation of the arts; from the impact they see the arts have on students and schools; and from the economic, social, and cultural needs and traditions of their communities.

These policy leaders also referred to the growing body of research studies that explore the role of the arts in the intellectual, emotional, and social development of children and youths. The research both challenges and affirms their personal knowledge and experience. They believe the arts are worthy of study and good for kids, schools, and communities. Research is helping them ground their beliefs.

That is why we were startled and dismayed by a recent Commentary, "Does Studying the Arts Enhance Academic Achievement?" in which the two authors portrayed public educators and arts advocates as naive victims of bad research on arts education. (See, "Does Studying the Arts

Enhance Academic Achievement?" Commentary, Printed in "Education Week," Nov. 1, 2000 available online at <http://www.edweek.org/ew/ewstory.cfm?slug=09winner.h20>) The authors issued dire warnings of the "dangers" of justifying the arts "primarily" because they increase reading and math test scores.

We know of no educator or advocate who justifies the study of the arts solely or even primarily because it may boost standardized-test scores. And educators, researchers, and advocates who contacted us were disturbed by the essay because recent arts education research is much broader and deeper than the authors discussed. They also believe the authors understate the significance of the studies they did examine.

The authors in their Commentary were responding to criticism they have gotten in a number of forums for their interpretation of a set of 15 "meta-analyses" that they and several of their associates assembled and published in a recent issue of the *Journal of Aesthetic Education*. "Metaanalysis" is a technique that attempts to gauge the overall effects of a group of studies, each of which is unique but focused on the same experience and each of which expresses its results in quantifiable form (typically, test scores).

The authors and their associates, after considering more than 10,000 studies of theater, music, dance, visual arts, and multiple art forms, selected some 200 that could be examined using their particular meta-analytical technique. The largest groups of study were in theater and music.

The authors contend that only three of their meta-analyses—two in music and one in theater—show a significant, positive relationship between arts study and reading or math skills. They claim this substantiates their personal view that there is "danger" in promoting arts education on the basis of its impact on other forms of student learning. They go a step further and dismiss one of their own findings—that forms of music instruction do enhance spatial-reasoning skills—as having "nil" importance to education.

Researchers and educators who have read the *Journal of Aesthetic Education* essays are astounded by these claims. Obviously, and most importantly, a rich array of arts education research employing a wide variety of research methodologies was not included in the meta-analyses because of the inherent constraints of the technique. But further, each of the meta-analyses actually reported positive effects of the arts on literacy and numeracy, and the largest effects—the ones the authors agree are significant—were in theater and music, where the authors examined the greatest number of studies.

It is puzzling why the authors dismiss their own findings. For instance, many researchers point out that "spatial reasoning" is a cognitive process that is involved in making connections among ideas and events, comprehending spoken and written words, and doing mathematics and science. It is not limited to placing or imagining objects in physical space. The application of these skills in a variety of school subjects is obvious. A finding that music instruction enhances these skills is clearly important.

We agree with the Commentary authors that more research needs to focus on quality arts education programs to expand our understanding of the cognitive and affective impact on

students of arts study and also its impact on the learning environment of the whole school. For instance, last year we jointly released a widely acclaimed set of seven studies exploring the multiple effects of arts learning, in the report "Champions of Change: The Impact of the Arts on Learning." Researchers from Columbia University's Teachers College, Harvard University, Harvard's Project Zero, Stanford University, the University of California, Los Angeles, and the University of Connecticut conducted these studies using a variety of well-recognized research techniques. Their work was funded by the General Electric Fund and the MacArthur Foundation. "Champions of Change" researchers examined data in the federal National Education Longitudinal Study of 25,000 secondary school students; did case studies of highly effective theater and opera programs; conducted intensive observations of the interactions of teachers and students; and used a number of tests and measurements to assess student learning, including the reading and mathematics scores of students in high-poverty schools who were engaged in integrated-arts programs. They report a wide range of positive impacts of arts learning on the academic and personal success of the students, including significant benefits for disadvantaged children and for high-poverty schools.

As the Teachers College researchers said in their report, studying the arts engages students in a "constellation" of learning that interacts in multiple ways with learning in other school subjects as well as in other dimensions of the students' emotional and social lives. Learning to act, compose music, or design a building draws on and reinforces habits of mind and personal dispositions at work in other school subjects and social settings. Indeed, these interrelationships are the fundamental premise of formal education: What you learn today will be applied in multiple ways now and in the future.

Further research to probe these interrelationships among arts and the other disciplines is certainly needed, but there is little doubt that they exist. Michael Timpane, a former president of Teachers College and an early director of the National Institute of Education (a forerunner of the U.S. Department of Education's office of educational research and improvement), recently commented that arts education research today is at an early stage of its development. He compared it to his experiences with research on reading, where the accumulation of studies over time gradually honed the understanding of educators and policymakers as to the best policies and practices.

The timing is right to build on the strongest studies of this "early stage" to further explore the nature and effects of learning in the arts. Community and school leaders across the country already are taking steps to revitalize arts education, guided by their conviction that the arts are essential dimensions of a comprehensive education. Educators are recognizing, as one has said, that "the intellect draws from many wells, even if it at times runs in narrow channels." The arts can give access to the deepest of those wells. Research can show us how.

Source: "The Arts' Impact on Learning," by Richard J. Deasy and Harriet Mayor Fulbright, From "Education Week," Vol. 20, number 19, January 24, 2001 page 34,38 available online at <http://www.edweek.org/ew/ewstory.cfm?slug=19deasy.h20>

106th CONGRESS  
2nd Session  
H. CON. RES. 266  
IN THE SENATE OF THE UNITED STATES  
June 14, 2000

Received and referred to the Committee on Health, Education, Labor, and Pensions

**CONCURRENT RESOLUTION**  
Expressing the sense of the Congress  
regarding the benefits of music education

**Whereas** there is a growing body of scientific research demonstrating that children who receive music instruction score better on spatial-temporal reasoning tests and proportional math problems;

**Whereas** music education grounded in rigorous instruction is an important component of a well-rounded academic program;

**Whereas** opportunities in music and the arts have enabled children with disabilities to participate more fully in school and community activities;

**Whereas** music and the arts can motivate at-risk students to stay in school and become active participants in the educational process;

**Whereas** according to the College Board, college-bound high school seniors in 1998 who received music instruction scored 53 points higher on the verbal portion and 39 points higher on the math portion of the tests than college-bound high school seniors with no musical instruction;

**Whereas** a 1999 report by the Texas Commission on Drug and Alcohol Abuse states that individuals who participated in band or orchestra reported the lowest levels of current and lifelong use of alcohol, tobacco, and illicit drugs; and

**Whereas** comprehensive, sequential music instruction enhances early brain development and improves cognitive and communicative skills, self, discipline, and creativity: Now, therefore, be it

**Resolved** by the House of Representatives (the Senate concurring),  
That it is the sense of Congress that —

**(1)** music education enhances intellectual development and enriches the academic environment for children of all ages; and

**(2)** music educators greatly contribute to the artistic, intellectual, and social development of American children, and play a key role in helping children to succeed in school.

Passed the House of Representatives June 13, 2000

# **The Case For Music In The Schools**

When Wynton Marsalis brought his jazz combo to our college campus recently, he repeated what he said to the National Commission on Music Education. “Our nation suffers from a cultural problem more than a scientific one,” he said. “Whether we’re behind the Japanese is secondary. Our culture is dying from the inside.”

Unfortunately, some modern educators are part of the problem. They have forgotten the call of the founder of our American school system, Horace Mann, who believed that music was essential to the education of the young for the development of aesthetic appreciation, citizenship, and thinking.

In today’s schools, music as a subject is just as important as it was in Mann’s day. But far too many school boards and administrators do not consider the study of music to be one of the basics of education. Few students in the U.S. have access to institutional or private music instruction that involves a balanced, sequential curriculum. And these conditions have a serious impact on American culture. Music is valued more as entertainment than for its contribution to the development of our cultural life.

America cannot afford to ignore the virtues that the discipline of music teaches young people. The U.S. school system has been under attack for some time by business leaders, politicians, and the news media. Whatever the merits – or lack thereof – of such criticisms, everyone agrees that our schools should do more to cultivate better-disciplined and harder-working citizens. Music is the one area of the curriculum that has already shown itself capable of doing the job. Ask former students about the subject that best taught them stick-to-itiveness, the value of hard work, and the importance of self-discipline. From those lucky enough to have taken part, the answer will be music.

Consider the place of homework. Homework has never gone out of style in the music curriculum. It is impossible to master a band instrument without considerable discipline and many hours of practice. Informed school boards and administrators know this and so work to protect their school music programs.

Where music programs have been cut, economic crisis has often remained. In one school district, administrators needed to cut \$156,000 from the district budget. They argued that they could do so by cutting the positions of five music teachers. However, they failed to consider what would happen to the students who were then taking music classes. There were 2,529 instrumental music students in the district at the time of the proposed cut. As a result of cuts at the fifth and sixth grade levels and in the secondary music program, overall music enrollment would have dropped to 736 students. Thus 1,793 students would have to be placed elsewhere. The district would have to add 29 new classes and hire more than six teachers for them. When music educators in the district pointed out to the administration that, in order to “save” \$156,000, the district would have to spend \$192,000, the administration reversed the cut.

In 1991 Lorin Hollander wrote that what many of the recent national reports on education reflect is that we no longer nurture the creativity and humanity of our children. We may be destroying creativity in our nurseries and in the primary grades of our school systems. It is ironic that, as a growing body of psychological research confirms the critical importance of music and art for children, these programs continually come under the knife of budget-cutters. The problem is that much of the information supporting the value of music and art is not filtering down to the local level, where a great many decisions about the content of the curriculum are made.

The primary purpose of including music in the school curriculum is to disperse its message throughout the culture. Through music, students learn the rich and wordless dimensions of their own cultural heritage. They discover in the musical heritage of other cultures a common ground that minimizes national boundaries and language differences.

Carl Orff, a noted music educator, regarded elementary music as movement and play – basic elements in human development. Just how basic became apparent in a most powerful way when Americans first entered Somalia. The nightly news programs showed hundreds of starving, naked Somalis and their children waiting for death. Yet they sang and tried to move as if to dance. It was the only sustaining force in their nearly spent lives. Educators in preschools and primary schools must enhance children's emotional development by giving them opportunities to experience and express their feelings and the power to control that expression. Music instruction is one such opportunity.

On a more practical level, one of the hottest teaching methodologies to hit American schools in the past five years is cooperative learning. While John Dewey argued in favor of this method in the early part of the century, it subsequently fell on hard times and nearly disappeared in the competition dominated 1980s. Today, cooperative learning is making a comeback. And it is no coincidence that its comeback parallels the rush by American business to embrace ideas of greater worker cooperation.

Of all the disciplines in the curriculum of the American school, music has the most experience with cooperative learning. While practicing a musical instrument may be a very lonely experience, most musical performances take place in cooperative settings, such as choirs, marching, concert and jazz bands, orchestras, and musicals or operas. The success of each of these kinds of performance depends on the cooperation of a group of individuals – sometimes a very large group.

Music in the school curriculum has also always been performance based. A movement is afoot in a number of states toward performance based evaluation of students' academic learning. Going back to Horace Mann's time, music in the schools has a 150-year head start in performance based assessment. Countless music festivals and band contests have given us a workable model of performance-based assessment that combines both quantitative and qualitative elements. Music educators should be leading seminars to train the rest of us.

The late physician and biologist Lewis Thomas once surveyed the subjects that undergraduates study before applying to medical school. He found that most would-be doctors majored in biochemistry. Among the biochemists who applied to medical school, 44 percent were admitted. A much smaller group of medical school applicants studied music as undergraduates, but 66 percent of the music majors who applied were admitted. This was by far the highest percentage for any undergraduate major. Thomas claimed that the study showed that medical schools want to admit people who are steeped in the liberal arts and capable of relieving stress through playing music, acting, dancing, sculpting, and so on. Thomas recommended spending the undergraduate years studying more literature, philosophy, and arts, so that a student who would be a physician will first grow as a human being.

Howard Gardner won critical acclaim for his book Frames of Mind. In it he contends that intelligence exists in at least seven separate spheres and that competence in one need not be related to competence in others. Students who are having difficulty in a certain subject might be encouraged by their teachers to capitalize on their strengths in other areas to help them overcome their difficulties.

The scientific journal Nature recently published the results of a study performed by researchers at the Center for Neurobiology of Learning and Memory at the University of California, Irvine. Thirty-six college students were each given three sets of standard spatial reasoning tasks that appear on I.Q. tests. The students had one of three listening experiences prior to completing the spatial reasoning tasks: 10 minutes of listening to Mozart's Sonata for Two Pianos in D Major, K. 448; 10 minutes of listening to a relaxation tape; or 10 minutes of silence. Performance improved for tasks immediately following the experience of listening to Mozart. The performance of subjects in the music condition was eight to nine points higher than their performance in the other two conditions.

The researchers suggest that the complexity of the music is the key to the higher I.Q. scores. The intricacies and complexity of the music could enhance abstract reasoning by reinforcing certain complex patterns of neural activity. Gordon Shaw, one of the researchers, proposes that the music is priming the areas of the brain that may be involved with other tasks. The positive effect of music on the intelligence of college students is not permanent; it lasts only about 15 minutes. The researchers also suggested that making music, rather than simply listening to it, might have a longer-lasting impact on intelligence. In any case, the implications for the teaching of music from the early grades through high school are significant.

No matter what it may do for the intellect, a student's education is impaired if it does not also touch the soul, and music can be the key to reaching a student's innermost being. The best teachers have always insisted that music and other arts maintain a central place in the curriculum because all civilizations throughout history have been nourished by the arts. The basic nature of people can be found in their songs, images, dances, and stories. To be illiterate in the arts is to be blind, mute and deaf at a most fundamental level.



The historian Arthur Schlesinger, Jr., reminds us that, “if history tells us anything, it tells us that the United States, like all other nations, will be measured in the eyes of posterity not by its economic power nor by its military might... but by its character and achievement as a civilization.” The study of music and the arts makes us disciplined and civilized.

Source: “The Case For Music In The Schools” by Allan Miller and Dorita Coen, Phi Delta Kappan, February 1994

## **Class Absence For Musical Study**

Although many studies seem to support that music enhances a variety of academic skills, one may argue that any potential benefits are lost when students are removed from their classrooms to study a musical instrument. A 1985 study by Edward Kvet (from the spring *Journal of Research in Music Education*) addressed this argument.

Kvet found no academic achievement difference between students who were excused from class for instrumental study and those who were not. His study was conducted with over two thousand sixth grade students in 26 schools in four school districts. Students who studied instrumental music were matched with students who did not study instrumental music by the following variables: sex, race, IQ, cumulative achievement, school attended, and classroom teacher.

Kvet's results indicate that there is no significant difference in the reading, language, and math achievement between students who are excused for instrumental music instruction and those who are not. Further, this was found to be true among schools of different size, setting, socioeconomic level, and racial composition.

His study shows convincingly that student absence from class to study a musical instrument does not result in lower academic achievement.

# Comparing School Music Programs and Science Test Scores Worldwide

*We present excerpts from an article by James R. Ponter, appearing in the February, 1999 issue of the NASSP (National Association of Secondary School Principals) Bulletin.*

Nations whose students consistently outperform the United States in tests assessing science achievement are the countries where music is a primary focus of the curriculum. Test results cited in the 1983 report *A Nation at Risk* showed the United States trailing badly behind other countries in mathematics and science. A 1988 test of the International Association for the Evaluation of Educational Achievement (IAEEA) ranked the United States fourteenth among 17 countries on an instrument testing science achievement of eighth and ninth graders (AAAS, 1989). Our students' scores compared favorably with those of Thailand and Singapore, while trailing far behind Poland, Italy, Korea, English-speaking Canada, and every other participating country, with the exception of the Philippines and Hong Kong.

This report was among the catalysts for the many reform efforts of the '80s and '90s. In New Jersey, these reforms included the Governor's Statewide Systemic Initiative, Core Course Proficiencies, the Core Curriculum Content Standards, and the Academy for the Improvement of Teaching. These actions were accompanied by a flurry of legislative initiatives aimed at tightening the requirements for obtaining and retaining teaching and administrative certification.

Trampled in the stampede toward technology in the classroom, one of the most neglected reforms has been a serious examination of the influence of the arts on academic achievement, particularly upon achievement in mathematics and science. In conjunction with recent work in cognitive psychology regarding the relationship between music and academic achievement, it is enlightening to examine the status of music in the curricula of those countries whose students consistently outpace our students in mathematics and science. The top-performing students on the 1988 IAEEA Test in science were the eighth and ninth graders from Hungary, followed by those from the Netherlands and Japan.

## WHAT ARE OTHER COUNTRIES DOING?

If we examine the top three ranked countries on the 1998 test, we see some fascinating parallels between academic achievement and music education. In a 1988 study cited by Frank Hodson, Chairman of the National Endowment of the Arts, he noted that in grades 1-6, the Japanese require two class periods per week [of music]. Music includes singing, instrumental performance, and appreciation of both western and Japanese music. At middle level, students learn to sing in choruses and play instruments in ensembles (DOE 1987).

In Dutch secondary schools, music and art became mandatory subjects in 1968, and compulsory examinations in these subjects were implemented in 1976 (Netherlands National Institute for Educational Measurement).

In Hungary, the land of Bela Bartok and Franz List, with its number one ranking in science achievement for eighth and ninth graders, music education has long been an essential and developmental program implemented nationally by the composer Zoltan Kodaly. Both voice and instrumental training twice a week are compulsory throughout the first eight years of schooling.

The centrality of music education to learning in the top-ranked countries seems to contradict the United States' focus on math, science, vocabulary, and technology. Yet, we continue to emphasize the need for computers in every classroom, and more of the same academic emphasis.

## MUSIC AND THE BRAIN

According to Howard Gardner, musicians follow a progression of notes, a very sequential left brain process; seeing patterns in the construction of phrases, seeing the whole for expressive phrasing and interpretations, and dealing with rhythmic patterns, on the other hand, are very right-brain skills. Additionally, mathematical abilities involved in timing, counting, and the symbolic encoding of time and sound involve abstract and spatial reasoning.

All this brain activity must be consummated in the form of precise fine motor skills. Beyond all other musical activities, the playing of stringed instruments without keys or frets involves the estimation of decreasing distances down the finger board for accurate intonation.

Bowing technique requires the cultivation of an intuitive sense for velocity and acceleration that may later become codified in the symbolic language of calculus.

Because it draws on so many different attributes, music develops flexibility in thinking. Musical training is an effective way, not only to enhance the conceptual-holistic-creative thinking process, but also to assist in the melding and merging of the mind's capabilities. Although most musical capabilities seem to be represented initially in the right hemisphere, as an individual becomes more skilled, capabilities that were housed in the right hemisphere are found increasingly in the left. It appears that, with musical training, a significant proportion of skills migrate across the *corpus callosum* into the linguistically dominant left hemisphere (Gardner, 1984).

## DOES MUSIC MAKE YOU SMARTER?

The mental flexibility that is developed by the study of music is reflected in industrial applications. One of the most innovative and entrepreneurial centers of U.S. commerce is the Silicon Valley of California. Grant Venerable, in "The Paradox of the Silicon

Savior,” says: “One of the most striking facts in Silicon Valley industry is that the very best engineers and technical designers are, nearly without exception, practicing musicians” (1989).

Physician and biologist Lewis Thomas studied the undergraduate majors of medical school applicants. He found that 66 percent of music majors who applied to medical school were admitted. This was the highest of any group, while only 44 percent of the biochemistry majors were admitted (1994).

The research emerging from the cognitive sciences gives us useful information to explain the connections between music and learning. Technology allowing us to see the human brain in the process of thinking shows us that when people listen to melodies with a variety of pitch and timbre, the right hemisphere is activated, as it is when one plays by ear or improvises. When music is read, the player must understand key signatures, notation, and other details of scores and follow the linear sequence of notes activating the left hemisphere in the same area that is involved in analytical and mathematical thinking (Dickinson, 1993). This mental multi-tasking seems to enhance cognitive ability in powerful ways that we must not ignore.

#### RE-THINKING AND ACTING

The studies cited here seem to present a compelling argument in favor of the implementation of long-term developmental instrumental music programs for all students, not just those students with an obvious aptitude and interest. Music programs should go beyond the scope of our present treatment of elementary classroom music and should be centered on the mastery of musical instruments including the voice and be aimed at solo and ensemble performance. These programs should also include appreciation and theoretical components for all students.

Source: James R. Ponter. “Academic Achievement and the Need for a Comprehensive, Developmental Music Curriculum.” *NASSP Bulletin*. Vol. 83 No. 604, February 1999.

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# DOE Database Unveils Drop in Rate of Student Participation in the Arts

Thanks to the research work of Dr. James S. Catterall, statistical information being gathered by the Department of Education is bearing fruit about student participation in arts related activities. His work mining the information in the database called NELS88 (National Educational Longitudinal Study of 1988) has turned up some powerful findings. The best part is the fact that he is just at the beginning of the process of investigating the true impact of the database information for arts education. The database contains information on 25,000 students in 1,000 diverse schools beginning in 8<sup>th</sup> grade in Spring of 1988, with follow-up data collection in 1990, 1992, 1994 and ongoing. The information below is from 8<sup>th</sup> grade and 10<sup>th</sup> grade follow-up.

## Arts Participation Rates

>Percentages of 8<sup>th</sup> graders involved in arts related activities (takes one or more classes per week):

Art	–	45%
Music	–	48%
Drama/Speech	–	10.2%

Participates in:

Band/Orchestra:	19%
Chorus/Choir:	21%
Debate/Speech:	4.5%
Drama:	7.4%

>Percentages of 10<sup>th</sup> graders involved in arts related activities (one or more semester taken):

Art	-	35.6%
Music	-	30.7%
Drama	-	9.4%

Participates in:

Band/Orchestra:	22.7%
Chorus/Choir:	23.3%

Takes out-of-school classes in the arts:

Rarely/Never	74.2%
< once/week	5.8%

1-2 times/week	8.6%
every day/almost	11.3%

By 10<sup>th</sup> grade regular involvement seems to drop off. Also involvement outside of the school environment is rare.

>Percentages of 12<sup>th</sup> graders involved in arts related activities (one or more semesters taken):

Participates in:

Music groups	19.5%
Drama groups	15.0%

Takes out-of-school classes in the arts:

Rarely/Never:	85.9%
< once/week	4.2%
1-2 times/week	7.4%
every day/almost	2.5%

By 12<sup>th</sup> grade involvement has dropped from the 10<sup>th</sup> grade level, and has nearly halved from 8<sup>th</sup> grade level. In addition 12<sup>th</sup> graders are not as involved in the arts outside the school environment as they were two years earlier.



# **The History And Future Of Arts Education Policy**

The following article is based on a speech by Bill Ivey, Chairman, National Endowment for the Arts.

The arts are central to how we see ourselves, what we believe about ourselves, and how we present ourselves to each other. The arts are especially important in a complex democracy like ours. Democracy offers the promise of equal participation to hundreds of cultural traditions that shape our landscape – Native American, Asian, European, Black, and Hispanic – and this promise translates into an endless process of negotiation and accommodation. Art represents a place in which borrowing, blending, and sharing can really work.

It's time we realized just how much our future depends on how well we integrate the magic and creativity of the arts into the lives of future generations, and that process must begin by ensuring that the arts are essential learning for all children. But to know how far we have to go, we have to understand how far we've come. Let's take a brief look at some milestones in education over the last four decades.

In the 1950s, faced with Sputnik and our competition with the Russian space program, Americans recognized the importance of science and math and took decisive steps to improve standards in our schools. In the 1960s, our nation placed special emphasis on health through exercise and took steps to raise the level of physical fitness among our school-age children. By the late 1970s, we began to realize that along with scientific knowledge and physical fitness, we needed to feed the imaginations of students with the arts. Reports and studies called for Americans to “come to our senses” and include the arts as part of basic education. But in the early 1980s, we were still grappling with the problem. An education report declared that the United States was “a nation at risk” and that there was a “rising tide of mediocrity” in our schools.

By the late 1980s, Congress mandated that the National Endowment for the Arts report on the status of arts education. Then, in its 1988 report “Toward Civilization,” the Endowment stated that arts education in our schools was in triple jeopardy: (1) the arts were not taken seriously as important subject matter; (2) arts education programs were focused almost exclusively on production and performance and rarely included history, critical judgement, or aesthetics; and (3) there was no common agreement as to what all students should know and be able to do in the arts.

Where are we now? Actually we've made enormous strides. In 1992, the Endowment joined forces with the Department of Education and our sister agency, the National Endowment for the Humanities, to fund a two-year project for defining what all students – from Kindergarten through twelfth grade – should know and be able to do in the arts. The project, of course, resulted in the development of our national voluntary standards in the arts.

MENC managed the standards development process for the Consortium of National Arts Education Associations. Following the 1994 signing into law of the Goals 2000: Educate America Act, the first federal legislation to declare the arts a “core” subject, the consortium was the first group to present its voluntary national standards to the secretary of education.

An assessment framework for the arts was completed in 1994, and an arts assessment of America’s eighth graders was completed in 1997 and reported in November 1998 in the Nation’s Report Card on the Arts – the first such report in nearly 20 years. MENC has been an important partner in this effort.

We’re experiencing an abundance of policy development in favor of arts education. To these accomplishments, we can add more and more research that supports what those of us in the arts have known for years: education in the arts improves the intellectual, emotional, and social development of our children.

Today, if we are going to move the arts agenda forward, we must work together – policymakers at the state and local levels, business and private communities, parents and private citizens, and cultural arts institutions and artists. And, most certainly, we must have the commitment and full participation of our schools – the arts specialists, as well as classroom teachers, principals, and administrative leaders.

All these sectors must work together to put arts into the basic curriculum, not just in magnet schools or in high schools as electives, but as a comprehensive, sequential curriculum taught by qualified teachers, beginning with preschool instruction and continuing with required courses for high school graduation – and beyond.

We all know that standards and partnerships alone don’t guarantee that all students will have high-quality arts education programs in their schools. We must all be advocates for the arts. Each of us must make sure that boards of education provide the necessary time, instructional resources, and appropriate, qualified teachers.

As we take stock of our accomplishments of the past, we must make sure that we are preparing our children for the challenges of the future. We must also make sure that we have nurtured the creativity of our children, because it’s our creativity that has made this nation the strongest economic, military, and technological power on earth. The arts are central to maintaining our national strength. They are central to democracy because they embody America’s living cultural heritage.

Source: “The Arts Are Basic” by Bill Ivey, published in Teaching Music, vol. 6 no. 6, June 1999.

# Keys To Success In The Arts And Student Achievement

Successful arts education programs take a variety of shapes. But certain keys to success can be found in almost all of them.

1. The arts are integrated throughout the curriculum at all age levels.
2. Regular arts classes that are of comparable length to the other academic disciplines are the ideal. Scheduling innovations make time for the arts to be taught on their own and for arts specialists to plan with teachers of other disciplines to coordinate and enhance the various curricula.
3. Effective teacher training and professional development in the arts are essential.
4. Artists are involved as teachers, coordinators, or as resources for arts specialists and non-arts teachers.
5. Arts in education are inclusive. All students benefit from the opportunity for the study and practice of the arts.
6. The community, business, and local arts organizations are actively involved in helping students learn about the arts, within and outside the school day.
7. Teaching and learning are regularly assessed and evaluated to determine best what works in arts education.

Bringing the arts into education reform can begin with school administrators, teachers, parents, artists, business, elected officials, or other community leaders. In short, with virtually anyone concerned about quality education.

There are several basic questions to ask about arts education in your community.

1. What are the present arts learning requirements for each grade level?
2. What resources are being devoted to the arts in education?
3. What additional resources, either arts specific or not, are available in the schools and in the community to support the arts in education?
4. Are the arts integrated into the whole curriculum?
5. What forums are available to foster wider discussion about arts education?
6. Are high quality professional development opportunities for arts and non-arts teachers, artists, and principals sustained and readily available?

The best way to find out about the status of arts education in your community is to talk to principals, teachers, parents, students, or local arts organizations. Obtaining a copy of the National Standards for Education in the Arts can be a useful first step in learning what experts in the field consider age-appropriate learning in the arts.

# **MENC President Offers Testimony Before Senate HELP Committee**

*MENC President June Hinckley's written testimony on the importance and benefits of music education were submitted for the record to the Senate Committee on Health, Education, Labor, and Pensions on June 29, 1999. The committee is considering the reauthorization of the Elementary and Secondary Education Act.*

*We thought you might enjoy reading her testimony. It contains good information for anyone interested in supporting school music programs. Her testimony in its entirety is below.*

## **Statement of June M. Hinckley, President MENC: The National Association for Music Education Before the Senate Committee on Health, Education, Labor and Pensions June 29, 1999 Submitted for the Record.**

Mr. Chairman and members of the Committee, I am pleased to have this opportunity to present this statement for the record on the importance of music education for all children. My remarks focus on the latest research documenting the link between music instruction and child brain development and the vital role that music education can play in dramatically improving academic achievement and building self-esteem, discipline, and other skills necessary for success.

### *The Research*

There is an exciting and growing body of research that indicates that music instruction at an early age actually wires the brain for learning. According to psychologist Frances Rauscher at the University of Wisconsin at Oshkosh, "Children are born with all the nerve cells, or neurons, they will ever have. However, connections between neurons, called synapses, are sparse and unstable. Synaptic connections largely determine adult intelligence. During the first six years of life, the number of synapses increases dramatically, and synapses already in place are stabilized. This process occurs as a result of experience or learning. Those synapses that are not used are eliminated - a 'use it or lose it' situation. Music training appears to develop the synaptic connections that are relevant to abstract thought."

Dr. Rauscher set out to build upon existing neurobiological studies of the human brain and further explore the role of music in its development. In a study published in *Neurological Research*, Dr. Rauscher and physicist Gordon Shaw of the University of California at Irvine worked with middle-income and at-risk preschoolers. One group of children received piano keyboard lessons. Another group received computer training, and a third group received no special instruction. The children who received piano keyboard lessons scored significantly higher on spatial reasoning tests than the other children who were matched in IQ and socio-economic status - 34% higher to be exact. Spatial-temporal reasoning involves higher brain functions that are needed to solve complex math and science problems. Thus, the findings pointed to a direct link between music instruction and math and science aptitude.

Dr. Rauscher expanded her work to determine if this remarkable improvement could be found with children in a public school setting. The answer was a resounding "yes." She replicated her earlier study but used kindergarten students rather than preschoolers and group piano instruction rather than private lessons. She found that students receiving keyboard instruction outscored those who received no formal music training by an astonishing 48% on spatial reasoning tests. According to Dr. Rauscher, "enhancements are still present following one year after the lessons have terminated, although children who received the lessons for two years score even higher."

Because of this pilot study, Wisconsin's School District of Kettle Moraine now requires all kindergarten students in the district to receive piano keyboard instruction as part of the regular

school curriculum. Plans are underway to expand the program to students in every elementary classroom.

It is important to note that the cognitive and academic improvements highlighted by the research come about only with sequential instruction in music provided by qualified teachers, not through mere exposure to music. Arts exposure and enrichment programs, such as trips to a museum and performances of the local symphony, are vital because of the pleasure they provide and the critical role they play in enhancing education. They often furnish the spark that inspires a child to pursue formal music study. However, they cannot substitute for formal instruction as part of the regular school day. Dr. Rauscher emphasized this when she noted that "there is no scientific data indicating that, when provided in isolation from music instruction, enrichment and exposure programs induce long-term cognitive benefits. It is important not to confuse these forms of musical involvement."

Beyond the work of Dr. Rauscher and her colleagues, there also is considerable research that supports the important role of music and the other arts in keeping students in school, particularly at the high school level. For many disadvantaged students, participation in music programs helps to break the cycle of failure they have so often encountered in life. While study after study demonstrates that participation by disadvantaged children in a well-developed, sequential music program can be extremely beneficial academically, socially, and emotionally, these are the very students who are most often denied access to music instruction. Middle- and upper-income parents who have the resources are able to provide private music instruction for their children. But not all children have that luxury, and many are denied access to the benefits of music education if their schools do not provide it.

### *Implications for Education Reform*

The research clearly shows that music instruction, taught by qualified teachers, produces measurable enhancements in the development of children's brains, resulting in significant education benefits. Unfortunately, because of the misperception that music and the other arts are "frills," these programs are the first to be eliminated when school budgets are restricted. The problem is most acute in poor urban and rural areas, but it is a problem shared by virtually all school districts to one degree or another. As noted by Joan Schmidt, National Board Member of the National School Boards Association, "Ironically, at a time when education research indicates the need to move in one direction, political pressures dictate another. Recent public concerns about basic skills in reading and mathematics have led some school districts to narrow their curriculum, eliminating ostensibly peripheral subjects like music, in an effort to improve scores on standardized tests." Ms. Schmidt goes on to state that if the goal of education reform is to improve student achievement, policy makers should take note of the latest music/brain research. Music education should be part of the core curriculum for every child.

### *What Congress Can Do: Elementary and Secondary Education Act (ESEA) Reauthorization*

As Congress considers legislation to reauthorize ESEA, MENC asks that you work with us to:

1. Reinforce the concept of music and arts education as part of the core curriculum. Music and the other arts are core academic subjects and have been recognized as such by Congress and the Administration in Goals 2000. Moreover, all of the major education associations likewise have spoken to the value of arts education as part of the core curriculum (see attached Statement of Principles). This status should be confirmed and reinforced in ESEA legislation. Incorporating the Statement of Principles into ESEA is one way to accomplish this.

2. Strengthen music and arts education programs authorized under Title X by establishing a formal consultative role for arts educators in determining the nature, scope, and direction of these programs. Currently, no such role exists in the statute. It makes no sense for education policy to be determined and executed without the involvement of educators.

3. Ensure greater access to school music programs for at-risk students. Special efforts are needed to make certain that disadvantaged students have the same access to comprehensive, balanced, and sequential instruction in music as students in more affluent districts. MENC would be pleased to work with the Committee to identify school programs that are making successful use of music with disadvantaged children to determine what they are doing, how it has led to their success, and how these programs can be replicated throughout the country.

4. Prioritize funding so that arts education grants are available to schools. We understand the budget constraints that Congress faces. All disciplines and programs must compete for scarce dollars. However, simply re-ordering priorities in light of the scientific research on the link between music education and higher achievement potential in math and science would be an effective beginning.

5. Make certain that federal funds that are directed to after-school arts activities are not used to replace in-school music and arts classes. Investing in after-school programs is sound policy. There appears to be an urgent need for these programs, and MENC fully supports this type of investment. But if the arts become relegated to an after-school activity, they lose their rightful status as a core academic subject. And, children who cannot take advantage of after-school programs because of conflicts with sports or work commitments or for other reasons, will be denied access to the significant benefits achieved through arts education.

### *The Congressional Bully Pulpit*

Beyond what Congress can accomplish through legislation, Congress can exercise a leadership role in disseminating to parents, school administrators, and state education officials' information on the music/brain research and its implications for education reform. Congress can accomplish this task through hearings, town hall meetings, floor statements, media outreach, and other effective uses of the powerful congressional bully pulpit. As Congress places greater emphasis on state and local flexibility, its role as communicator and disseminator of information becomes even more crucial. Parents, school boards, and state policy makers want to do what is best for our children, but their decisions must be based on the best information available.

### *Conclusion*

MENC stands ready to work with this Committee and with Congress as you consider ways to strengthen educational opportunities and achievement for all children. We would like to serve as a resource to you as you develop legislation and hopefully undertake to spread the message to your constituents about the importance of music education.

Source: MENC

# Music: A Key To Learning

Three of four U.S. adults think states should require a daily dose of music education in the nation's classrooms, says a Gallup Poll released Wednesday amid a broad, star-powered campaign for more interest, funding, and respect for the discipline.

"It's essential that we continue this way of thinking as we try to reform education in this country," Connie Britton, an actress who appears in the ABC television series "Spin City," told an audience of students, teachers, and lawmakers Wednesday. Her visit came a day after the show's star Michael J. Fox asked Congress to boost research funds for Parkinson's disease, the progressive brain disorder he was diagnosed with in 1991.

Music education advocates nationwide released studies bolstering their support for music classes and proof that such lessons help children learn -- and therefore deserves as much time in a student's day as math or science.

Music educators named school districts in Coppell, Texas, and Farmington, Mich., as the nation's top providers of music education. And the groups - which included the National Association for Music Education - commissioned a poll of more than 1,500 adults on the topic, a follow-up to one three years ago.

In the 1997 poll, 69 percent of respondents said school music activities produce better grades and test scores; this year, 81 percent of adults believed music would help children achieve. Also, this year 93 percent of adults said music instruction should be part of every child's education; 78 percent said states should mandate that instruction.

Several speakers Wednesday urged congressional lawmakers considering the education budget to increase federal money for music and other arts programs. Rep. Steny Hoyer, D-Md., promised arts advocates he would fight to increase such funding in the House version of the spending bill.

"I urge members of the Senate to listen to the music and the message of those gathered here," Education Secretary Richard Riley said, referring to the Senate Appropriations Committee that is debating the \$340 billion in education, labor and health spending being considered for fiscal 2001, which begins Oct. 1.

Keegan Younsman-Via, a 13-year-old seventh grader from Portland, Ore., said arts education grants at his school helped support a production of a Thornton Wilder classic: "I got the lead role in 'Our Town' this year. I'm hoping to excel as an actor."

On Wednesday, New American Schools, a non-profit group based in Arlington, Virginia announced that arts learning would become a key part of its curriculum offering to schools. The programs are funded by federal grants for schools to try innovative education methods.

The new partnership with the Grammy Foundation's Leonard Bernstein Center would give schools nationwide lessons that combine music, drama, and other arts with traditional subjects like reading and science.

Riley said, "There is a saying: 'A child goes to school a question mark and comes out as a period.' Thanks to the work of people here today, we may have a new saying for many and future generations: 'A child goes into school as a scale in C major and comes out as a symphony.'"

Source: "Music: A Key To Learning," [The Shelby Daily Globe](#), Shelby Ohio June 15, 2000

## **Music: A Vital Part of Education**

John C. McLaren, Chairman and CEO of BBE Sound, Inc. delivered the following message to the National Commission on Music Education at the Forum in Los Angeles, September 10, 1990.

One of the most serious and ominous issues facing American society is the shocking decline in academic standards in schools across the country. This has caused a “back to basics” movement that, in the minds of some people, requires cutbacks in budgets and time for music education.

But this is a red herring. This should not be an “either/or” issue. Nobody in his right mind would claim academic standards have declined because children spend too much time studying music! Yes! Academics must be greatly improved. And so should music education – not just for a few, but for all children because music can play an awesomely powerful role in the growth of our children into intelligent, responsible, peace-loving citizens.

Let us look at the philosophical base for our education system. Why do we provide free education to all children? And, more to the heart of the matter, why do we compel all children to attend school? There are many answers, but underlying all of them is one basic truth. Our society compels children to go to school because the fundamental purpose of a compulsory, free education is to civilize them: to mold children into responsible, cooperative, law-abiding, peaceable, contributing citizens. When that truth sinks in, the relevance of music education to this central purpose is obvious and striking.

The school band or orchestra is a powerful metaphor for civilization itself. It teaches the child, with immediacy and intensity, all the basic lessons of life in a civilized community.

The school band teaches children to live and work together in a community with a spirit of peace, friendship, trust, cooperation, and harmony. It also teaches them to be willing to discipline and accommodate one’s individuality to the legitimate needs and concerns of the community for the betterment of all its members. It further teaches them to play one’s proper role in the life of the community, to respond honestly and enthusiastically to the rightful urgings of the leadership, to learn the laws the community has established to govern itself and to peacefully abide by those laws. The children are taught to do all of this in the knowledge that the result will be far richer than the individual can achieve by himself. In a band, just like a civilized community, the whole is far greater than the sum of the parts.

It is ironic that we are still arguing about the importance of music education. The foundations of our civilization were laid in the Greek democracies of two and a half thousand years ago, and even then, music was recognized of paramount importance. Plato felt that music should begin in the early years and counseled, “Music training is a



more potent instrument than any other, because rhythm and harmony find their way into the inward places of the soul.”

Confucius said that only men who understood music were fit to govern.

Shakespeare expressed similar feelings. “The man that hath no music in himself... let no such man be trusted.”

The fascinating correlation between music and mathematics is a theme which recurs throughout history. Pythagoras thought of music as a department of mathematics and laid the foundations of the science of acoustics. Reflecting these ideas centuries later, German astronomer Johannes Kepler related music to planetary movement. Descartes also saw the basis of music as mathematical as did Von Leibniz. This view strongly supports the idea that music is a uniquely powerful educational tool involving and integrating the activities of both the right and left brain – the aesthetic and the rational. (A contemporary echo of this is the rapid growth of the interaction between computers and music.)

Let us take a look at the significance of music in the life of our communities today.

What ails our society and particularly our children and teenagers today? Probably the same problems which have been complained of for thousands of years. But we do have some special troubles – certainly when we compare ourselves to other societies – Japan, Europe, and others. Our children are not learning as well as previous generations. Maybe more music education, not less, is a key part of the answer to this problem. Think of a child playing a horn in a marching band. What other educational situation provides the total physical, intellectual and emotional involvement of the eyes, the hands, the breathing, the ears, the feet, and the left brain skills of counting and measuring plus the right brain’s aesthetic sensibilities?

Mathematical skills are poor today. Perhaps Pythagoras, Kepler, and the rest were right – music is a branch of mathematics. Maybe if we complement orthodox math teaching with music training our kids might improve their math skills to a level more comparable to the achievement levels of Japanese school children. Maybe it is no coincidence that Japan’s public schools have what are probably the richest and most comprehensive music education programs in the world.

Violence and vandalism are problems in schools across the country at enormous social and economic costs. “Music”, as Concrete said, “Hath charms to soothe the savage beast.” I am certain studies would show that kids in bands and orchestras get into far less trouble, and are far better citizens than kids who are not. Indeed, it might be cheaper to have every child in every school play in a band than carry the incalculable burdens of violence, vandalism, and crime with which so many schools and communities are affected. A bumper sticker I saw recently said it well: “The school band – nonviolent team spirit.”

There is another reason, a special and particular reason, why it is vitally important to have the broadest and most comprehensive music programs in American schools.

America, as has often been said, is the human melting pot of the world. People from every race, culture, and language have come here in the last two hundred years to become a part of the American dream. We are now finding out though – to our dismay – that the melting pot does not work as fast or as efficiently as we used to believe it did. In addition to the millions of under-privileged minorities in the U.S., we now have hundreds of thousands, maybe millions of immigrants from countries with little of the common European heritage shared by earlier generations of immigrants. The difficulties for these groups in becoming part of mainstream America are much greater.

Every thinking person knows deep down that for America to realize its full human, economic, political, and philosophical potentials, we must develop one common, uniquely American culture. If that solid foundation can be successfully laid, the greatness of the American dream will continue to grow and flourish in the coming centuries.

Here is where music education in our schools can be a magnificent instrument to help reach that goal. Absolutely nothing reaches the human spirit, no matter in what country or society, like the power of music. Nothing builds bonds of friendship and respect across language, race, and cultural barriers faster than music.

I cannot think of a more vital and fundamental objective for American public schools than the pursuit of a common culture rich enough to contain all the diverse people within this country. There are no means or methods as powerful and as effective as music education in helping bring about this goal.

**John C McLaren** is the chairman and CEO of BBE Sound, Inc. which manufactures patented signal processing systems for the music, broadcast, and recording industries and which licenses its patents to some of the world's most famous consumer electronics manufacturers. His career in the music industry spans over thirty years. Before joining BBE he was president of CBS Musical Instrument Division. Prior to that, he was Sr. Vice President and Director of Yamaha for many years. He has testified before congressional committees and the U.S. International Trade Commission on Music Education on trade issues. He has served as director, vice president, and vice chairman of the American Music Conference. He presently serves on the board of the Orange County High School for the Arts and on the Dean's Advisory Committee at Pepperdine University School of Business Management.

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# **New Survey Of Americans Indicates Broad Support But Little Action On Behalf Of Arts**

The non-profit arts advocacy organization Americans for the Arts conducted a telephone survey of over 1,000 people nationwide in February 2001. The purpose of the survey was to gauge the attitudes of people toward the arts and their actions in support of the arts. Americans for the Arts will be launching a public service campaign in late summer of 2001 encouraging people to support their school arts programs and community arts organizations.

This week we will discuss the survey participants' attitudes about the arts. Next week we will examine the actions the participants have taken, and the reasons many have decided not to act in support of the arts.

## *Attitudes:*

Participants were asked to rank the importance of arts education to a child's development on a scale of 1 to 10:

42% chose 10  
10% chose 9  
21% chose 8

Therefore, 73% rank the importance of arts education at level 8 or higher.

The survey participants were then given a series of activities that may be important to a child's development, and again asked to give each one a score from 1 to 10. Here is how they rated the activities:

Reading for pleasure	9.1
Using computers for educational enrichment	8.5
Religious activities like attending church or synagogue	8.3
<b>LEARNING ABOUT AND EXPERIENCING THE ARTS</b>	<b>8.1</b>
Joining peer groups such as boy scouts or girl scouts	7.7
Participating in competitive sports	7.6
Participating in individual hobbies such as stamp collecting	6.9
Surfing the Internet for fun	4.6

Notice in the above table that the arts ranked ahead of sports.

In another part of the study, participants were asked to agree or disagree with statements.

91% agree that "the arts are vital to providing a well-rounded education for our students."

89% believe that "arts education is important enough that schools should find the money to ensure inclusion [of arts programs] in the curriculum."

75% agree that "incorporating the arts into public education is the first step in adding back what's missing in public education today."

96% believe that "art belongs to everyone, not just the fortunate or privileged."

76% believe that "arts education is important enough to get personally involved in arts education in the schools," but only 35% of those who are closely involved in the life of a child have done so.

68% of all respondents are satisfied with the current arts programs provided by local schools. 100% of principals in the survey are satisfied with the arts programs in their schools, as are 97% of the school board members. In comparison, 52% of teachers are satisfied, and 67% of PTA officers are satisfied.

### *Actions:*

Respondents in the survey identified the actions they had taken to support arts education. (They could identify more than one action.)

73% encouraged a child to participate in school or community arts programs.

51% took a child to a school or community arts program.

35% donated to a school arts program or community arts organization.

35% discussed arts education with other parents and/or concerned individuals in their community.

27% have not taken any action.

23% volunteered with a school or community arts program.

16% raised money on behalf of arts in the community or school.

15% spoke to a teacher or school principal about scheduling more arts programs at school.

12% raised the issue of arts education at a PTA meeting or other community meeting.

9% formed a group of parents/children/others in the community to support the arts.

4% wrote a letter to the local school board or other government official requesting more arts programs in the school.

59% of parents and caretakers say they are more involved in arts education at present than in past years.

The researchers then asked participants their reasons for *not* taking more action in regard to arts and education. (They could identify more than one reason.)

71% "There are other people or organizations in the community who are better suited to take action."

58% "I am currently too busy or have too many demands on my time to get involved."

57% "The arts are important, but not as important as other core subjects."

56% "I do my part by taking my child to arts activities outside of school."

34% "I don't know how to get involved with arts education."

31% "I don't think there is anything I can do to personally affect change."

29% "I don't feel that my involvement will result in a serious benefit for the child."

Source: [www.artsusa.org/Ad\\_Council\\_Report.pdf](http://www.artsusa.org/Ad_Council_Report.pdf)

# **Pull-Out String Lessons Do Not Harm Academic Achievement According to Ohio Study**

“Pull-outs have become almost a nightmare for many elementary school principals, who view the practice as a kind of pernicious anemia that attacks whole-class instruction time. Once pull-outs take hold in a school, there appears to be no end to them, and no way to rid the instructional program of their debilitating impact.”

- From “Pull-outs: How much do they erode whole-class teaching?” by F. English, appearing in *Principal*, May 1984, p. 32.

## **BACKGROUND**

Many school instrumental music programs remove students from a regular classroom for individual or small-group instrumental instruction. Often, this practice causes tension among teachers and administrators. Many of those opposed to pull-out lessons are concerned that students will fall behind in their academic performance by missing classroom instruction time. In the study described below, the test scores of students who leave their classroom for thirty-minute string instrument lessons twice each week are compared to the scores of students who remain in the classroom.

## **STUDY METHOD**

The authors studied the 1995 results of the Ohio Proficiency Test (OPT) given to fourth-grade students in Hamilton, Ohio. To make the comparison between string and non-string students as fair as possible, the researchers looked at students' scores on a previous standardized test, the Cognitive Abilities Test, or COGAT. Each of the 148 fourth-grade string students was matched to a non-string student who achieved the same verbal score on the COGAT. This made a total of 296 students whose scores on the Ohio Proficiency Test were analyzed, and the academic abilities of the non-string students selected for the study matched the academic abilities of the string students as closely as possible.

## **RESULTS**

Listed below are the mean (average) Ohio Proficiency Test scores for the students in this study:

### **WRITING**

String Students: 5.05

Non-String Students: 4.85

### **READING**

String Students: 229.5

Non-String Students: 223.2

### **MATHEMATICS**

String Students: 214.8

Non-String Students: 211.8

### **CITIZENSHIP (Social Studies)**

String Students: 231.3

Non-String Students: 224.8

Listed below are the percentages of students in this study achieving test scores at or above standard performance. The standard for the 1995 Ohio Proficiency Test is 4.0 in reading and 200 in all other areas.

### **WRITING**

String students: 85%

Non-string students: 85%

### **READING**

String students: 89%

Non-string students: 87%

### **MATHEMATICS**

String students: 76%

Non-string students: 65%

### **CITIZENSHIP**

String students: 93%

Non-string students: 87%

### **AT STANDARD ON ALL SECTIONS OF THE TEST**

String students: 68%

Non-string students: 58%



## CONCLUSIONS

From the results of this study we can conclude that the string students did not suffer negative academic effects when compared to students of similar academic capability who remained in the classroom. We can also conclude that the overall Ohio Proficiency Test performance of the students who participated in string pull-out lessons was better than the performance of the students of similar ability who did not participate in the string program.

The results of this study seem to indicate that students who study instruments in a small-group or individual setting actually improve their academic abilities, however this study was not designed to document improvement, and further study is needed before drawing this conclusion.

Michael D. Wallick, the author of the Ohio report, offers this analysis of what takes place during pull-out string instruction:

“When string students are excused from their classrooms for string class, they are not leaving instruction. They are moving to another classroom in a different area of the building. The concepts taught in string [lessons] go far beyond pitch and rhythm. For example, a student must understand fractions and their relationships to each other in order to manipulate rhythm. The student who has trouble understanding the abstract concept that a half is twice one quarter may comprehend the concrete example of his or her bow moving twice as far on half notes as quarter notes. The musician reads abstract concepts from the page and then translates them into concrete phenomena that involve time and space.”

From “A Comparison Study of the Ohio Proficiency Test Results between Fourth-Grade String Pullout Students and Those of Matched Ability” by Michael D. Wallick, *Journal of Research in Music Education*, 1998.

## **Research, Music and Policy Debates**

The word is out researchers have discovered a way to make kids smarter. And savvy parents are signing their children up for private piano lessons while school boards debate the role of music in the public school curriculum.

Statistics indicate that students who participate in music earn higher grades and score better on standardized tests. But no one has been sure what that means: Do the brighter students gravitate toward music, or does music make students brighter? Now there is powerful evidence of a causal link between music instruction and intelligence.

In a study conducted by psychologist Frances Rauscher of the University of Wisconsin at Oshkosh and physicist Gordon Shaw of the University of California at Irvine, preschool children were divided into four groups. One group received private piano keyboard lessons while another received private lessons on the computer. The remaining two groups served as controls, receiving neither piano nor computer instruction. According to a report published in the February 1997 issue of *Neurological Research*, the children who had received piano keyboard instruction scored 34 percent higher than the others on tests designed to measure spatial-temporal reasoning. Because these functions are critical components in the understanding of subjects like mathematics, science and engineering, this body of research has significant implications for public education policy.

Ironically, at a time when education research indicates the need to move in one direction, political pressures dictate another. Recent public concerns about basic skills in reading and mathematics have led some school districts to narrow their curriculum, eliminating ostensibly peripheral subjects like music, in an effort to improve scores on standardized tests.

Wisconsin's School District of Kettle Moraine has chosen a different approach. In a pilot program during the 1996-97 school year, the district partially replicated an earlier Rauscher study, using kindergarten students rather than preschoolers and group piano keyboard instruction rather than private lessons. At the end of the school year, students in classes that had received piano instruction outscored those who received no formal music instruction by an astonishing 46 percent. "As a result of that pilot study," District Superintendent of Schools Sarah Jerome says, "all kindergarten students in the district now receive piano keyboard instruction as part of the regular curriculum, and plans are moving forward to expand the program next year to students in every elementary classroom."

This revolutionary approach transcends the traditional view that piano lessons belong in the exclusive domain of the parents. Instead, it focuses on whether piano keyboard skills ought to be part of a basic education for all students.

Perhaps it is time for school boards everywhere to step back from the battles over funding, test scores, and curriculum, to look at the big picture and then redefine the terms

of the debate over education policy. If we mean business about improving student achievement, we must rise above political pressures, above petty power struggles, and pay close attention to what the researchers are telling us because their message about music and learning truly resonates.

Source: “Research, Music and Policy Debates” by Joan Schmidt,  
Director National School Boards Association.

NSBA is a national organization with a commitment to local  
governance of the public schools.

Montana School Boards Association Bulletin, April 1998.

Reprinted with permission.

## **Resolution Affirming Value of Music**

On March 8, 2000, leading advocates for school music education and some of the country's best-loved musical artists were in the nation's capitol, where Representative David McIntosh (R-Ind.) introduced a concurrent resolution in support of music education for children everywhere.

Flanked by renowned singer/songwriters Michael McDonald and James Taylor at a press conference in the Rayburn House Office Building, NAMM-International Music Products Association President and CEO Larry Linkin joined National Association for Music Education Executive Director Dr. John Mahlmann and VH1 President John Sykes in thanking Rep. McIntosh and co-sponsor Rep. Bob Clement (D-Tenn.) for their support of music education.

"People all over the country are waking up to the vital role music plays in a young person's development, but grass-roots efforts aren't always enough," Linkin said. "There's a role for the federal government to play in this struggle, and I'm very grateful to Representatives McIntosh and Clement for taking an important step in that direction."

In addition to the press conference, members of the music education delegation spent the day in one-on-one meetings with key members of Congress.

The McIntosh resolution, H.CON.RES. 266, cites the "growing body of scientific research" that links music education to improved spatial-temporal reasoning and math performance, the evidence that music helps keep at-risk students in school, and increased SAT scores among music students. If the resolution is adopted by the House and Senate, it will become the official "sense of the Congress" that music education enhances intellectual development, fosters artistic and social success, and enriches the academic environment for children of all ages.

"Thanks to Congressman McIntosh, the value of music education is poised to become part of the public record, and Congress itself will be on board with our efforts to bring music into every child's life," Sykes said.

According to Mahlmann, music should be part of every child's core curriculum, not a frill. "There is more evidence every day that music education has a beneficial ripple effect through the rest of a child's academic and social life," he said. "Music shouldn't be any more optional than English or math. Making that a reality will be much easier if the people here on Capitol Hill are behind us."

Source: AMC Music News, American Music Conference

# Schools Fail To Expose Kids To Arts

WASHINGTON (AP) -- Only one in four students gets the chance to sing, play an instrument or perform plays in class each week, even though most American schools offer some type of arts education program, an Education Department study found.

As many schools increase their spending on such areas as computers and special education, less money is available to pay for arts classes. But the failure to give students instruction or performance opportunities in music, arts and theater is serious, said Education Secretary Richard Riley.

"In nearly every field in which we need to foster new ideas in order to succeed - from computers to communications -- people with an education in the arts are playing critical conceptual roles," he said Tuesday.

Renee Williams of the National School Boards Association said arts education programs vary among school districts but a trend against them has emerged.

"When school districts are strapped for funds, the programs that seem to get cut first before athletics or anything else are the arts programs," she said. "Some people just don't see the importance of it. But, there has been recent research done on how these types of curriculums in music and art can help with brain development."

The first National Assessment of Educational Progress in the arts, which covered only classes during normal school hours, found music is the most commonly offered arts class. Some form of the subject was taught at least once a week in 81 percent of schools. Just 9 percent of schools offered no music courses at all. Visual arts were taught at least once a week at 77 percent of schools, and 17 percent offered no such classes.

Weekly theater arts classes were offered at 17 percent of schools, but 74 percent of schools failed to offer that subject at all. Dance was the least available art, offered at least once a week at 7 percent of schools surveyed and unavailable at 80 percent.

Not surprisingly, students with frequent instruction did better than those with fewer classes when tested on knowledge and skills in the arts, the study found.

For example, when asked to sing, create music and perform dances, students who had instruction at least once a week scored an average of 53 out of 100 points, compared with 27 for students who didn't study music.

The NAEP study, often called the nation's report card, was conducted in 1997 on a representative sample of 6,660 students from 268 public and private schools. Previous report cards have assessed students' performance in math, history, reading and science.

Source: The Associated Press, New York, November 11, 1998

## *Release of NAEP 1997 Arts Report Card*

The NAEP 1997 Arts Report Card released November 10, 1998 by the Education Department's National Center for Education Statistics gives music educators a new opportunity to call the attention of school administrators, parents, and the public to the important role of the arts in K-12 education. In releasing the report, Secretary of Education Richard W. Riley said that this assessment "supports a primary rationale for [the National Standards]." He noted that "the results show that as a nation we are falling short in the opportunities we provide to our students for quality arts instruction."

For a look at the report and for ordering information, see the NAEP Web site at <http://nces.ed.gov>, and the Arts Education Partnership's Web site at <http://aep-arts.org>.

## Strategies for Low-Performing Schools and At-Risk Youth

*Following is a statement by VH1 President John Sykes and VH1 Save the Music Executive Director Bob Morrison to the National Governors Association on February 25, 2001.*

As you are well aware, we are entering a time of intense focus in our country on improving our schools. As a citizen and a parent, it is a breath of fresh air to see that providing our children with the best possible education has brought everyone in this room together. It is an issue that transcends political boundaries. I know it is a priority for the group gathered here today, and I promise you it is also one for us in the business community.

You've heard it here today. The question is no longer whether reform is needed. The debate has now centered on how. This is particularly true when we focus on reform efforts in low performing schools and for our "at risk" youth.

While we do not pretend to have the solution to the larger issue of how to improve our schools, we do believe we have an important part of the solution: Music Education. When I say music education, I am not referring to the exposure of our children to music (like listening to classical CD's or taking kids to an orchestra concert). I am talking about the sequential acquisition of skills and knowledge in music. I am talking about making and playing music, as part of the regular curriculum, available to all children.

That is why we started the VH1 Save The Music Foundation. VH1 Save The Music is a non-profit organization dedicated to restoring music education in our public schools and to raising awareness about the importance of music participation for our nation's youth. We do this primarily through VH1's reach into 74 million U.S. television homes.

Due to competing demands for time and money in our public schools, music and arts education programs have, in many communities, been eliminated over the past 30 years. The devastation to these programs has been most significant in our more urban and rural schools. One recurring theme I have found...in visiting schools across the country...is that high-performing schools, without exception, include a robust music and arts education program while low-performing schools in most instances do not.

The elimination of music programs has occurred against the backdrop of a growing body of scientific research that has been reinforcing what many of us in the music community have known all along: Music Education Builds Brain Power. It is a key to improving academic performance and a key to helping at-risk students and low performing schools.

I won't ask you to take my word for it. Let's look at the body of evidence:

In a study released last year, second graders from a low income school in Los Angeles were given eight months of piano keyboard training, as well as time playing with newly designed music software. The result? These students, taking the Stanford 9 Math Test,

went from scoring in the 30<sup>th</sup> to the 65<sup>th</sup> percentile. These second graders were performing sixth grade math.

(Neurological Research, March 15, 1999; Gordon Shaw, Ph.D, University of California, Irvine)

A related study by University of Wisconsin Professor, Dr. Frances Rauscher published in 1997 in the Scientific Journal Neurological Research showed that children involved with keyboard instruction at early age showed significantly enhanced abstract reasoning abilities, critical to success in science and complex math.

After learning about this research, the Wisconsin School District of Kettle Moraine wanted to see how this concept would work in the real world. They implemented a program that replicated the Rauscher study, using kindergarten students and group piano instruction. At the end of the school year, students in classes that had received piano keyboard instruction outscored those who received no keyboard instruction by 46 percent! The program has since expanded to K through 6 students across the entire district.

The critical point here is the students were not taught math using music...they were taught music. It was the process of learning music that helped improve their math skills. (Early Childhood Research Quarterly, 2000)

One of the issues for at-risk youth is drug and alcohol abuse. A 1999 report released by the Texas Commission on Drugs and Alcohol abuse found that students involved in band or orchestra (when compared against other student activities) reported the lowest lifetime and current use of all substances (alcohol, tobacco, or drugs). (1999 Texas Commission On Drug and Alcohol Abuse)

According to the College Board, students involved with music score an average of 100 points higher on SAT tests than students who do not. The longer a student has been involved with music instruction, the greater the difference. (College Board Survey of SAT Test Takers 2000)

In another study, Dr. James Catterall of UCLA analyzed the school records of 25,000 students from the NELS88 Database as they moved through school. He found that students who studied music had higher grades, scored better on standardized tests, and had better attendance records. When he factored in economic status he also found that students from poorer families who studied music improved their overall school performance at the same rate or faster than all others. (Dr. James Catterall, UCLA, 1997)

In spite of this evidence, recent public concerns about declining basic skills in reading and mathematics have led some school districts to narrow their curriculum, eliminating subjects like music, in an effort to improve scores on standardized tests.



The result has been the creation of an educational and cultural caste system. A system of have and have-nots. A system where the elementary school children in the suburbs surrounding Baltimore all have music. But, in the city, only 13 of 130 elementary schools include music. The same is true for other areas from Boston to Los Angeles, Milwaukee to New Orleans.

So...on the one hand, we have all of this research. On the other hand we have this unfortunate reality.

Inspired by much of this research, and stunned by our first hand knowledge of the limitation of music instruction in New York City public schools, we formed our VH1 Save The Music Foundation in 1997...In many instances, our work in a community is the first time many of these schools have had instrumental music programs in more than 20 years. Besides the academic impact of music instruction, we were pleasantly surprised to find some additional benefits:

1. Music programs are a catalyst for creating parental involvement in schools. The parents not only come to see their children perform...they visit the after school rehearsals and interact with the teachers and school officials. For many parents it is the first time they have ever visited their child's school.
2. Music programs have attracted other members of the community, from senior citizens to local business leaders. Once people are in the school, they are able to see firsthand the efforts of the school, not just in music, but in other areas as well.
3. Because students are involved in the study of music during the school day, they practice music after school. It is clear that if a child has an instrument in his or her hand, there is less chance of picking up something more damaging, like a crack pipe, a needle, a bottle or a gun.
4. In many instances, music has become the motivating factor for a child to stay in school. Sharon Johnson, from Parham Elementary [in Cincinnati] has emphatically pointed this out to us. So have hundreds of other principals, teachers, students and parents who have written to us at VH1. Participation in a school music program in many instances becomes the only reason a child comes to school.

So what does the public think of this? A Gallup survey conducted last spring showed that:

- 78% of Americans agree that states should mandate music education for all students
- 85% agree that communities should provide the financial resources for these programs
- And a whopping 93% agree that schools should offer music instruction as part of the basic curriculum

I am sure any of you would be happy to have these approval ratings!

So, we've heard the evidence. What we need now is action. So here is how you can help:

**As An Organization:** We strongly urge that you open the aperture on core subjects covered through your efforts with "Achieve" and look closely at the direct academic benefits of music education. We applaud the work many of you have done and we understand the pressure created by the TIMMS Study to focus on the "basic core" subject areas.

We believe the time has come to include music education in your areas of concern, data collection, standards comparisons and best practices reporting. This is a small request. But its impact, and the message it will send to education officials around the country, will be profound.

Be careful about the unintended consequences often caused by emphasizing only reading, math, and accountability. We all agree about the need to stress these issues. But, we need to be sure that we do so in a way that does not send a signal to local communities that this must be done at the expense of music or arts education. We now have solid proof that the two go hand in hand. The solution we all seek is not achieved by forcing schools to choose.

**In Your States:** Focus on what is happening with music in the regular curriculum. The real benefits of music and arts education that we have discussed today come from them being conducted as an academic subject.

Examine the research. Develop your own understanding of the critical impact these programs have on the development of our children, our schools, and our communities. And don't take our word for it. Talk to educators in cities and schools across your state where these music programs are working.

Do you have policies in place and do you promote policies that include music education as an equal educational partner (like math, reading, history and science)? We believe you should.

Do you have standards for the arts? If so, have you established an assessment process? Having standards and an assessment process for music and arts education sends the unmistakable message that the arts are a part of a basic education.

And what would any presentation to a group of distinguished governors be without a request for more money! Some small targeted investments in music can reap years and years of educational rewards.

We are well aware of the challenges you face every day providing leadership for your states. We do not expect you to wake up first thing every day and think about how to put

music and arts education back into the classroom. But, we do hope that, based on the information we are sharing with you today, you will recognize its incredible academic power. We believe this so strongly that we have committed millions of dollars of our own. We are not lobbyists. We operate a cable television network and we are parents. Our only vested interest is in our children.

You know in a business like VH1...there is one part of the budget you never cut! It's called Product Development. Well, the children in this country are the future products of our society. They are our future customers, our leaders and our neighbors. And as Superintendent Floyd [of Cincinnati] said earlier so eloquently, "children don't control where they live and they can't vote." It's up to us.

We hope the NGA and each of you in your own states will study and adopt these recommendations. We welcome the opportunity to be your partner in this process.

We're here to work with you. Bob and I welcome your questions or comments.

Thank you!

106th CONGRESS  
2nd Session  
H. CON. RES. 266  
IN THE SENATE OF THE UNITED STATES  
June 14, 2000

Received and referred to the Committee on Health, Education, Labor, and Pensions

**CONCURRENT RESOLUTION**  
Expressing the sense of the Congress  
regarding the benefits of music education

**Whereas** there is a growing body of scientific research demonstrating that children who receive music instruction score better on spatial-temporal reasoning tests and proportional math problems;

**Whereas** music education grounded in rigorous instruction is an important component of a well-rounded academic program;

**Whereas** opportunities in music and the arts have enabled children with disabilities to participate more fully in school and community activities;

**Whereas** music and the arts can motivate at-risk students to stay in school and become active participants in the educational process;

**Whereas** according to the College Board, college-bound high school seniors in 1998 who received music instruction scored 53 points higher on the verbal portion and 39 points higher on the math portion of the tests than college-bound high school seniors with no musical instruction;

**Whereas** a 1999 report by the Texas Commission on Drug and Alcohol Abuse states that individuals who participated in band or orchestra reported the lowest levels of current and lifelong use of alcohol, tobacco, and illicit drugs; and

**Whereas** comprehensive, sequential music instruction enhances early brain development and improves cognitive and communicative skills, self, discipline, and creativity: Now, therefore, be it

**Resolved** by the House of Representatives (the Senate concurring),  
That it is the sense of Congress that —

**(1)** music education enhances intellectual development and enriches the academic environment for children of all ages; and

**(2)** music educators greatly contribute to the artistic, intellectual, and social development of American children, and play a key role in helping children to succeed in school.

Passed the House of Representatives June 13, 2000

# **VH1 President Offers Testimony Before Senate HELP Committee**

*VH1 President John Sykes appeared before the Senate Committee on Health, Education, Labor and Pensions on June 29, 1999 to present testimony on the importance of music and arts education in our schools. His statement contains good information for anyone interested in supporting school music programs.*

## **John Sykes, President, VH1 Statement before the Committee on Health, Education, Labor and Pensions United States Senate June 29, 1999**

Thank you, Mr. Chairman, Senator Kennedy, and members of the committee. I greatly appreciate this opportunity to appear before you to discuss the issue of music and arts education in our schools. As a parent, a businessman and, above all, as a citizen, I have an abiding interest in this topic, which is the focus on the VH1 Save the Music Foundation.

VH1 Save the Music is a nonprofit organization dedicated to improving the quality of education in America's public schools. This foundation seeks to raise awareness about the importance of music education and to restore music programs in schools across the country. We work with partners such as MENC: The National Association for Music Education, The National School Boards Association, The Recording Industry of America, America's Promise, local school districts and cable companies across the country, such as District Cablevision right here in Washington, DC. With these partnerships, VH1 Save the Music sets up local programs where we collect used musical instruments and donate them to needy public schools. Whatever we don't collect, we purchase with money raised nationally by our foundation.

We administer this program with a combination of high energy and low overhead, which allows us to put 90 cents of every dollar to work in the form of a musical instrument in a child's hands. We also leverage this investment with a commitment from local schools to rebuild music programs as a part of their regular curriculum.

By the end of 1999, VH1 Save the Music will have generated some \$25 million in total support for 350 school music programs in 30 cities affecting more than 120,000 school children. Our ten-year plan is to provide \$100 million in total support to bring music participation to one million public school students.

There are so many challenges facing our public schools - Why save the music? We all know music and arts education in school provides enormous cultural and social benefits for children and for society at large. But what has recently come to light over the past decade is a growing body of research that shows a direct connection between music and arts education and a child's ability to excel academically. Studies dating back to 1989 have revealed that students involved in music programs show improved reading abilities and higher math and science scores. They also have enhanced self-esteem and are less likely to be involved with gangs and drugs. In addition, these students demonstrate significant improvements in their spatial abilities. Because the study of music generates neural connections, it benefits those brain functions that aid the abstract reasoning that math and science require. Music actually makes our kids smarter.

As you can see from the chart, the college board last year documented a 100-point gap in SAT scores between students who had music and arts instruction during their early elementary school years and students who did not. Dr. Fran Rauscher of the University of Wisconsin and her colleagues have demonstrated remarkable increases in the spatial-temporal IQ's of children who

received music training compared to those who did not receive training. Eight months after instruction began, the music students' scores improved by 46 percent while the scores of children who received no training improved by only 6 percent. These findings were consistent across demographic and socio-economic categories.

Yet, despite this important research, school music and arts programs are being cut back or completely eliminated. I have a copy here of last Thursday's San Francisco Examiner which describes a controversial decision by the city's unified school district to cut their popular elementary school arts program. And it's not just happening in San Francisco. Only 25 percent of 8th grade students participated in a music program according to the 1998 NAEP Arts Assessment. Many students, particularly those in poor urban or rural districts, have no access at all to music or arts programs. How can we expect students to excel when we are denying them what we now know is a cornerstone of their academic foundation?

I had the great privilege to be principal for a day last month at Public School 153 in Brooklyn. I walked into a music class and saw Mrs. Linda Keltz giving lessons to her 4th grade orchestra. I couldn't believe my ears - they all had instruments! Feeling encouraged, I asked Mrs. Keltz how her school managed to support her program. "What support?" she replied. "I bought these instruments with my own money at flea markets. We don't have a penny in our budget for musical instruments."

It was a sobering experience as well as a testament to the dedication of teachers like Mrs. Keltz. But we should not and cannot rely on flea markets and selfless teachers who use their own paychecks to provide instruments to students. That will not rebuild the music and arts programs gutted by budget cuts in the 1970's, 1980's and 1990's.

And while I am proud of our accomplishments at VH1 Save the Music, I am daunted by the scale and scope of the need - a need we cannot possibly meet without the government getting actively involved on the side of music and arts education.

While the United States has been busy growing the Dow Jones Industrial average by 1000 percent over the past 20 years, our children's test scores have been dropping steadily, placing American students near the bottom of all those from industrialized nations. At the same time, we have been steadily withdrawing funds from music and arts programs in our schools, causing many to wither and die of neglect.

At VH1, we are committed to doing our part to help bring about change. First of all, it's the right thing to do. We can effectively use VH1's powerful reach to 68 million U.S. television homes to send an important message that music and arts education is an investment in our children's future. The other reason is a bit more direct...children are our future customers, employees and neighbors. We're making a solid business investment in the future of our society.

In every successful business, whether it's VH1's parent company Viacom, IBM or the Ford Motor Company, there is one budget line that never gets cut. It's called "Product Development" - and it's the key to any company's future growth. Music education is critical to the product development of this nation's most important resource - our children.

We want to be sure all children have access to an education that includes music and arts, not just the best students, not just the gifted students, not just the talented students, and certainly not just those who can afford it, but ALL students in ALL of our schools.

This is not so we can create the next Mozart, Picasso, or Bruce Springsteen. We teach our children music and arts because it will equip them with the skills that can create the next George Soros, Michael Armstrong, or Katherine Graham. In essence, we teach our children music and arts so they may be successful in life.

Our parents had music and arts education available to them. You had it. I had it. Why are we taking it away from our children? We need to ensure that our kids have it too. I promise that we at VH1 and Viacom will continue to do our part. But we need one more very important partner - you - to help us as we work to build back these music and arts programs - one school, one child at a time.

Mr. Chairman, that concludes my testimony today. Once again, I want to thank you for this opportunity to address the committee. And I would be pleased to answer any questions you may have.

# What Do We Want Our Schools To Do?

What does our society want for our children? That they be able to use their minds well and that they respect and value the opinions of others? We could agree perhaps on these two educational outcomes.

In another article in the Phi Delta Kappan, Craig Sautter speaks of different kinds of curricula in schools. The standard, subject-matter-driven curriculum is the one we mostly think about. There are a couple of others. The first is the so-called "metacurriculum", whose aim is the development of higher-order or "critical and creative" thinking skills - in other words, the ability to use one's mind well.

The other is the "hidden" curriculum, which has to do with students' motivation to learn and with their interactions with peers and adults. This "hidden" curriculum is more closely related to the real concerns of those inside schools, as we read in "Voices from Inside," a report based on interviews with teachers, students, principals, and parents conducted by the Claremont (CA) University Center and Graduate School.

Could it be that most of our schools are directing their efforts toward objectives that are less relevant than they once were? Are we focusing on the wrong things in thinking about education? Do we need to rethink the whole purpose of education? Should we find out just what Americans want their schools to do? We need to talk about these issues as a nation.

All of us - professional educators and members of the general public alike - are at once expert and amateur about educational matters. Since we have all been subjected to schooling, we all have opinions as to where education ought to be heading. Educators, who should know the most of all, are now being challenged by findings from other professional fields of inquiry.

If the public is footing the bill for public school education, it has the right to insist that educational services be delivered in an efficient and professional manner. In order for this to happen, we clearly need an approach to school improvement that is not only coherent but also workable - and at a cost that America is willing to bear.

Let me suggest an idea - a coherent approach - for your consideration. Three years ago I found something that actually worked, and I have been investigating the reasons why ever since. On the surface it has nothing to do with "education" as we have come to understand it. Most of us believe that education is primarily absorbing facts -building a knowledge base to become "educated." What I found was that the arts -when taught during (not after) the school day, when offered to all students (not just to the talented), and when presented as serious subjects with high standards - are producing young people who are indeed "educated."

Not only do the arts enable students to achieve academically at rates far beyond what might be expected of them (in subjects such as math and science), but other marvelous things happen as well. Students who study the arts respect their peers and treat them well. They become motivated to learn. They enjoy coming to school, working hard, and succeeding. Through the arts, the whole school "ecology" changes. High standards become the norm in all subjects. Relationships between students and teachers improve. Each curriculum -- the regular, the meta-, and the hidden - is addressed in arts-integrated schools.

Ron Berger, a sixth-grade teacher in western Massachusetts, has this to say about his results with students: "The infusion of arts has had a profound effect on student understanding, investment,



and standards. As a whole, students not only do well on standardized testing measures, but importantly and demonstrably do well in real-life measures of learning. They are capable and confident readers, writers, and users of math; they are strong thinkers and workers; they treat others well."

Ron Berger's school and other arts-integrated schools around the country provide models of institutions that have achieved dramatic results by using all the arts as powerful systems for delivering learning and as effective agents for change. A coherent vision for schooling in the 21st century is embodied in these schools.

I find it particularly puzzling that many professional educators -- who should know what they are doing - have slighted the arts. Yet research conducted by the Center for Arts in the Basic Curriculum (CABC) points to the conclusion that arts-integrated schools are the most promising way to improve American education.

I ask those who are skeptical to consider first the principles that are driving education today. They include the idea that students have fixed amounts of intelligence --various-sized "buckets," if you will. Educators will say that they can tell, early on, the size of students' buckets and will put each into the appropriate track for his or her bucket's size. And educators believe that their primary job is then to fill each bucket with facts - with knowledge.

During the last 20 years, cognitive psychologists studying how people really do learn have established that children do not absorb knowledge passively - they construct it actively. And with that process they are able to make their buckets larger. David Perkins of Harvard University has described this process of constructing knowledge as building and revising "relational webs."

As knowledge is constructed, it must be made meaningful. Meaning arises from the marriage of concepts -- born from the active use of our perceptive abilities - with an analytic framework, which gives them structure.

Most educators believe that meaning can be arrived at merely through analysis and reason. These beliefs find their origin in the works of Plato, who considered the senses illusory and confined them to a cave. Equipping students with the structure, or framework, is enough, in these educators' minds. Talking at students, they feel, should do the job.

Neurologists, physicists, and cognitive psychologists are discovering this to be a false notion. Only combining the intellect with the senses, they believe, can arrive at meaning. Backing up the idea that the intellect and the senses must work together as coequal partners to construct meaning is Howard Gardner's theory of multiple intelligences. Gardner maintains we have at least seven intelligences, rather than simply the two to which schools cater (the verbal and the logical/mathematical intelligences). Gardner suggests that people exhibit intelligence in several other ways. These include the visual/spatial, musical, kinesthetic, interpersonal, and intrapersonal intelligences.

What does all this have to do with the arts? Those who work with Gardner in Harvard's Project Zero, a group that has been thinking about this subject for 20 years, now say emphatically that the arts represent these other intelligences - they are cognitive domains that are as important as the domains we have traditionally emphasized.

In light of these discoveries, I suggest that the fundamental assumptions on which the educational enterprise rests are flawed and must be reexamined. I am not implying that educators aren't doing their job. They are simply doing what the public has asked them to do. The practical problems of teaching young people in today's schools are enormous. We all have great respect for those

willing to put up with what can be intolerable working conditions. However, new understandings about intelligence and about how children learn should be applied to teaching practices and curriculum, which in turn must be aligned with what we, as a people, have agreed are the purposes of education.

Art educators are also laboring under intolerable conditions, not the least of which is the general attitude that what they teach is irrelevant. However, to a certain extent they are victims of their own attitudes. Many art educators are really interested only in finding that special youngster who will turn out to be a talented artist. They do not believe, or even want to believe, that the arts are cognitive domains, because that would make the arts accessible to everyone. The arts would then no longer be the special province of the talented. Arts educators want to remain "special." Since most other educators see little worth in the specialty of arts educators, they are doomed to push their shopping carts laden with materials from class to class, while the "real" educators take breaks or get together in planning sessions. We have in many art educators the educational equivalent of the homeless, even when they are lucky enough to find a job.

While general educators operate with old and misguided assumptions about mind, knowledge, and intelligence, art educators pursue the talented and leave the rest struggling. Yet, if we are imbued with multiple intelligences -- if the arts are indeed cognitive domains -- then we are all artists in one form or another and to a greater or lesser extent. Maybe we cannot sing or dance well, but we can write imaginatively, or draw, or act. As I mentioned earlier, these arts-related intelligences are the source of concepts, and concepts are essential for the construction of meaning. Since the arts represent organized forms of perception, we conclude that higher levels of abstract thought " i.e., critical and creative thinking capabilities " are dependent to a significant extent on artistic thinking. Thus the metacurriculum of our schools can be addressed most effectively through the arts.

Edward de Bono believes that these higher-order, perceptive skills are vastly more important to success in life than are the rational skills of logical reasoning.

"We need to move from our exclusive concern with the logic of processing, or reason, to the logic of perception. Perception is the basis of wisdom. For twenty-four centuries we have put all our intellectual effort into the logic of reason rather than the logic of perception. Yet in the conduct of human affairs perception is far more important. Why have we made this mistake?

We might have believed that perception did not really matter and could in the end be controlled by logic and reason. We did not like the vagueness, subjectivity and variability of perception and sought refuge in the solid absolutes of truth and logic. To some extent the Greeks created logic to make sense of perception. We were content to leave perception to the world of art (drama, poetry, painting, music, and dance) while reason got on with its own business in science, mathematics, economics and government. We have never understood perception. Perceptual truth is different from constructed truth."

One physicist, Morton Tavel of Vassar College, believes that the future of the sciences is dependent on the arts. This notion appears to be yet another untenable idea, attributing to the arts powers that most people cannot accept. After all, are not the sciences in the business of collecting scientific "facts" about how the world operates? Not according to Albert Einstein. He suggested that the very purpose of the sciences is to understand the senses. He said, "The aim of science is the conceptual comprehension and connection, as complete as possible, of the sense experiences in their full diversity."

The aim of the arts is similar. The sciences and the arts are both investigations into the nature of reality. Artists and scientists share the desire to investigate and express the ways interlocking

pieces of reality fit together. They simply use different symbol systems and different ways of verifying their conclusions.

Aesthetic awareness is as necessary to science as it is to the arts. Aesthetic understanding is reached by connecting the intellect with the senses - which is precisely Einstein's definition of the aim of science. According to Morton Tavel, "An apple falling is not simply an event. It is the exhibition of a unity which, to the discoverer, is a profoundly emotional, exciting and even beautiful event."

Leonard Shiain, author of *Art & Physics*, suggests that "mind (intellect) and universe (senses) may be simply aspects of a binary system and that art and physics should be seen as two pincers of a claw grasping reality. The arts, being organized perceptions, are primary sources of material with which to engage in scientific thinking. Shiain suggests that artists are the first to conceptualize, through their art, important understandings or generalizations about the world that scientists only later translate into language. He proposes that "the radical innovations of art embody the preverbal stages of new concepts that will eventually change a civilization." Moreover, the arts provide connections that allow lateral leaps between cognitive domains, which can produce sudden scientific insight.

Could it be that our schools at present allow children to play with only half a deck? In denying the arts to our children, do we deny them access to organized (as opposed to chaotic) forms of reality - since our perception of reality is a combination of the intellect and the senses? Is it possible that the failure of our schools can be attributed to a significant degree to the dismissal of the arts from the curriculum?

Those of us at CABC think so. We believe that we need to regain a balance between the rational mind and the perceptive mind. We need to integrate head, heart, and hand. At the moment, we concentrate on the head - "the basics" -- and our efforts aren't working. We suggest a new paradigm for education in America: arts-integrated education, or education in and through the arts.

Source: "What Do We Want Our Schools To Do?" - by Eric Oddleifson, Phi Delta Kappan, February 1994 - At the time of his article, Eric Oddleifson was chairman of the Center for Arts in the Basic Curriculum (CABC), Washington, D.C.

## Why Music? The 4 Cs

School Curriculum, use of academic time, and the applicable value of knowledge brought to the classroom are all being discussed in today's society. With an emphasis on "back to basics," it becomes increasingly more significant to bring the importance of music to the forefront of this ongoing discussion.

Why should a young person consider joining the band (choir, orchestra)? How long should they stay in choir (orchestra, band)? What will it mean in their life?

**Creativity:** Creativity is the source of all possibilities. We are constantly challenged to explore this area of the mind. Music appeals to the part of the mind which opens new horizons. The study of music supports wonderment, imagination, appreciation, and sensitivity. Music allows us to experience creativity as an inventive thinking style.

**Communication:** Music is a language unto itself. Music can only be explained by music. If we do not expose the human to music, we are depriving the individual of an array of personal understandings that cannot be found in any other part of life.

**Critical Assessment:** Intelligence is the ability to process facts and respond according to the given situation. Emotional stability stems from the capacity to deal with life's many inconsistencies. To accomplish both, the individual must be able to access the cognitive (factual) and affective (emotional) sides of the mind. Music is one of the few academic disciplines which demands this ability and reinforces learning patterns to allow for greater critical assessment.

**Commitment:** Success is not measured by what we start, but rather by what we complete. In music, every student will be required to perform the entire composition from beginning to end. Although there may be errors in the performance, it is most unusual to see an individual simply stop and put their instrument away. The important qualities of tenacity and persistence establish habits for positive, productive living.

These attributes can be found in many subject areas; however, MUSIC does not make these optional, but a fundamental necessity from the first note ever played or sung. Participation at the level of excellence is not a personal preference; it is a requirement. Success breeds success in every avenue of life. Therefore, a successful and well-trained musician does tackle life with knowledge of "what it takes to get there," and the wisdom of "what it brings to life."

**LET THE MUSIC BEGIN!**

# Wisconsin District Requires Piano Lessons For K-5 Students

The Kettle Moraine district in Wales, Wisconsin is requiring piano lessons for the remainder of this school year for all K-5 pupils after seeing encouraging results from a district pilot program. Private funding will enable the district's music teachers to provide piano lessons to 1,800 elementary students for 90 minutes a week.

The pilot program was started in 1996. District officials based it on research that has linked music to improved learning through its enhancement of students' spatial-temporal reasoning skills. Those skills aid in understanding proportion, geometry, and other mathematical and scientific concepts.

Kindergartners in two of the 4,200-student district's elementary schools were given piano lessons twice a week for 20 to 30 minutes at a time. They were tested before the lessons began and then at four-month intervals. At the end of the school year, tests showed that the kindergartners who had the lessons scored 43 percent higher on solving puzzles and 53 percent higher on block building than those who did not have the lessons.

Even with the increase in scores, "we don't know yet how piano lessons will play out in the children's lives," said Mary Anne Zupan, a music teacher at Wales Elementary School who was instrumental in starting the program. But, she added, "I love seeing the change in their attitudes and seeing them focus on tasks."

The expanded program is being subsidized by about \$40,000 in aid, which includes a \$15,000 grant from a local printing firm, as well as funds from the parent-teacher organization and a local music center to help buy 30 to 40 electronic keyboards and sheet music.

## *Doing No Harm?*

The district turned to Frances H. Rauscher, a developmental psychologist at the University of Wisconsin-Oshkosh, as a consultant for the project. She and a colleague conducted a study in 1992 that brought research on music and learning to the forefront.

Despite the pilot program's success, Ms. Rauscher acknowledges that more research is needed before anything definitive can be said. Piano lessons "certainly will not do any harm," she said. "The worst that can happen is that kids will learn to play the piano."

But other experts are not so sure. John T. Bruer, the president of the James S. McDonnell Foundation, a St. Louis philanthropy that supports research in cognitive science, says that having teachers focus on music takes away from more important subjects. He contends that there are other areas educators should focus on first. "It's odd that educators are willing to base reform on one study," Mr. Bruer said. "It points to how desperate schools are to help children and how little educators understand research."

The district, meanwhile, is reporting strong support from parents, teachers, board members, and the community. "It's not the only thing that we do ... but this program has been nothing but positive," Superintendent Sarah Jerome said.

Source: "Wisconsin District Requires Piano Lessons for K-5 Students" - by Karen L. Abercrombie, Education Week, Oct. 14, 1998



## *Articles: Music and Learning*

- *Math/Spatial Reasoning*
- *Cognitive Development*
- *Higher Education*

# Articles: Music and Learning: Math and Spatial Reasoning



*Arts May Improve Students' Grades*



*Children Taught With New Curriculum Combining Math And Music Score Higher On Test Of Advanced Math Skills And Stanford 9*



*Dr. Gordon Shaw Opens M.I.N.D. Institute*



*Got Mozart? It Does A Rat Good*



*Math: The Invisible Hand Behind The Music*



*Math Skills Grow Over Time With Instrumental Music Participation*



*Piano and Computer Training Boost Student Math Achievement*



*Private Music Lessons Are Linked To Higher Math Test Scores*



*Second Grade Students Combining Computers and Music Score As Well As Fourth Grade Students on Math Exam*



*Singing Familiar Songs Uses Spatial Intelligence*



*The Wrong Keyboard?*



*Why Do Schools Flunk Biology?*

## Arts May Improve Students' Grades

If your teenagers want to be in the high school band or drama club let them. It may improve their grades, as high school students who take music lessons and join theater groups do better in math, reading, history, geography and citizenship, according to a study of Education Department data to be published today.

"If young Americans are to succeed and to contribute to what Federal Reserve Chairman Alan Greenspan describes as 'our economy of ideas,' they will need an education that develops imaginative, flexible and tough-minded thinking," Education Secretary Richard Riley said in a message accompanying the study. "The arts powerfully nurture the ability to think in this manner."

The study, which tracked more than 25,000 students for more than 10 years, found that students who reported consistently high levels of involvement with instrumental music scored significantly higher on math tests by the 12th grade.

This observation held true for students regardless of their parents' income, occupations and levels of education said James S. Catterall, the lead author and an education professor at the University of California, Los Angeles. "It's not a matter of economic advantage. It's a matter of something happening with the arts for the kids," Catterall said.

While 38.6 percent of higher-income students who were uninvolved in music scored high in math, 48 percent of those highly involved in music received high marks.

"Kids who are more advantaged tend to be more involved in the arts. Period. They have more opportunities and you'd expect them to do better," Catterall said in an interview.

But the influence of music was far more pronounced among lower-income students. Among the lower-income students without music involvement, only 15.5 percent achieved high math scores. But of the musically oriented group, more than twice as many excelled in math.

The study also found that as students progress through high school they are less likely to be involved in the arts. "There's a clear trend," Catterall said. "Kids' participation in the arts declines. It may be that high schools offer fewer programs than middle schools or that kids are more concerned with academics or admissions to college."

Fewer than 3 percent of seniors take out-of-school classes in music, art or dance compared with more than 11 percent of sophomores.

More than half of the "high-involvement" seniors are found in top levels on standardized tests compared with fewer than 43 percent of the "low-involvement" seniors.

The study also indicated arts study affected students' racial attitudes.

"Students at grade 10 were asked if it was OK to make a racist remark," the authors wrote. "About 40 percent 'no-drama' students felt that making such a remark would be OK, where only about 12 percent of high theater students thought the same."

When the 12th graders involved in plays were compared to their uninvolved counterparts, 20 percent more of those active in drama had excellent reading skills.

Catterall noted that the work supports strong suggestions, but is not definitive.



This study was one of seven included in "Champions of Change - The Impact of the Arts on Learning," by Edward B. Fiske, former education editor of The New York Times. The project was sponsored by the GE (General Electric) Fund and the John D. and Catherine T. MacArthur Foundation.

Source: "Arts May Improve Students' Grades" - by Carl Hartman, © The Associated Press, 10/22/99. Associated Press Writer David Ho contributed to this story.

# **CHILDREN TAUGHT WITH NEW CURRICULUM COMBINING MATH AND MUSIC SCORE HIGHER ON TEST OF ADVANCED MATH SKILLS AND STANFORD 9**

**M.I.N.D. Institute shows building math education on understanding of the brain helps children comprehend advanced concepts at earlier ages and improve their Stanford 9 math scores**

*Irvine, Calif. (February 24, 2000):* A curriculum combining piano lessons, educational math software and fun math problems can help second graders achieve scores on certain tests comparable to fourth graders, according to studies by the Music Intelligence Neural Development (MIND) Institute.

The curriculum uses piano instruction to enhance the brain's ability to learn then allows children to apply that mental acuity toward math problems, said Gordon Shaw, physicist and president of the MIND Institute—a nonprofit group dedicated to research that uses music as a window into higher brain function.

In the studies, second-graders from 95th Street Preparatory School in inner-city Los Angeles were compared with fourth and fifth graders from an Orange County school with a higher socioeconomic level. The students took the advanced math concepts exams, which tested math problem-solving ability, in 1999.

Second grader who received piano training and used the software and practiced math puzzles and exercises every week attained scores comparable to fourth graders. Half of these second graders scored in the top 20th percentile of the nationwide Stanford 9 test in math, and these students achieved scores on the advanced math concepts exams comparable to the Orange County fifth graders.

"These are exciting results, and show the potential of connecting music and math," said Shaw, professor emeritus of physics at UC Irvine. "Our goal is to show that any school can get the results we obtained, and it can be done economically."

So how does it work?

For 45 minutes two days a week, students get piano instruction from a music teacher at school. Then they use computers to play an educational game developed by the study's lead author and neuroscientist, Matthew Peterson. They play the game, called Spatial-Temporal Animation Reasoning (STAR) for 45 minutes on another two days a week. And one day a week, their classroom teacher leads a math integration lesson, in which students do brain-stretching problems aloud. These lessons add to the regular math curriculum—they do not supplant it, Shaw noted.

Piano instruction is thought to enhance the brain's "hard-wiring" for spatial-temporal reasoning, or the ability to visualize and transform objects in space and time, Shaw said. Music involves ratios, fractions, proportions and thinking in space and time. In a way, music primes the brain to learn otherwise tough concepts for kids.

At the same time, when children use the STAR software, they are led on geometric and math adventures by a penguin called JiJi--playing games that boost their ability to manipulate shapes in their minds. Finally, teachers bring the music and puzzles together for their math integration lessons, tying the concepts into standard math lessons that concentrate on a language approach. The children learn to enjoy exploring math, instead of fearing making math mistakes.

Students taught with the curriculum demonstrated a heightened ability to think ahead, Peterson said. "They were able to leap ahead several steps on problems--in their heads," he noted.

MIND Institute researchers used the advanced math concepts test, which tested skills in symmetry, graphs, fractions, pre-algebra problems and proportional math, to evaluate the children's learning. These subjects are all matched to topics covered in the state math standards for grades 2 through 5.

The findings are of major importance 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 advanced math critical to high-tech fields. This type of math is ordinarily taught in grade 5.

Four Los Angeles-area schools now use the curriculum, bringing music and math to 380 second-graders. The MIND Institute hopes to expand to 10 schools in the next school year, with second- and third-grade curricula. The institute also hopes to eventually expand the curriculum to grades K-5.

The MIND study, which is being submitted for publication, is only the latest in a series linking musical training to the learning process. Prior studies based on a mathematical model of the cortex predicted that early music training would enhance spatial-temporal reasoning, and a 1997 study showed that preschool children given six months of piano keyboard lessons improved dramatically on such reasoning. A 1999 study combined piano keyboard lessons with STAR to show that second graders at the 95th Street school could master advanced math concepts through spatial-temporal methods. By adding the math integration lessons, the present study ties into students' standard math lessons.

The major results for second graders are now measured in dramatically increased written test scores that are comparable to those of fourth and fifth graders at a school with a higher socioeconomic status. These second graders also achieved high scores on the nationwide Stanford 9 math test.

The MIND Institute recently opened new offices in Irvine. The group is a community-based, nonprofit scientific research institute whose mission is to explore relationships among music, reasoning and the brain to the benefit of society in education and medicine. For more information, consult the institute's website at [www.MINDInst.org](http://www.MINDInst.org).

Source: <http://www.mindinst.org>

## **Dr. Gordon Shaw Opens M.I.N.D. Institute**

On March 2, 2000, Dr. Gordon Shaw officially opened the new offices of the Music Intelligence Neural Development (M.I.N.D.) Institute in Irvine (California). The new headquarters will house the research team that developed the Spatial-Temporal Animation Reasoning (STAR) software that has been so successful, combined with music lessons, in teaching kids proportional math.

In a press release dated February 24, 2000, Dr. Shaw explained that a curriculum combining piano lessons, educational math software and fun math problems can help second graders achieve scores on certain tests comparable to fourth graders, according to studies by the Music Intelligence Neural Development (MIND) Institute.

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For more information, check out the institute's web site at [www. MINDInst.org](http://www.MINDInst.org).

Source: [AMC Music News](#), American Music Conference

## Got Mozart? It Does A Rat Good

Rats that have listened to Mozart sonatas before and after birth learn faster than other rats, researchers say.

The scientists said their findings reinforce studies that indicate certain kinds of classical music played to human babies before and after birth, can make them smarter.

Unfortunately for Phillip Glass fans, recordings of his minimalist compositions did not help the rats, the University of Wisconsin researchers found.

Frances Rauscher and colleagues played Mozart, "white noise," or Glass compositions to pregnant rats and their babies for two months after birth.

The researchers then trained the rats to run a maze in search of a food reward.

"The rats exposed to the Mozart work completed the maze more rapidly and with fewer errors than the rats assigned to the other groups," the researchers wrote in the journal *Neurological Research*.

"This suggests that repeated exposures to complex music induces improved spatial-temporal learning in rats, resembling results found in humans." They noted that spatial abilities are marked in people who are also gifted in mathematics, music or science.

Source: "Got Mozart? It Does A Rat Good." - Reuters Washington as reported in the [New Jersey Star Ledger](#)

## Math: The Invisible Hand Behind the Music

Want a mathematical challenge? Try writing, reading, and playing music. Not only does it take an ear for music, it requires an appreciation for the principles of mathematics. Because Jimmy Buffett started his career on raw talent, some of the mathematical aspects of music (counting, forming chords, and so forth) came to him quite naturally. But he realized how important understanding certain mathematical concepts was when he decided to write a musical called *Don't Stop the Carnival* with Pulitzer Prize-winning author Herman Wouk. Composing music required knowledge of music theory, which has mathematical underpinnings. "Of all the academic subjects, math is most closely connected with music. Music is all based on fractions and patterns," says Michele Adams, a middle grades mathematics teacher, music teacher, and piano player from The Woodlands, Texas. "Where fractions are concerned, music focuses on divisions of time for the rhythm and space for dealing with intervals such as octaves or fifths." Adams points to the Gregorian chants. "They are based on strict rules of mathematics," she notes. Adams describes some mathematical concepts fundamental to music:

- **Counting:** Counting is fundamental to playing music. One must count beats per measure and count how long to hold notes.
- **Patterns:** Music is full of patterns – patterns of notes, chords, and key changes. Musicians learn to recognize these quickly. Patterns, and being able to invert them (known as counterpoint), help musicians form harmonies.
- **Geometry:** Music students use geometric shapes to help them remember the correct finger position for notes or chords (more than one note played simultaneously). For instance, guitar players' fingers often form triangular shapes on the neck of the guitar.
- **Ratios, proportions, and fractions:** Reading music requires an understanding of ratios and proportions. For instance, a whole note needs to be played for twice as long as a half note, four times as long as a quarter note, and so forth. Divisions of the beat, placement of the strong and weak musical beats, and even determining when to take a breath while playing a wind instrument or singing depends upon fractions, multiples, and groupings of beats.

From the *NCTM News Bulletin*, July/August 1999.

# Math Skills Grow Over Time With Instrumental Music Participation

Researchers at UCLA tracked the math proficiency test scores of a group of 14,915 students from eighth through twelfth grade. The researchers divided the group by socio-economic status and involvement in instrumental music. The students in the lowest quartile of family income were considered to be of low socio-economic status (low SES).

For this study, the researchers looked at the math proficiency test scores of low SES students who participated in instrumental music from eighth grade through twelfth grade. The researchers compared these scores to the average math proficiency test scores of all students tracked.

Students Achieving “High Performing” Scores on Grade 8 Math Proficiency Test:

Average: 19.0%

Low SES Instrumental: 21.2%

Students Achieving “High Performing” Scores on Grade 12 Math Proficiency Test:

Average: 21.3%

Low SES Instrumental: 33.1%

While 2.3% more of the entire student population achieved “high performing” scores in twelfth grade than in eighth grade, 11.9% more of the low SES students studying instrumental music achieved “high performing” scores on the math proficiency test in twelfth grade.

The results of this study clearly illustrate a connection between sustained instrumental music education (in this case four to five years) and higher math test scores.

Source: “Involvement in the Arts and Human Development: General Involvement and Intensive Involvement in Music and Theater Arts.” by James S. Catterall, Richard Chapleau, and John Iwanga, from the UCLA Graduate School of Education & Information Studies, 1999.

This study is found in the compilation “Champions of Change” published by the President’s Council on the Arts and Humanities. You can find the link for this study at [www.pcah.gov](http://www.pcah.gov)



# Piano and Computer Training Boost Student Math Achievement

Taking piano lessons and solving math puzzles on a computer significantly improves specific math skills of elementary school children, according to a study by researchers at the University of California, Irvine.

The results of the study-published in the March 15, 1999, issue of the journal Neurological Research are the latest in a series that link musical training to the development of higher brain functions according to UCI physics professor emeritus Gordon Shaw, who led the study.

Researchers worked with 135 second-grade students at the 95th Street School in Los Angeles after conducting a pilot study with 102 Orange County students. Children given four months of piano keyboard training, as well as time playing with newly designed computer software, scored 27 percent higher on proportional math and fractions tests than other children. The study was funded through grants from the Texaco Foundation, The Gerard Family Trust, and Newport Beach philanthropist Marjorie Rawlins.

Piano instruction is thought to enhance the brain's "hard wiring" for spatial-temporal reasoning, or the ability to visualize and transform objects in space and time, Shaw said. Music involves ratios, fractions, proportions and thinking in space and time.

At the same time, the computer game-called Spatial-Temporal Animation Reasoning (STAR)-allowed the children to solve geometric and math puzzles that boost their ability to manipulate shapes in their minds.

Children who took piano lessons and played with the math software performed better on tests of fractions and proportional math than children who took English language instruction on the computer and played with the math software. They also performed better than those who had neither piano lessons nor experience with the math software according to Shaw. Puzzles in the STAR game allow children to apply the type of mental acuity that appears to be heightened by piano practice.

The 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 high-tech fields.

"Proportional math is usually introduced during the sixth grade, and has proved to be enormously difficult to teach to most children using the usual language-analytic methods," Shaw said. "Not only is proportional math crucial for all college-level science, but it is the first academic hurdle that requires the children to grasp underlying concepts before they can master the material. Rote learning simply does not work."

Students who used the software and played the piano also demonstrated a heightened ability to think ahead, Shaw said. "They were able to leap ahead several steps on problems in their heads," he noted.

These findings offer not only new insight into the theory of mental development, but also a potentially powerful teaching tool, capable of stimulating second-grade children to master critical sixth-grade reasoning concepts. The piano teaching and software helped children regardless of income level, boosting achievement of students in low socioeconomic settings.

The study is only the latest in a series linking musical training to the learning process. Prior UCI studies based on a mathematical model of the cortex predicted that early music training would enhance spatial-temporal reasoning, and a 1997 study indicated that preschool children given six months of piano keyboard lessons improved dramatically on such reasoning.

Research participants included Amy Graziano, a postdoctoral researcher in UCI's Department of Physics and Astronomy who designed and coordinated the project, and Matthew Peterson, a former student of Shaw's who is now a doctoral student in the Department of Vision Science at UC Berkeley. Shaw and Peterson administered the program through their non-profit Music Intelligence Neural Development (MIND) Institute in Irvine, and Peterson designed the STAR software. Graziano and Shaw are both part of the UCI Center for the Neurobiology of Learning and Memory, an internationally known institute dedicated exclusively to the multi-disciplinary investigation of how the brain processes information and makes and stores memories.

The researchers plan to expand the study to six schools this fall to demonstrate its effectiveness in a variety of settings, and are seeking educators in Los Angeles, Orange, Riverside, and San Diego counties who are interested in participating and can furnish a music teacher and computers. They also are developing new written math tests with Michael Martinez, UCI associate professor of education, and preparing materials to integrate piano training and the STAR software into the standard second-grade math curriculum. They eventually would like to apply the findings to the K-12 math and science curriculum as well.

Source: American Music Conference; "UC Irvine Study Shows Second-Graders in Study Scored Higher than Others on Fractions and Proportional Math" – by Dr. Gordon Shaw. The full study was published in Neurological Research on March 15, 1999.

## **Private Music Lessons Are Linked To Higher Math Test Scores**

A study of 113 Georgia students found that eighth grade students who participated in private music lessons for at least two years scored more than five percent higher on the math portion of the Iowa Tests of Basic Skills (ITBS) than other school musicians who did not take private lessons.

The students who received keyboard lessons scored significantly higher than even those who studied other instruments privately.

This study did no investigation into the cause of the connection between higher math test scores and long-term private music lessons. While some may argue that affluence is a factor, a quick look at students' backgrounds showed that wealth was not a major factor in determining which students received private lessons.

This study demonstrates that students who pursue long-term musical training also often excel academically.

Source: Joyce M. Cheek and Lyle R. Smith. "Music Training and Mathematics Achievement." Published in Adolescence Vol. 34, No. 136, Winter 1999.

## Second Grade Students Combining Computers and Music Score As Well As Fourth Grade Students on Math Exam

*M.I.N.D. Institute shows building math education on understanding of the brain helps children comprehend advanced concepts at earlier ages and improve their Stanford 9 math scores*

*Irvine, Calif. (February 24, 2000):* A curriculum combining piano lessons, educational math software and fun math problems can help second graders achieve scores on certain tests comparable to fourth graders, according to studies by the Music Intelligence Neural Development (MIND) Institute.

The curriculum uses piano instruction to enhance the brain's ability to learn, then allows children to apply that mental acuity toward math problems, said Gordon Shaw, physicist and president of the MIND Institute—a nonprofit group dedicated to research that uses music as a window into higher brain function.

In the studies, second-graders from 95th Street Preparatory School in inner-city Los Angeles were compared with fourth and fifth graders from an Orange County school with a higher socioeconomic level. The students took the advanced math concepts exams, which tested math problem-solving ability, in 1999.

Second graders who received piano training, used the software and practiced math puzzles and exercises every week attained scores comparable to fourth graders. Half of these second graders scored in the top 20th percentile of the nationwide Stanford 9 test in math, and these students achieved scores on the advanced math concepts exams comparable to the Orange County fifth graders.

"These are exciting results, and show the potential of connecting music and math," said Shaw, professor emeritus of physics at UC Irvine. "Our goal is to show that any school can get the results we obtained, and it can be done economically."

So how does it work?

For 45 minutes two days a week, students get piano instruction from a music teacher at school. Then they use computers to play an educational game developed by the study's lead author and neuroscientist, Matthew Peterson. They play the game, called Spatial-Temporal Animation Reasoning (STAR) for 45 minutes on another two days a week. And one day a week, their classroom teacher leads a math integration lesson, in which students do brain-stretching problems aloud (see example attached). These lessons add to the regular math curriculum—they do not supplant it, Shaw noted.

Piano instruction is thought to enhance the brain's "hard-wiring" for spatial-temporal reasoning, or the ability to visualize and transform objects in space and time, Shaw said. Music involves ratios, fractions, proportions and thinking in space and time. In a way, music primes the brain to learn otherwise tough concepts for kids.

At the same time, when children use the STAR software, they are led on geometric and math adventures by a penguin called JiJi--playing games that boost their ability to manipulate shapes in their minds. Finally, teachers bring the music and puzzles together for their math integration lessons, tying the concepts into standard math lessons that concentrate on a language approach. The children learn to enjoy exploring math, instead of fearing making math mistakes. Students taught with the curriculum demonstrated a heightened ability to think ahead, Peterson said. "They were able to leap ahead several steps on problems--in their heads," he noted. MIND Institute researchers used the advanced math concepts test, which tested skills in symmetry, graphs, fractions, pre-algebra problems and proportional math, to evaluate the children's learning. These subjects are all matched to topics covered in the state math standards for grades 2 through 5.

The findings are of major importance 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 advanced math critical to high-tech fields. This type of math is ordinarily taught in grade 5.

Four Los Angeles-area schools now use the curriculum, bringing music and math to 380 second-graders. The MIND Institute hopes to expand to 10 schools in the next school year, with second- and third-grade curricula. The institute also hopes to eventually expand the curriculum to grades K-5.

The MIND study, which is being submitted for publication, is only the latest in a series linking musical training to the learning process. Prior studies based on a mathematical model of the cortex predicted that early music training would enhance spatial-temporal reasoning, and a 1997 study showed that preschool children given six months of piano keyboard lessons improved dramatically on such reasoning. A 1999 study combined piano keyboard lessons with STAR to show that second graders at the 95th Street school could master advanced math concepts through spacial-temporal methods. By adding the math integration lessons, the present study ties into students' standard math lessons.

The major results for second graders are now measured in dramatically increased written test scores that are comparable to those of fourth and fifth graders at a school with a higher socioeconomic status. These second graders also achieved high scores on the nationwide Stanford 9 math test.

The MIND Institute recently opened new offices in Irvine. The group is a community-based, nonprofit scientific research institute whose mission is to explore relationships among music, reasoning and the brain to the benefit of society in education and medicine. For more information, consult the institute's website at [www.MINDInst.org](http://www.MINDInst.org).

## Singing Familiar Songs Uses Spatial Intelligence

Singing appears to be much more than just a fun thing to do; it seemingly uses a person's spatial intelligence. Researchers in the United States and New Zealand report in [a 1997] issue [vol. 24, No. 2] of the English scientific journal "The Psychology of Music" that the simple act of singing changes the way the brain "thinks" about music. These findings come on the heels of recent reports showing that piano playing increases the spatial ability of children. Now it seems that singing uses the same mental skills.

Spatial intelligence is that aspect of our intelligence that allows us to make judgments about the three-dimensional world in which we live. A football player catching a pass relies on spatial intelligence to judge the trajectory of the ball. An architect uses it to visualize what a building will look like when it is completed. We all use it every time we drive a car and have to judge the distance to the car in front of us. Advanced math courses require good spatial intelligence.

The report tells of a fairly complex experiment that was conducted to determine how the human brain thinks about music while singing. The experiment counted on the brain's natural desire to group things together. For example, if a person goes to the grocery store but forgets his or her list, he or she will try to remember what was on the list. The most common way would be to remember the items according to some logical groups; say dairy products, meat products, and cleaning products. Another way would be to remember by menu; if they were having hot dogs for lunch they would remember hot dogs, buns, baked beans, mustard and ketchup and then go on to the next meal that is planned. If you watched this person in the grocery store you could tell how they had things grouped in their head by the paths they took around the store. This same logic was used with the singing experiment.

Drs. Robert Cutietta from the University of Arizona and Gregory Booth from the University of Auckland taught college students to sing many melodies by hearing and singing them over and over for five weeks. The melodies were deliberately written to be very similar to each another. It soon became obvious that the students were grouping the songs in order to remember them. [However, the students] grouped them according to a very abstract aspect of music - the shape of the melody - even though there were many other more obvious ways they could have been grouped. Melodies with similar patterns of notes going up and down were grouped together by the students. This happened even though they had never seen the music for the songs and did not know they were supposed to group them.

Thus, the students were converting the sounds into an image in their heads. This image was actually a picture of what the melody would look like if it were somehow projected on a piece of paper. Interestingly, trained musicians and non-musicians did it exactly the same way showing that it is probably a basic way the brain works, not something that is learned.

These findings help answer a fundamental question about music. Researchers have long wondered why a person can recognize a song when it is played in different keys. For example, if "Happy Birthday" is played in two different keys, the two versions could have no actual notes in common. Yet almost everyone, regardless of musical training, will recognize it as the same song. It has long been suspected that the brain remembers music by the "shape". This research supports that idea.

These findings also add support to music programs for children in elementary school. Music classes, filled with singing, are often considered fluff by many school administrators. Now it seems, this fun activity is actually developing a child's spatial ability: an ability important in everything from driving a car to advanced math.

From Perception Special Interest Research Group Newsletter Vol. 13 No. 1

# Why Do Schools Flunk Biology?

Biology is a staple at most American high schools. Yet when it comes to the biology of the students themselves – how their brains develop and retain knowledge – school officials would rather not pay attention to the lessons. Can first graders handle French? What time should school start? Should music be cut? Biologists have some important evidence to offer. But not only are they ignored, their findings are often turned upside down.

Force of habit rules the hallways and classrooms. Neither brain science nor education research has been able to free the majority of America's schools from their 19<sup>th</sup>-century roots. If more administrators were tuned into brain research, scientists argue, not only would schedules change, but subjects such as foreign language and geometry would be offered to much younger children. Music and gym would be daily requirements. Lectures, work sheets and rote memorization would be replaced by hands-on materials, drama and project work. And teachers would pay greater attention to children's emotional connections to subjects. "We do more education research than anyone else in the world," say Frank Vellutino, a professor of educational psychology at State University of New York at Albany, "and we ignore more as well."

Plato once said that music "is a more potent instrument than any other for education." Now scientists know why. Music, they believe, trains the brain for higher forms of thinking. Researchers at the University of California, Irvine, studied the power of music by observing two groups of preschoolers. One group took piano lessons and sang daily in chorus. The other did not. After eight months the musical 3-year-olds were expert puzzle masters, scoring 80 percent higher than their playmates in spatial intelligence – the ability to visualize the world accurately.

This skill later translates into complex math and engineering skills. "Early music training can enhance a child's ability to reason," says UC Irvine physicist Gordon Shaw. Yet music education is often the first "frill" to be cut when school budgets shrink. Schools, on average, have only one music teacher for every 500 children, according to the National Commission of Music Education.

Source: "Why Do Schools Flunk Biology?" from a Newsweek article by LynNell Hancock



## **The Wrong Keyboard?**

Buying your kids a computer to open their minds to the wonders of science and logic? Maybe you better buy a piano keyboard instead. A team of psychologists exploring the link between music and intelligence has found that piano instruction is far superior to computer instruction in enhancing the kind of abstract reasoning skills a child will need for excelling in math and science later on.

In a two-year experiment, one group of preschoolers was given private piano and singing lessons and another got private computer lessons. The musically trained kids scored 34% higher than the others on tests measuring the higher brain functions critical in science, math and engineering. (Popular Science, June 1997)

# Articles: Music and Learning Cognitive Development

- [\*Arts and Positive “Habits of Mind”\*](#)
- [\*Arts Integration Results In Higher Elementary Test Scores\*](#)
- [\*Arts Involvement Has Positive Impact on Students of All Socioeconomic Levels\*](#)
- [\*The Brain-Music Connection\*](#)
- [\*Can Music Make Us More Intelligent?\*](#)
- [\*How Many Smarts Do You Have?\*](#)
- [\*The Impact of the Arts on Learning\*](#)
- [\*How Mozart REALLY Makes You Smarter\*](#)
- [\*How Music Tunes Our Mental Strings\*](#)
- [\*Keeping a Musical Beat Is Linked to Academic Skills\*](#)
- [\*Making Music, Listening, And Learning\*](#)
- [\*Music And The Brain\*](#)
- [\*Music Has Biological Roots in Humans\*](#)
- [\*Music On The Mind\*](#)
- [\*Music And Art Lessons Do More Than Complement Three R’s\*](#)
- [\*Music And Reading Skills\*](#)
- [\*Music in the Education of Young Adolescents\*](#)
- [\*Music Making Beats Computers at Enhancing Early Childhood Development\*](#)
- [\*Music Training And Mental Imagery\*](#)
- [\*The Musical Mind\*](#)
- [\*Notes Of Nurture\*](#)
- [\*Read With A Beat: Developing Literacy Through Music and Song\*](#)
- [\*Rhythmic Ability as a Foundation for Learning and Evolution\*](#)
- [\*Texas All-State Musicians Score 196 Points Above National Average On The 2000 SAT\*](#)
- [\*Verbal Memory Improved by Music Training\*](#)
- [\*Want Sharp Students? Music Notes Might Be The Key\*](#)
- [\*Why Arts Education Is Basic\*](#)
- [\*Year-Old Babies Remember Music Heard In Womb\*](#)

# Arts and Positive “Habits of Mind”

“You are talking to someone who had very little to do with the arts before I came here. This has changed me enormously. I have an appreciation for the arts that I never had before. I have seen and I have seen them take off and fly because we pulled them into in arts and opened up new avenues. I couldn’t work anymore in a school that wasn’t totally immersed in the arts.” – Middle School Principal

## OVERVIEW

In a July 1999 study, researchers from Columbia University revealed the positive effects of arts classes on upper elementary and middle school students. Instead of seeking a direct connection between arts classes and test scores in particular subjects, the researchers attempted to “determine what cognitive, social, and personal skills are developed through arts learning, [and] if these competencies have a more general effect on learning.”

The authors produced statistical data about the impact of the arts upon students’ higher-order thinking skills, students’ self-perceptions, and the overall environment of a school. The authors named the skills fostered through arts experiences “habits of mind.”

## STUDY METHOD

The authors studied the arts experiences of 2046 students in grades four, five, seven, and eight in 18 public schools throughout New York, Connecticut, Virginia, and South Carolina. Students listed their years of experience in each of the arts (visual art, music, dance, and drama) on a questionnaire, and the students were divided into quartiles based on their arts experience.

All students in the study completed tests designed to measure thinking skills, academic habits, and self-image. All teachers in the study completed surveys to evaluate school environment, perception of student behavior, classroom arts practices, and attitudes toward the arts.

The authors also interviewed administrators, subject specialists, and teachers of all subjects, and they observed classes in session.

## RESULTS

“High Arts” refers to students in the highest quartile of arts experience. “Low Arts” refers to students in the lowest quartile of arts experience.

The following statistics indicate the percentage of students achieving a high score on tests of thinking skills:

### CREATIVITY

High Arts 37%

Low Arts 12%

## FLUENCY

High Arts 31%

Low Arts 17%

## ORIGINALITY

High Arts 31%

Low Arts 15%

## ELABORATION

High Arts 41%

Low Arts 11%

## RESISTANCE TO CLOSURE

High Arts 35%

Low Arts 16%

## EXPRESSION

High Arts 37%

Low Arts 9%

## RISK TAKING

High Arts 37%

Low Arts 11%

## IMAGINATION

High Arts 41%

Low Arts 14%

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The following statistics indicate the percentage of students achieving high scores on a survey of self-confidence:

## PHYSICAL ABILITY SELF-CONFIDENCE

High Arts 30%

Low Arts 20%

## PHYSICAL APPEARANCE SELF-CONFIDENCE

High Arts 27%

Low Arts 24%

## PEER RELATIONS SELF-CONFIDENCE

High Arts 29%

Low Arts 23%

## PARENT RELATIONS SELF-CONFIDENCE

High Arts 35%

Low Arts 24%

#### GENERAL SELF-CONFIDENCE

High Arts 37%

Low Arts 27%

#### READING SELF-CONFIDENCE

High Arts 40%

Low Arts 20%

#### MATHEMATICS SELF-CONFIDENCE

High Arts 30%

Low Arts 15%

#### GENERAL SCHOOL SELF-CONFIDENCE

High Arts 36%

Low Arts 19%

#### TOTAL NON-ACADEMIC SELF-CONFIDENCE

High Arts 33%

Low Arts 24%

#### TOTAL ACADEMIC SELF-CONFIDENCE

High Arts 41%

Low Arts 18%

#### TOTAL SELF-CONFIDENCE

High Arts 34%

Low Arts 18%

The researchers note that the arts exposure level of the students tested is not directly related to the socioeconomic status of the students.

Source: "Learning In and Through the Arts: Curriculum Implications" by Judith Burton, Robert Horowitz, and Hal Abeles, from the Center for Arts Education Research Teachers College, Columbia University, July 1999.

This study is published in the compilation "Champions of Change," with a link at [www.pcah.gov](http://www.pcah.gov)

## **Arts Integration Results In Higher Elementary Test Scores**

A four-year study involving six teachers and more than 600 students at Rosemont Elementary School in Dallas, Texas, has proven what academicians, educators, and cultural community supporters have been saying for years: An integrated arts curriculum can dramatically improve overall student achievement.

The scientific study – the Partnership Assessment Project – was conducted by the non-profit Partnership for Arts, Culture and Education, comprised of more than 50 arts and cultural organizations in the Dallas-Fort Worth metropolitan area. The project was begun in 1992 in an attempt to determine the impact of community-based arts and cultural enrichment, integrated into a school's core curriculum, on student achievement in the language arts. The study was based on the assumption that elementary students in socioeconomically deprived settings, who exhibited minimal success in standardized testing situations, would benefit academically from exposure to community arts and cultural programming integrated into the curriculum.

Three elementary schools in the Dallas area were chosen for the study on the basis of 12 variables: ethnicity; socioeconomic status; standardized test scores; criterion-referenced test scores; free lunch programs; enrollment; attendance; use of community programming; and the presence of music, art, drama, or dance specialists. Over the four-year course of the study, one school – Rosemont Elementary – was provided significant community arts and cultural programming which was fully integrated into the core curriculum. The second school benefited from community arts and cultural programs without integrating them, while the third had no community arts or cultural programming at all.

The project design used at the first school included training teachers in using the arts in the classroom, transferring art experiences into the core curriculum, and assessing the success of the transfer through student portfolios and performance assessment. Representatives from arts and cultural organizations also received training in designing presentations to complement the school district's curricula.

By the third year of the study, the project teachers had the skills and knowledge needed to integrate the community arts and cultural programs. Core subjects were vertically aligned through thematic units, and these units served as keys for the teachers to select community programming for their students. For example, second-grade students used dance to learn basic geometric shapes, while third graders used dance to understand the relationship between the body's muscles and bones. Fifth-grade students combined the study of acoustics with a trip to a symphony hall, where they simulated and described the path of sound waves from several instruments.

At the conclusion of the project last year, a comparison of the three schools showed significant differences in language arts achievement. The Rosemont School, which had integrated the programs into its curricula, maintained dramatically higher average scores than the other two schools. According to the assessment report, "the results of this study overwhelming support the premise that integrating community [arts] programming into the classroom enhances learning."

So what does it all mean? Put simply, it demonstrates quantitatively the remarkable value of integrating arts experiences into the curriculum. It means, too, that teachers who use arts and cultural programming in the classroom can bring more enthusiasm to the core curricula. As one teacher said, "The children really started to see connections...and it's been fun seeing them respond to that.... Once they get started, they just find similarities all over the place."

Although the project's comparisons were limited to language arts achievement, it can be inferred that such programming could have a significant impact on student achievement generally. Art experiences can no longer be perceived as pleasant fluff compared to more substantive areas of instruction: math, science, reading, and writing. When used in an integrated manner, with teachers trained in the techniques of incorporating arts programming into the core curriculum, art becomes a vital tool in increasing a child's understanding and academic achievement.

Stephen C. Stapleton, Chairman  
Partnership for Arts, Culture and Education  
Dallas, Texas

Source: National Association Of Elementary School Principals  
[www.naesp.org/comm/p0398c.htm](http://www.naesp.org/comm/p0398c.htm)

# Arts Involvement Has Positive Impact on Students of All Socio-Economic Levels

These statistics, first released in 1997, are based on the study of over 25,000 students, tracked for several years. The authors of the study incorporated data from students of all ethnic and economic backgrounds so the study would not be biased.

The study also looked at students of low socio-economic status both as part of the entire student population and separately, to see if arts education had a significant impact upon students of low socio-economic status. Here are the results.

“SES” refers to socio-economic status.

“Arts” refers to experience or coursework in performing or visual arts either in school or outside of school.

## GRADE 8 ACADEMIC PERFORMANCE

Earning mostly As and Bs in English:

All Students	High Arts	79.2%
All Students	Low Arts	64.2%
Low SES	High Arts	64.5%
Low SES	Low Arts	56.4%

Scoring in top 2 quartiles on standardized tests:

All Students	High Arts	66.8%
All Students	Low Arts	42.7%
Low SES	High Arts	29.5%
Low SES	Low Arts	24.5%

Dropping out by grade 10:

All Students	High Arts	1.4%
All Students	Low Arts	4.8%
Low SES	High Arts	6.5%
Low SES	Low Arts	9.4%



## GRADE 10 ACADEMIC PERFORMANCE

Scoring in top 2 quartiles, Grade 10 Standardized Test Composite:

All Students	High Arts	72.5%
All Students	Low Arts	45.0%
Low SES	High Arts	41.4%
Low SES	Low Arts	24.9%

Scoring in top 2 quartiles in Reading:

All Students	High Arts	70.9%
All Students	Low Arts	45.1%
Low SES	High Arts	43.8%
Low SES	Low Arts	24.9%

Scoring in top 2 quartiles in History, Citizenship, Geography:

All Students	High Arts	70.9%
All Students	Low Arts	46.3%
Low SES	High Arts	41.0%
Low SES	Low Arts	28.6%

## GRADE 10 ATTITUDES AND BEHAVIORS

Consider community service important or very important:

All Students	High Arts	46.6%
All Students	Low Arts	33.9%
Low SES	High Arts	49.2%
Low SES	Low Arts	40.7%

Watching television 1 hour or less on weekdays:

All Students	High Arts	28.2%
All Students	Low Arts	15.1%
Low SES	High Arts	16.4%
Low SES	Low Arts	13.3%

Watching television 3 hours or more on weekdays:

All Students	High Arts	20.6%
All Students	Low Arts	15.1%
Low SES	High Arts	33.6%
Low SES	Low Arts	42.0%

Source: "Involvement in the Arts and Human Development: General Involvement and Intensive Involvement in Music and Theater Arts." by James S. Catterall, Richard Chapleau, and John Iwanga, from the UCLA Graduate School of Education & Information Studies.

This study is found in the compilation "Champions of Change" published by the President's Council on the Arts and Humanities. You can find the link for this study at [www.pcah.gov](http://www.pcah.gov)

# The Brain-Music Connection

How does music boost the intellect and enhance learning? Does it stimulate and are of the brain associated with creativity? Are children's musical preferences wired into the brain or culturally determined? Do musicians' brains differ from those of other people?

Tracing neurological development through childhood provides some clues to this quest. From around ages nine to eleven, auditory pathways undergo a spurt of neural integration, enhancing speech and listening. Choral reading, poetry, and varieties of pronunciation and dialect become important, as the brain and auditory system begin to process the voices and the wisdom of the world at large. Children who have never heard dialects or foreign language tend to regard such unfamiliar speech as weird for the rest of their lives. Hearing a variety of dialects on TV or at the movies helps slightly, but learning to sing simple folk songs in Japanese, Swahili, German, or even regional accents like those of Texas enable the brain to encode new sounds – and thereby understand the world more fully.

During this stage, the corpus callosum, the bridge between the left and right sides of the brain, completes its development, allowing both hemispheres to respond to an event simultaneously. Recent studies have found that the corpus callosum of musicians is thicker and more fully developed than in other people, reinforcing the idea that music enlarges existing neural pathways and stimulates learning and creativity.

The planum temporale, located in the temporal lobe of the cortex, is also more pronounced in musicians. This are of the brain appears to be associated with language processing and might also “categorize” sounds, suggesting a perceptual link between language and music. Studies like this, notes science writer Richard A. Knox, are “part of a growing body of evidence indicating that human brains are designed to process, appreciate, and eventually create music – an activity whose importance for the species scientists are only beginning to appreciate in biological terms.”

## Sources:

“Brain: Music of the Hemispheres,” Discover, March 1994

“Music of the Hemispheres,” James Shreeve, Discover, October 1996

“Sweet Taste in Music May Be Human Trait, Harvard Study Finds,”  
Richard A. Knox, Boston Globe, September 1996

## **Can Music Make Us More Intelligent?**

The recording industry produces one of history's most popular products. Virtually everyone likes music in one form or another.

But is it possible that everyone also needs music? Beyond being a form of art or entertainment, might music also be a kind of essential nutrient that the human brain requires? Can music make us more intelligent?

These questions are being explored in on-going experiments under my supervision at the University of California, Irvine. And the answer, at least so far, is yes. We have found that music can enhance spatial reasoning – the brain's ability to perceive the visual world accurately, to form mental images of physical objects, and to recognize variations of objects.

These findings hold new and profound implications for the importance of music in education, especially the education of young children. Spatial reasoning is essential to success in a variety of academic subjects, notably math, the sciences, and engineering. Many problems common to these disciplines are not easily described in verbal form, and depend for their solutions on abstract thinking and visualizations – skills that result from highly developed spatial reasoning ability.

Mere listening can boost spatial reasoning, but what might be achieved through a program of active music training? This is the focus of our work with preschool children, and the aspect of our research that may offer the greatest benefits for future generations. Last year, we completed a pilot study in which ten three-year-old children were given music training – either singing or keyboard lessons. The scores of every child improved significantly on the Object Assembly Task, a section of the Wechsler Preschool and Primary Scale of Intelligence – revised that measures spatial reasoning.

At the American Psychological Association's annual convention in Los Angeles in August, we reported the results of a follow-up experiment. In that experiment we found that the spatial reasoning performance of 19 preschool children who received eight months of music lessons far exceeded that of a demographically comparable group of 15 preschool children who did not receive music lessons.

The notion that music is important to the development of a child's intellect is hardly new. Plato believed music was the first subject that children should learn, to create a sense of order and harmony in the mind. Until now, however, no one has been able to demonstrate a direct, causal link between music and the development of human intelligence early in life.

The discovery of this link has a special significance today, when music occupies a paradoxical position on American society. Music has never been more prevalent than it is in the United States today. With technology such as portable compact disc players, it is

now possible to listen to high-quality recorded music anywhere, any time we want. In our homes, in our cars, in supermarkets, or camping in the wilderness, music serves as a kind of personal score to accompany our daily activities.

Yet as a subject in school, music has rarely been regarded with less esteem. For more than 10 years, music programs have been systematically cut or reduced in many U.S. school districts. The rationale given by the legislators and school administrators has been starkly pragmatic: in order to revive lapsed academic standards and maintain America's ability to compete globally in business and technology, school curricula must focus on the "basics" – reading, writing, math, and the sciences. That reasoning maintains that music is a nice activity for kids to learn, but with school budget belts being pulled tighter and tighter, its also expendable.

In light of our findings, however, this argument no longer holds water. Music, in fact, is one of the basics: a building block that serves as the foundation for one of the brain's higher cognitive functions. Without first being given training in music, our children cannot reach their full potential to be doctors, mathematicians, engineers, scientists, or to hold a wide range of other professions.

Our research also indicates that music training may most benefit those children for whom maximizing academic and career potential is critically important: the disadvantaged. In our pilot study with preschool children, those from disadvantaged backgrounds displays a particularly dramatic improvement in spatial reasoning ability following music training.

Music programs in schools may enable the disadvantaged to learn on a more equal footing with children from more affluent backgrounds. Because it is nonverbal, music unlike many traditional teaching methods, does not force disadvantaged children to struggle with language or cultural differences. And unlike children from higher-income families, who have access to private music lessons, school may offer many disadvantaged children their only opportunity for music instruction.

Music should be prized and emphasized as an invaluable way to boost human brainpower. The challenge is to identify and articulate the music training programs that can be most successful in achieving this goal.

**Source: "Can Music Make Us More Intelligent?" by Frances Rauscher, Ph.D. – reprinted from Billboard**

# How Many Smarts Do You Have?

We know what knowledge is, but intelligence is harder to define. For decades, scientists have relied on single measures of intelligence to categorize people. In recent years, though, criticism of intelligence tests has mounted, and some researchers now argue that intelligence is multifaceted – that it cannot be reduced to a single number.

No person has done more to promote that view than Harvard University psychologist Howard Gardner. His writings on intelligence, creativity, and leadership have made him one of the nation's most influential educators and thinkers. He contends that there are at least eight different kinds of human intelligence, a radical notion that has revolutionized ideas about learning and inspired new ways of teaching.

Gardner's ideas have been controversial. Many psychologists criticize him for failing to do experiments to prove the existence of eight separate intelligences, even though they were proposed more than a decade ago. Some education reformers say Gardner gives teachers license to indulge their students and overlook learning deficiencies – at a time when academic standards and performance in the U.S. desperately need to be raised.

Gardner's ideas about multiple intelligences spring from his work beginning two decades ago with gifted children and victims of brain damage. That was when he first observed the disparate "intelligences" that form the basis of his theory. Gifted children would excel in one or two particular capabilities, such as music or mathematics. Brain-damaged people would lose certain abilities they once possessed. He eventually isolated seven different mental faculties, to which he recently added an eighth. They are: linguistic, logical-mathematical, musical, spatial, bodily kinesthetic, intrapersonal, interpersonal, and naturalist.

According to Gardner, people possess these intelligences in varying degrees, which helps determine how they learn and how they ultimately fare in the workplace. He believes it is possible to hone these intelligences through concerted effort – and that they will wither with lack of use.

Some psychologists are politely critical of the theory. "Its value is that it got people to think more broadly about intelligence, and that's good," says Yale University psychologist Robert Sternberg, another prominent writer and thinker on the subject of intelligence. But, Sternberg notes, "what Gardner calls musical and bodily-kinesthetic intelligences, I would call talents." Gardner believes all eight intelligences are of equal intrinsic value. It is the culture and context in which people live and work that accord some capacities a greater social value than others, he says.

Scientific support for Gardner's theory may yet be forthcoming from genetics labs. Recent research carried out by Mark Keating and colleagues at the University of Utah and elsewhere points to the existence of a gene that may govern a narrowly defined spatial skill – the ability to replicate a simple checkerboard pattern with four cubes. The discovery of other such genes may follow, and could help demonstrate the independence of Gardner's multiple intelligences.

Gardner's theory has met much success in part because it affirms what every good teacher knows—that there is more than one way to learn and hence there should be more than one way to teach. But critics argue that this lets teachers and students off the hook: If Johnny can't read, it must be because he's bodily kinesthetic. Diane S. Ravitch, a senior research associate at New York University, contends that the application of Gardner's ideas in schools could lead to "an invidious tracking" that accepts some children as academic failures. Furthermore, says Ravitch, Gardner's theory flies in the face of the national-standards movement, who's objective is to figure out the best education for the nation's children and give everyone the best access to it.

Yet there is mounting evidence that teaching aimed at sharpening one kind of intelligence will carry over to others, enhancing them, too. Researchers at the University of California at Irvine found that when preschoolers were given several months of piano keyboard instruction, their performance on spatial-temporal reasoning tests improved dramatically. Another study integrated visual and performing arts with social studies and other core subjects for high-risk students in four U.S. elementary schools. Standardized test scores in core subjects were boosted, says Professor James S. Catterall of the University of California at Los Angeles.

The idea that a person might be stronger or weaker in certain intelligences – and might perhaps want to bolster the weaker ones – is now moving beyond the schools and making its way into products for kids and training for adults. The Lost Mind of Dr. Brain, by Sierra On-Line Inc., bills itself as a CD-ROM that plays off of people's intelligences. Producer Sherry Wrana says developers set out to design games and puzzles that would have "multipath solutions," and in so doing, inadvertently stumbled upon Gardner's theory.

Some companies are using multiple-intelligence precepts in their training. Saturn Corp. is developing a new course on multiple intelligence. All 10,000 employees of the eleven-year-old General Motors Corp. offshoot are required to take at least 92 hours of instruction a year in courses of their choosing – anything from safety to leadership, as part of a corporate philosophy that stresses worker training. At the outset, the new course will introduce workers to the intelligences. But trainers at Saturn might adapt a multiple-intelligence theory to other instruction: For example, they might one day use music to enhance learning in some of their technical training courses, says Saturn training and development manager Julie Richman.

Ask Gardner what other workplace applications multiple-intelligence theory might have, and he says: "The sky's the limit." From hiring and promoting to the daily search for solutions, a multifaceted approach that captures and takes advantage of all ways of thinking and learning can only enhance creativity and innovation, he says. Gradually, a theory that seized the imagination of the education community is making its way into the wider world – and changing perceptions about how people learn and work.

**"How Many Smarts Do You Have? A daring theory says intelligence isn't one thing but many" -- from an article by Karen Pennar**

# The Impact of the Arts on Learning

"The ultimate challenge for American education is to place all children on pathways toward success in school and in life. Through engagement with the arts, young people can better begin lifelong journeys of developing their capabilities and contributing to the world around them. "Champions of Change: The Impact of the Arts on Learning" also shows that the arts can play a vital role in learning how to learn, an essential ability for fostering achievement and growth throughout their lives. ... (It) provides new and important findings of actual learning experiences involving the arts. ... (It) presents these research findings, complete with ground-breaking ... data and analysis, as articulated by leading American educational researchers. ... Perhaps what makes their findings so significant is that they all address ways that our nation's educational goals may be realized through enhanced arts learning. ... As these researchers have confirmed, young people can be better prepared for the 21<sup>st</sup> century through quality learning experiences in and through the arts."

-- Richard Riley, Secretary of Education

## *Introduction*

These quotations from Dr. Riley, Secretary of Education, are taken from the introduction to a remarkable report that was issued in October of 1999. This "Champions of Change" document ["COC"] was funded by The GE Fund and The John D. and Catherine T. MacArthur Foundation under the auspices of The Arts Education Partnership and The President's Committee on the Arts and the Humanities.

The COC report is not restricted to music or any single subject within arts education. However, music education forms a major part of arts programs included in this document. It contains the reports of seven major projects in arts education. The present article will first list some of the major findings. After this, we will discuss the results of some of the studies in greater detail.

## *Overview: The Arts Change the Learning Experience in Special Ways --*

- The arts reach students who are not otherwise being reached.
- The arts reach students in ways that they are not otherwise being reached.
- The arts connect students to themselves and each other.
- The arts transform the environment for learning.
- The arts provide learning opportunities for the adults in the lives of young people.
- The arts provide new challenges for those students already considered successful.
- The arts connect learning experiences to the world of real work.
- The arts enable young people to have direct involvement with the arts and artists.
- The arts support extended engagement in the artistic process.
- The arts encourage self-directed learning.
- The arts engage community leaders and resources.

## *The Findings of Specific Projects*

In the main section of this article, we will report the findings of three specific projects from the COC report. They might be considered in any order but I have chosen a particular sequence to highlight a special aspect of the findings, the local school environment for learning. I believe this is particularly important for at least two reasons. First, it has been largely ignored. Second, the effects of arts education take place within real walls, as an interaction between students and teachers. We need to appreciate this ongoing educational dialogue to fully understand why and how the arts have such a beneficial effect on students. While all the reports are extremely important. I think you will find that the information obtained within specific school setting provides a uniquely valuable resource.

The first project concerns the broadest report of academic performance, the relationship between involvement in arts education and academic performance for 25,000 students across the United States. It provides an interesting contrast for the second project, which is the most specific type of program. This is the Chicago Arts Partnerships in Education (CAPE) which brings professional arts practitioners from various disciplines to certain schools. The final - and longest - report is about schools in which arts are an important and continuing part of the normal curriculum. It concerns the performances of students, teachers and their interactions. This report brings new and important insights into how and why arts education facilitates intellectual and personal development in students. It has major implications.

### *"Involvement in the Arts and Human Development"*

The first report is that of James S. Catterall, Richard Chapleu and John Iwanaga of the UCLA Graduate School of Education and Information Studies. They analyzed the extensive database from the National Educational Longitudinal Survey [NELS.88]. This survey obtained information on more than 25,000 secondary school students over a period of 10 years. The very large sample size is noteworthy because it avoids problems encountered with small populations, such as a few classes in a limited number of school settings. The authors studied both the arts in general and then focused on music and theater arts. They were particularly interested in how arts education impacted students from families of lower socio-economic resources (low SES), compared to those from higher levels (high SES).

The overall findings were quite clear. *Performance in a wide range of academic subjects and on standardized tests was significantly higher for students involved in sustained arts education.* Statistical analyses of academic performance from the 8<sup>th</sup> through 12<sup>th</sup> grades further showed that the beneficial effects increased over time. Of particular importance, low SES students also showed significant improvements if they were involved in arts education. In fact, their relative gains were as great or larger than the high SES students. Given these findings, it is somewhat troubling to note that the authors also found a significant decrease in arts education involvement from grades 10 to 12. For example, the percent of students taking lessons outside of school hours decreased from 11% to 3%.



An analysis that focused on instrumental music and mathematics was also quite revealing. Dr. Catterall and his associates discovered that music students were far more likely to achieve the highest levels of proficiency in math tests than non-music students. Again, low SES students also benefited. In fact they not only scored higher in math than low SES students who were not involved in music but also better than the average of all students. The positive effects of instrumental music instruction also increased from the 8<sup>th</sup> to the 10<sup>th</sup> grades. For example, 21% of eighth grade music students from low SES households scored high in math compared to 11% of non-music low SES students. By grade 12, these figures were 33% and 16%, respectively.

Do these findings definitely show that consistent involvement in arts education, particularly in instrumental music education, *causes* the high levels of general academic and math performance? Dr. Catterall and his colleagues are quite aware of the challenges that must be met to be able to draw a causal connection. However, they point out that there is good reason to suspect that arts education helps cause the findings because other studies have reported "... that children are more engaged and cognitively involved in school when the arts are part of, or integrated into, the curriculum." Nonetheless, it might be argued that better students select arts involvement. However, the authors also emphasize that improvements are greater within the same students over time, from the 8<sup>th</sup> to the 12 grades. This is difficult to explain if the higher performance levels were not caused by continued involvement in the arts.

### *"Learning In and Through the Arts"*

We conclude this review by considering an extensive study performed by Judith Burton, Robert Horowitz and Hal Abeles, of the Center for Arts Education Research at Columbia University. It involved 2046 children in grades 4, 5, 7, and 8 in 12 public schools in New York Connecticut, Virginia and South Carolina. Instead of focusing on academic test performances and arts involvement, these researchers dug into the basic intellectual processes and personal attributes that are at the foundation of cognitive development and resultant enhanced test performance. They also studied the school situation, the effects of arts curricula on teachers and on their interactions with students.

Creative Thinking -- Students involved in high arts schools were superior to those in low arts schools in each of the following characteristics.

- Solutions: a greater number of ideas or approaches to solve problems
- Originality: more innovative approaches to solving problems
- Elaboration: mentally constructing more detail in formulating solutions
- Resistance to Closure: tendency to keep an open mind, to avoid rushing to premature judgements or being satisfied too quickly with a possible solution

General Competencies -- Students in the schools with high arts involvement were superior to students in low arts schools in other important areas.

- Expression: better able to express their thoughts and ideas to teachers and peers and to do so in different ways.
- Risk-taking: they were more willing to take a risk, showing an increased willingness to try new things, use new materials and approaches, even at the risk of failing; more willing to risk expressing their own novel ideas to peers and parents
- Cooperation: they worked better with peers and with teachers
- Synthesis: better at unifying divergent thoughts, feeling and facts

Perception of Self as Learner -- High arts students also had better self concepts regarding school:

- Higher self-concept in reading, math and general academics
- Teachers rated them as having more self-confidence.

The Perspectives of Teachers -- As noted above, the teachers also participated in the testing. Those in schools with high levels of arts education identified five effects of arts learning.

- The ability to express ideas and feelings opening and thoughtfully.
- The ability to form relationships among different items and arrange them to solve problems.
- The ability to imagine a problem from different points of view and work toward a resolution.
- The ability to organize thoughts and ideas into meaningful units.
- The ability to engage in sustained and focused attention.

Source: From a review of the federal report "Champions of Change." - by N.M. Weinberger.

<http://www.musica.uci.edu/mrn/V7I2S00.html>

# How Mozart REALLY Makes You Smarter

By Joanne Haroutounian

Wander down the halls of elementary schools and you just might hear a Mozart symphony or piano concerto wafting through the air. Peer inside and you will see students reading, doing math, or relaxing with eyes closed. Venture into the classical section of a music store and you'll find parents of toddlers, newborns, or about-to-be-borns sifting through CDs of Mozart selections. The media has convinced the general public that listening to Mozart will somehow "make you smarter."

Most of us have heard of the "Mozart Effect" and read articles about the research behind the claim, and we are also aware of the subsequent studies that supposedly disprove this hypothesis. As musicians we quickly dismiss this as nonsense. How can listening to Mozart possibly stimulate the brain's nerve endings?

Yet, the elegant perfection of Mozart's music elicits an intriguing power. We realize this when we teach the simplest minuet or perform a sonata, especially a subtle slow movement. We are constantly searching for the ultimate Mozart performance that captures the intimate integrity of the music. We nod in understanding when Mozart's piano music is described as "too difficult for adults and too easy for children." We have to admit that the process of working through a piece by Mozart makes us **MUSICALLY** "smarter."

## THE RESEARCH

The "Journal of Aesthetic Education" (Fall/Winter 2000) offers a meta-analysis by Lois Hetland of 26 "Mozart Effect" studies. Hetland confirms that there is a "Mozart Effect," but that it is "limited to a specific type of spatial task that requires mental rotation in the absence of a physical model. It is a moderate effect, and it is robust." This report also points out that the educational implications of raising children's intelligence or long-term spatial skills through exposure to classical music was not demonstrated in the analyzed studies. Hetland's article agrees with (Frances) Rauscher's position that music instruction enhances spatial-temporal reasoning for preschool- and elementary-age children while instruction is occurring, and through at least two years of such instruction.

## MUSICAL METAPERCEPTION

If we look beyond the specific research results, test scores, and statistical findings, we discover an interesting link between musical "thinking/perceiving" and spatial "thinking/perceiving." The idea that listening to Mozart can enhance spatial reasoning is intriguing, but repeated studies are bound to diminish or disprove this idea. The sensual level of listening for a relaxing mood does not equate to the type of listening that takes place when working through the music of Mozart, actively engaged in listening through performance.

More significant is the idea that musicians and those working in spatial fields share a similar neural code and ways of mental functioning. This makes sense when we realize how persons in both fields make creative decisions. When interpreting or creating music, musicians internally perceive and mold sounds to match expressive intentions. Artists, sculptors, dancers, architects, and chess masters internally visualize objects and/or space as they work through their artforms.

The active engagement of learning through the artform develops these “artistic ways of knowing.” there are many terms describing this internal artistic thought process across musical and arts fields. I would like to suggest the term “metaperception” to describe the cognitive/perceptual function of a musician or any artist while making interpretive decisions through performance or creation of an artistic product. It is the artistic counterpart to “metacognition,” which describes the monitoring of thought while making cognitive decisions. The artist, in essence, thinks and perceives using the medium of the artform. A musician thinks and perceives through sound.

In the arts, we internally manipulate perceptions of sound, movement, color, and texture – as well as thought and emotion – to create an artistic statement through a particular arts medium. A music score provides directions about how to play. The performer must interpret the parameters of these ideas, listening and adjusting sounds and their physical production until they mesh with expressive intent. This involves metaperceptive decision-making. From the elementary to the concert level, studying the music of Mozart allows this decision-making at multiple levels of sophistication. It is the perfect medium for the development of musical metaperception.

Working through the music of Mozart allows a musician to interpret musical basics in a spiral manner as the musician develops. Imagine the beginning ballerina struggling with the basics of a “tendu” or “plie” at the barre. These same basic movements are part of the dancer’s daily routine in a professional dance company, now technically perfected. Similarly, the young pianist learns the basics of phrase, slur, balance, and form through that first Mozart minuet. The professional realizes the distinctive needs of subtle expressive choices, clarity of tone, and the pull of the melodic line in a Mozart sonata or concerto. Interpretive choices are “there” in Mozart – exposed for all to hear at every level of development, making it the perfect choice for nurturing metaperceptive decision-making.

## OPINIONS OF EXPERTS

The music of Mozart has been examined by experts to extrapolate the reason for its elegant perfection. Does this perfection stem from the mastery of the melodic shape that delineates Mozart’s style from all others? Or is it the symmetry and syntax of its form? Does the elegance derive from the intricate elaboration of melodic lines? Or is Mozart’s style all of the above?

According to Richard Strauss, himself a great melodist, “the most perfect melodic shapes are found in Mozart; he has the lightness of touch which is the true objective.” Mozart’s genius at melodic construction began with a profound capacity to internalize and manipulate music prior to penning it on paper. Compositional writing was immediate, with melodies and bass lines sketched on paper rapidly to capture what was already realized internally. Examinations of his manuscripts reveal some vertical voicing at cadences, but ink differences show that most inner voicings were filled in after the melodic and bass lines. Mozart’s amazing “metaperceptive” capacity comes to light in a letter to his sister that was sent along with a completed prelude and three-part fugue (K.394, 1782). “It is awkwardly done, for the prelude ought to come first and the fugue to follow. But I composed the fugue first and wrote it down while I was thinking out the prelude.”

My own adult students enable me to share musical ideas with persons immersed in fields other than music. Creative perspectives expand through this experience. As I was working through the slow movement of a Mozart sonata with an architect, he would share his spatial perspective of what he was hearing and performing. He realized sound as space, with each note a three-dimensional entity. Allowing a note to sound longer created spatial volume, like entering an architectural space. If you hold a note and listen as the reverberation extends through time, you may understand this musical/spatial “third dimension.” How does this compare with the feel of space when releasing a pedaled two-note slur? Now try the release without pedal. What do you visualize as you perceive this sound spatially as well as musically? These architectonic ideas can be expanded into more detail to assist in interpreting the long line of Mozart’s melodic statements. My architect student’s spatial interpretation of the elaborate melodies within a sonata movement developed the visualization of an exquisite 18<sup>th</sup>-century salon, each repeat adding awareness of the unusual detail within this elegant room.

The beauty of Mozart’s music lies in the clarity in which these basic elements of melody, form, and interpretive elaboration are apparent. These simple-to-hear basics are easily captured on one level by the novice listener and performer, yet understanding and conveying the subtleties within the music pose an interpretive challenge even to the seasoned performer. Mozart himself realized his music could charm the everyday audience, as well as entice discriminating ears, when he wrote in a letter, “There are passages here and there from which connoisseurs alone can derive satisfaction, but these passages are written in such a way that the less learned cannot fail to be pleased, without knowing why.”

## MOZART AND THE STUDENT

The intermediate-level student is learning the “Adagio in C-Major for Glass Harmonica” composed in the last year of Mozart’s life for the unusual instrument invented by Benjamin Franklin. The ternary form, slow tempo, and lyrical flow depict a mood similar to the slow movement of the sonata. The novelty of the sound of a glass harmonica (or experimentation with crystal glasses filled with water to simulate this

instrument) may intrigue the student to create subtle colorations of tone to depict such an instrument.

The development of this type of practice procedure for students requires strategies that encourage student decision-making during the lesson. Often the student feels ill-equipped to make interpretive decisions, so the teacher must guide the student through a deliberate practice process similar to that used by a more advanced pianist by providing a scaffolding of questions and experimentation that allows the student to experience the process behind making interpretive decisions. So often the teacher makes these decisions for the student simply because it saves time and gets results. When that occurs, the student may follow directions and execute a detailed performance, but the student is not learning the cognitive perceptive process that supports making these decisions.

Work with the right hand alone will help outline choices for the melodic shaping of each section. How is the melodic shaping different in measure three than in measure seven? Why? How should you shape the first two measures? How should you release the quarter note thirds at the end of this motive? Why does Mozart do something different here? Questions like these encourage students to realize details in the score and in Mozart's compositional style. Work with the left hand alone will highlight melodic interest as well.

As hands merge, students should be encouraged to explain where the left hand might reflect the shaping of the melody, rather than merely providing balance beneath the melody. Questions may be answered through performance rather than verbally, or through performance followed by explanations. Since students may at first have difficulty translating musical ideas into words, this process helps develop a musical vocabulary to describe sounds, touches, and moods that define interpretive choices. The teacher must remember to allow "wait time" after questioning to encourage reflective thought. (Teachers so often answer their own questions.)

This type of lesson treats the student as an artist, capable of making interpretive decisions. Such a teaching strategy can begin with the first Mozart minuet. The music of Mozart offers a continuum of possibilities that reflect subtle musical phrasing and aesthetic details that grow as the student grows. As the student gains confidence in making decisions, the teacher should move away from the keyboard to another point in the room. As ideas are discussed, the student will instinctively take the pencil to add notes to the score.

The metaperceptive process has begun. As the student offers an idea, experiments with it, and evaluates the decision, the teacher can smile. Mozart has helped mold a musician.

Source: "How Mozart REALLY Makes You Smarter" by Joanne Haroutounian.  
Published in "Piano & Keyboard," January/February 2001.

## How Music Tunes Our Mental Strings

Music fills the days at the John Elliot Elementary School in Needham, Massachusetts.

When recess is over a teacher may put something soothing on the classroom CD or tape player, perhaps a baroque piece whose steady rhythm evokes the 60 beats per minute of a heart at peace.

When kids study the solar system and make splatter paintings of the heavens, they listen to "The Planets" by Gustav Holst.

When they study the Colonial period, they write their own songs about the Boston Tea Party, says Principal Miriam Kronish, who is also a musician.

And when they take the state MEAP exams in reading, science, social studies and math, these music-drenched kids soar like the voice of soprano Kiri Te Kanawa. The highest possible score on those tests is 1,600; on the latest tests, no child from the John Eliot Elementary School scored less than a 1,570.

This virtuoso performance fits with other data showing that older kids who have studied music – or the arts in general – score higher than average on both the verbal and math parts of the SAT's, according to the College Board, sponsor of the tests.

Is there really a connection between the magic of music and the way the brain develops? There appears to be, says a growing chorus of neuroscientists and psychologists.

Music, of course, should be enjoyed for its own sake, not for whatever it may do for brain cells. But there is compelling evidence that making and listening to music, starting as early as possible, may also build brainpower. In fact, some researchers now speculate that early exposure to music may help preserve some of the millions of brain cells a baby is born with that might be lost if they were not used.

"Music is as much a part of the human condition as language – we are born with the machinery to make and appreciate it," says Dr. Mark Tramo, a Harvard Medical School neuroscientist. "It's all there. All we have to do is turn it on." By the time a baby is born, the cochlea, part of the inner ear, is already equipped with a rubber-band-like membrane that can vibrate it in response to sound waves.

Sound waves, which consist of air molecules vibrating at different frequencies, are created all the time – whenever a car screeches, a steak sizzles or a violinist plays an "A." The "amazing" thing, says Tramo, is that specific sets of nerve cells respond to specific frequencies. For instance, some nerves respond to the middle A on the piano, which vibrates at 440 Hertz, or 440 cycles per second. Other nerves respond to middle C, about 262 Hertz.

“The miracle is that the physics of the sound vibration and the physiology of the ear and brain match so well. We’re born ready to hear – and love – music,” he says.

Babies as young as four months old already appear capable of understanding music structure, according to a series of ingenious experiments by psychologist Carol Krumhansl of Cornell University and others.

In a typical experiment, the baby is placed in a dark room. When a light goes on, the baby turns her head toward it. As soon as she does, music comes on and stays on until she turns her head away.

Babies quickly learn, says Krumhansl that the music plays only when they are looking at the light. Once the infants make the connection, the researchers play minuets by Mozart. Sometimes they are played just as Mozart wrote them. Other times, they are played with long pauses between notes, a disruption that “sounds terrible” to adults, Krumhansl laughs.

The babies think so, too. When Mozart is played right, the babies look at the light for long periods. When the musical structure is broken up, they look away. Stanford researchers have documented the same effect with Bartok and Bach.

“Babies are born with a sense of music.” Krumhansl says, adding that studies suggest that even young babies know a cadence – a set of chord patterns that often signals the end of a piece – when they hear one. And they prefer consonant music, with its pleasant-sounding chords, to dissonance, which often sounds harsh or out of tune.

Furthermore, it is becoming clear that specific types of music training can enhance certain intellectual skills, say Frances H. Rauscher, a psychologist at the University of Wisconsin, and Gordon Shaw, a physicist at the University of California at Irvine.

In their latest study, published in February, Rauscher, Shaw, and their team took 78 three and four-year-olds from working class families and divided them into four groups. One group had six months of private piano lessons; another got computer lessons, a third, singing lessons and the fourth, no training. Unlike the kids who learned piano, Rauscher notes, those given singing lessons were taught little about musical concepts.

By the end of the study, the piano students scored 34 percent higher than the others on a test of spatial-temporal reasoning – putting a puzzle together to gauge their ability to process information in sequence and space.

“It’s a very definite, causal thing,” says Shaw. You use large parts of the brain when you’re doing anything at a high level, like processing music.”

So what can you do to keep kids’ music neurons humming?



“It’s use it or lose it,” says Tramo. “If you want to maximize your children’s intellect, give them music lessons.”

That philosophy underlies Harvard’s Project Zero program, led by neuropsychologist Howard Gardner, who has long believed that music is one of the basic forms of intelligence.

You can also fight for arts programs in schools and communities. Budget cutters often see the arts as frills, says Jim Simpson, executive director at the South Shore Conservatory, which teaches 2,000 kids a year in Hingham and Duxbury. But the arts “are not an adjunct,” he says. “They are an important intellectual development area.”

The bottom line, says Schlaug, is that “any kind of music, either listening or practicing, is able to shape the structure and function of the brain. So anything you can do to enhance a child’s attraction to music will help.”

**“How Music Tunes Our Mental Strings”**  
By Judy Foreman, Globe Staff

## **Keeping a Musical Beat Is Linked to Academic Skills**

In a 1994 feature in the *Los Angeles Times*, writer Maia Davis describes a motor-skills class at an elementary school in Ventura, California:

With all eyes trained on their teacher, the group of second-graders at Ventura's Mound School tried to follow her every move as they clapped their hands, slapped their thighs, and kicked their heels to the tune of bluegrass music.

But some children were struggling: Their hands hit their left knees when they should have gone to the right. Their legs flew up into kicks at the moment that they should have hit the floor.

"It's kind of hard to get the message down to your legs as fast as the music," 7-year-old Kerianne Hewitt said.

The elementary school launched the (motor-skills) class four years ago based on research showing that the ability to respond physically to a musical beat is closely linked to children's skills in reading, writing and concentration.

"We have noticed (the class) helps kids concentrate and hold their attention span longer... We have seen kids who have difficulty reading and writing improve because they are able to organize their thoughts better," said Principal Beverly McCaslin.

Teacher Joanne Bowie leads the motor-skills instruction every Friday for each of the school's first through fifth-grade classes.

During some classes, the students clap, march, or jump rope. In others, they recite poems to music. "I try to present it in a variety of ways just to keep the interest up," Bowie said.

But the goal in all the class activities is to help children learn to keep a steady one-two beat with the music.

Bowie bases her instruction mainly on workshops she has taken from Phyllis S. Weikart, a retired physical education professor from the University of Michigan.

A nationally recognized expert in motor-skills development for children, Weikart maintains that children should begin to develop an innate sense of timing when they are infants.

When caregivers pat or stroke babies to the tune of a lullaby, for example, they are helping the children make a connection between what they hear and what they do, Weikart said in an interview from her Michigan home.

That “hearing-feeling connection,” as Weikart calls it, is what allows children to listen to something that is being said or watch something that is being done and follow the directions. “What you’re linking is action, thought and language,” she said.

And having a sense of inner timing allows children to speak or read in whole sentences instead of just one word at a time.

But studies show the number of children with the ability to keep a steady beat has declined in recent years, from a range of 80% to 90% to about 10%, Weikart said.

“I feel it’s probably the most fundamental of all the problems we face in education today,” she said.

(Weikart) believes that the fault lies partly with adults who mistakenly believe that children respond better to the rhythm of words or syllables than to a steady beat. Many adults today, for example, clap the hand game “Patty Cake” with children to the rhythm of the words’ syllables rather than to a steady one-two beat.

“What’s happening today is that the children are receiving movement stimulation in rhythm rather than in beat,” she said.

At Mound, Bowie said she finds at the beginning of each year that only about one-third of the students can independently keep a steady beat. By the end of the year, the number climbs to two-thirds.

And the children said they have become more confident about their abilities to move to music.

“I was just really shy (at first),” 8-year-old Jordan Frye said. “It’s just really neat to see that you can dance.”

Source: <http://www.tcams.org/davis.htm>

# Making Music, Listening, And Learning

This week we present excerpts from an article written by Paul Madaule, a listening clinician and one of the world's leading experts on listening:

## *Introduction*

During the course of my clinical career, I have seen countless children blossom at the sound of music. This experience has convinced me that the role of the music educator goes far beyond teaching a subject of the school curriculum or initiating to a specific art form. It includes no less than a development, enrichment and refinement of children's ability to listen. Listening is at the very root of all human communication – both verbal and nonverbal. In verbal communication, listening is so crucial to the acquisition of speech and language that defective listening can lead to impaired learning. Hence, the music teacher who trains children to listen contributes significantly toward their readiness and ability to communicate, talk, learn, and optimize their potential.

## *Systems Of The Ear*

The “vestibular system” helps us deal with gravity and find our position in space. It helps us balance our bodies and provides our sense of motion. The inner ear is the part of our body that senses balance and motion.

The “cochlear system” perceives sound. It detects the pitch, timbre, and attack of subtle air vibrations, and converts these vibrations into distinguishable sounds.

Both the vestibular and cochlear systems transmit data to the brain via the auditory nerve. The auditory nerve is the first nerve to become active in a fetus, which supports the concept that hearing is the most important of the senses.

## *Rhythm And Melody*

Made by the ear and for the ear, music is a true reflection of how the ear works. All music is a composite of rhythm and melody. The rhythmic dimension of music corresponds to the functioning of the vestibular system. Rhythms both induce and convey movement. They make us dance. Because their vestibular system (“the ear of the body”) is still intact, deaf people can also dance – they can “hear” – or more precisely, perceive rhythmic vibration.

Because it stimulates the “ear of the body,” rhythm enhances all of our body's interrelated functions. Such stimulation provides a better sense of the body in space and thus helps develop “body image.” Body image and body awareness are instrumental in establishing motor function, coordination and organizational skills. Also related to body image and awareness are written language skills such as spelling, handwriting, and

creative writing. Furthermore, mastering mathematical calculation and concepts requires a mental representation of space that is facilitated by a stable, well-established body image. The same can be said for rote memory. How many children agonize for months over their multiplication tables! The key is to inject these tables with rhythm, which will be embodied through the vestibular system, thereby allowing children more effective access to their nervous systems. For example, one may wish to select a song with a strong and steady beat and ask students to sing the words of their multiplication tables to the music.

Melody, in contrast to rhythm, is associated with the cochlear system. Listening to music, playing and singing are fine ways to explore every level of the auditory spectrum. Discovering possible sound combinations, tonal differentiations, and multiple blends which human voices and musical instruments can produce offers a great “work out” for the ear. This sound exploration can start during the prenatal period with the mother singing and should continue soon after birth, throughout infancy, in the daycare center and in preschool – in short, over all those years during which the child is developing speech and language. One fact that surprises many adults is that it is easier for children to sing than to speak. This becomes particularly obvious to those who work with children with autism and PDD who are able to access singing more easily and rapidly than they are able to access speech. One of the most effective techniques I use to help stutters is to teach them first to sing in their minds what they wish to say out loud.

Using music to train and prepare the ear is also important in kindergarten and during the early grades, when children start to transpose sounds into letters. The translation of a visual into an auditory image is necessary for reading out loud, just as the reverse is the case for writing. Both reading and writing thus require phonological awareness, that is to say, a clear, stable, and precise perception of the acoustic content of words.

Most language difficulties that involve writing are related, to a greater or lesser extent, to poor listening. These difficulties may take different forms depending on which level of listening is affected. In some cases, difficulty with written language is related to poor auditory skills, which in turn derives from the cochlear system's not processing language information either clearly or quickly enough. Often, children thus affected present a history of chronic ear infection in early childhood, along with the delay in speech language development. In reading, these children have difficulty sounding the words, and their spelling mistakes tend to be mainly phonetic in nature. In short, the children's listening is “out of tune” with the language of their culture, their mother tongue.

In other cases, poor written skills are related to poor maturation, or else to a dysfunction, of the vestibular system. When the “ear of the body” does not work properly, the motor and language skills of such children develop erratically – in leaps and bounds. Such children are often clumsy, awkward in their movements, accident prone, and oblivious to danger. Others, however, may show the opposite pattern and shy away from physical activity. Typically, these children are fascinated by computers and tend to have difficulty relating to their peers. While speech is well developed and even, in some cases, overly elaborate for children their age, creative written language tends to be poor and

handwriting is generally atrocious. Spelling mistakes include reversal of letters, but are usually phonetically accurate. In short, these children write as they hear. Their listening is “off beat” with their bodies, which in turn affects their written skills.

As a highly organized combination of sounds, music helps organize and clarify our minds. Music can therefore help us process information more effectively. For example, Gregorian and other sacred chants can greatly help and organize my flow of thought. Such music is also highly conducive to meditation. Furthermore, many people, including myself, like to listen to music while performing creative activities. Others, on the other hand, may simply view music as an obstacle to the thinking process, which may indeed be true if the volume is too loud or the beat too insistent.

Better than any other sensory stimulation, sounds in general and musical sounds in particular “feed” the brain with energy. We all have heard the stories of how egg and milk production increases among chickens and cows exposed to music. Music also increases sales in store. Many people would never work out so hard nor so long if they were not listening to music while exercising. The sound of the clarion causes soldiers to rise up; the military march motivates them to go to battle. Music gives energy to the teenager, whose rapid physical development thrives on it.

### *Conclusion*

As with any musical instrument, the ear needs to be tuned to do its work. Within the school system, music education gives children the best opportunity to attune their listening. Early childhood music teachers can do much to help prevent the occurrence of listening problems, just as later-grade music teachers can help maintain and reinforce listening...Music educators can therefore play a significant role in children’s development by teaching them, throughout their years of language acquisition, how to listen.

SOURCE: “Listening Training and Music Education” by Paul Madaule.  
Published in Early Childhood Connections: Journal of Music and Movement-Based Learning, Vol. 4, No. 2, Spring 1998.

# Music and the Brain

Connections between brain cells are called synapses. Recent brain research demonstrates that these connections grow stronger with use and weaker if they are not used.

Many systems of the human brain rely on the exchange of information across these synapses. The stronger the synapses, the faster information can be exchanged between brain cells, and the better the following systems can operate:

- The sensory and perceptual systems: auditory, visual, and kinesthetic
- The cognitive system: symbolic, linguistic, and reading
- Body movements: fine and gross muscle action and coordination
- Feedback and evaluation of actions
- The motivational and hedonic (pleasure) system
- Memory and recall of facts learned

Brain scans taken during musical performances show that virtually the entire cerebral cortex (central processing area of the brain) is active while musicians are performing. Almost every system of the brain is at work simultaneously during a music performance, and brain cells are rapidly sending messages. The “workout” that the brain experiences during a musical performance strengthens the connections between brain cells, allowing the brain to function more efficiently.

How can music-making engage the entire brain? Consider the steps involved in taking a piece of music from notes on a page to sound. This process includes interpreting complex symbols and sending messages quickly to muscles to adjust the fingers, lips, or vocal mechanisms. Musicians have to plan ahead so their fingers, bows, or mallets are in the right place to play the next note, and singers and wind instrument players need enough air to sustain long notes and phrases. During practice, musicians review their performance and make corrections and changes.

While solo musicians engage in the processes above, musicians performing in an ensemble (chorus, band, orchestra, or chamber group) utilize even more brain systems. Ensemble musicians must interpret and act upon the conductor’s gestures at the same time they are reading music symbols from the page. They also have to balance their own sound with the sound of other musicians. These “ensemble processes” entail a split-second procedure of evaluation and adjustment that each musician repeats countless times during a performance.

Music making offers extensive exercise for brain cells and their synapses (connections). It would be difficult to find another activity that engages so many of the brain’s systems. Synapses between brain cells strengthen with use just as muscles do. There is good reason to believe that music making increases the brain’s capacity by improving these synapses.

Source: “The Music in Our Minds” by Norman M. Weinberger. Published in *Educational Leadership*, Vol. 56, No. 3: November 1998.

# Music Has Biological Roots in Humans

While music is often considered a product of our society and culture, scientific findings show that many aspects of music are part of our biological nature as humans. By studying people and animals worldwide, researchers have found that basic musical actions in humans are “known” and not “taught.”

Through the following four categories we have clear evidence of the relationship between music and human nature:

*1) Other animals are musical.*

Monkeys can follow patterns of musical pitches and determine the fundamental pitch of a musical series.

*2) Music is universal.*

Across cultures and continents, people communicate with forms of music. Perhaps the best demonstration of the universality of music is the communication between parents and children using lullabies and musical baby talk. This parent-child musical communication takes place around the world.

*3) Musical behaviors appear early in life.*

Toddlers make up play songs and follow the beat of music. Infants can discriminate between different pitches, remember the contour of melodies, and comprehend rhythm.

*4) The human brain is organized to process music.*

The brain contains neurons (brain cells) that are specifically sensitive to pure tone pitch, complex harmonic relationships, rhythm, and melodic contour. When listening to a song, the right hemisphere of the brain processes the melody while the left hemisphere processes language. The brain treats the melody as a separate set of “data.”

Scientific evidence clearly demonstrates that humans are ready to engage in musical activities from birth. Imagine the possible results if parents and caregivers make an effort to sing and have musical experiences with their young children to the same degree that they work to develop language skills. What might happen if musical skills were fostered in kindergarten and elementary school students with the same rigor as other skills and abilities? After all, we are “wired” for music.

Source: “The Music in Our Minds” by Norman M. Weinberger. Published in *Educational Leadership*, Vol. 56, No. 3: November 1998.



# Music On The Mind

When the orchestra at Appleton High School-North in Appleton, Wisconsin, performs, concertgoers usually find a little something extra in the program notes. Tucked behind the listing of the evening's musical selections are summaries of the latest research linking music learning to improve thinking skills.

Research on music learning is finding its way into all sorts of unaccustomed venues these days, thanks to some highly publicized studies suggesting that musical training has an added benefit: It may boost some non-musical intellectual skills.

Gov. Zell Miller of Georgia, for example, cited the research earlier this year when he proposed that his state distribute compact discs of classical music to new mothers as they leave the hospital. Recording companies eventually agreed to foot the \$105,000 bill for the CDs.

The falls 1997 issue of the industry magazine The School Music Dealers featured as its cover story "Music and the Brain: How Recent Studies Linking Music to Learning Can Positively Affect Your Business." And, in just the past few months, two Florida legislators have proposed requiring state-funded child-care centers to provide daily doses of Beethoven to their young charges.

## *But Can Music Really Make Children Smarter?*

Researchers can't say for sure. Compared with some other educational interventions, the studies on music learning are a thin lot; researchers are busy trying to repeat and extend their findings. Little is known, for example, about what kinds of musical training produce results and what kinds don't, who benefits most, and how long any intellectual gains that result from music learning will last.

That has led some critics to contend that all the enthusiasm in education, media, and policymaking circles for the new music-learning research is premature.

"It seems to be one of those stories that, for whatever reason, has captured the public's fancy," says John T. Bruer, the president of the James S. McDonnell Foundation, a St. Louis based philanthropy that supports research in cognitive science. "To base policy on it is far-fetched."

Still, the handful of studies offers some promise. And, says one California researcher who is studying music and learning, if the findings inspire parents to give their children music lessons and prod schools to beef up their music programs, no harm is done. As researcher Gordon Shaw of the University of California, Irvine points out, music enriches as an art, a source of pleasure, and a tutor of discipline,

"It's certainly a no-lose situation," he says.

## *Beethoven and Brains*

The new studies on music and learning stem, in part, from a growing line of research on the development of the human brain. Children are born with 100 billion unconnected or loosely connected neurons, or nerve cells, according to these studies. And each experience, such as seeing a mother's smile or hearing a parent talk, strengthens or forges the links between the cells. Pathways in the brain that go unused eventually wither away. Thus, a child's early experiences can help determine what that child will be like in adulthood.

Some researchers believe that music learning, in some shape or form, may count among the kinds of experiences that lead to long-term changes in the brain's hardwiring.

In the early 1990s, Mr. Shaw and his partner, Frances H. Rauscher, conducted the study that first catapulted research on music and learning from the pages of arcane research journals to television talk shows.

Using a group of 84 college students, they showed that listening to a Mozart piano sonata for 10 minutes improved the students' spatial-temporal reasoning skills – their ability to form mental images from physical objects or to see patterns in space and time. Such skills, key to engineers and architects, aid in understanding proportion, geometry, and other mathematical and scientific concepts.

However, the students' improved abilities faded within an hour. Music, the investigators speculated, must somehow prime the brain to perform spatial reasoning tasks.

The team tested the idea again a few years later, this time as part of a more comprehensive investigation involving 78 children from three California preschools. The investigators divided the children into four groups. One group of preschoolers took private, 12- to 15-minute piano lessons each week. Another group took 30-minute singing lessons five days a week, and a third group was trained on computers. The remaining children received no special lessons.

All of the children took tests designed to measure a range of spatial abilities both at the start of the experiment and again six to eight months later. By the end of the study period, the piano-trained children had improved their scores by 34 percent on a task requiring them to put together a puzzle of a camel. But on a task measuring spatial recognition – a different type of spatial skill that is practiced more commonly in the course of a daily life – there was no change. For that task, the children were asked to point to a matching picture of a square intersected by a line.

This time, however, the benefits lasted at least until the next day. That is enough time, the researchers said, to suggest that piano lessons might be spurring more permanent changes in the brain's hardwiring.

“What we think music is doing is stabilizing the neural connections necessary for this kind of spatial-temporal ability,” says Ms. Rauscher, who is now an assistant professor of cognitive development at the University of Wisconsin-Oshkosh.

### *‘A Bit of a Leap’*

But Ms. Rauscher, who is a former cellist, stops short of pushing music in and of itself as a kind of smart pill.

“I think the evidence is solid enough to say, ‘Let’s improve and expand our education programs for young children,’” she says. But there is little evidence to suggest that just listening to music, as Gov. Miller would like Georgia’s next generation to do, produces lasting intellectual benefits, she adds.

“One of the things we have to be careful about is jumping to conclusions that we don’t have data on at all,” she says. “I find that ‘Mozart makes you smarter’ thing is quite a bit of a leap.”

She has come across only one other study that has looked at the effect of music listening, but it focused on rats. For 12 hours at a stretch each day, the rats and their unborn babies heard white noise, silence, classical music, or Phillip Glass compositions. The latter is a well-known minimalist composer whose work is repetitive and features long pauses between notes. The rats raised on the steady diet of classical music ran through a maze faster, making fewer mistakes than the other rats did.

Ms. Rauscher is now busy testing her theory on people. Experiments are under way with groups of preschoolers, kindergartners, and 4<sup>th</sup> graders in Wisconsin. So far, she has collected data only on the kindergartners, who were given group keyboard lessons rather than private instruction. The numbers suggest that the same pattern that occurred in the earlier study held true for the 67 kindergartners: Keyboard training improved their spatial-temporal skills but not other kinds of spatial skills.

A study published in the journal *Nature* in May 1996 helped bolster the link between music and learning a little further. Martin F. Gardiner, now a visiting scholar at the Center for the Study of Human Development at Brown University in Providence Rhode Island, was the researcher in a team study involving six first grade classrooms in two public schools in nearby Pawtucket. Students in two of the classrooms received the type of music and visual arts instruction typically found in many schools across the country. Four other classrooms of students were taught to sing using the Kodaly method. That approach, developed by Hungarian composer Zoltan Kodaly, emphasizes singing songs that are sequenced in difficulty. Students also play musical games involving rhythm and pitch.

At the end of seven months, the students getting the specialized musical training were doing the same or slightly better in reading than their counterparts in the control group.

But in math they had zoomed ahead of their peers – even though they had started out slightly behind.

At the end of two years, the Kodaly-trained students were still ahead of their classmates in math. And, among them, the best-performing pupils were those with two years of musical training.

“The impact seemed to be seen in kids whether they entered in the bottom, middle, or top of their kindergarten class in terms of scores,” Mr. Gardiner says. “There seemed to be this special boost for math.” Mr. Gardiner has since repeated versions of his experiment with students in the later elementary grades and arrived at similar conclusions.

### *Music and Mathematics*

Mr. Gardiner believes the boost comes in part because music aids children’s understanding of such concepts as number lines.

“In the case of singing on pitch, pitch has a number line of its own,” explains Mr. Gardiner. “Do is less than re, and re is less than mi.” On a keyboard, the progression may be even easier to grasp.

But Mr. Gardiner also believes that music may not be unique in offering a skill that can be useful in other disciplines.

“What I’m saying is, if you develop some kind of mental skill involved in one area of learning, and you need that skill in some other area of learning, the brain can at least sometimes make learning easier through transfer,” he says.

Some researchers also say that various musical compositions may have a certain mathematical precision. Mozart was obsessed with math as a boy – even covering the walls of his house with figures and sums. But scholars still disagree over whether he deliberately structured his musical compositions according to mathematical formulas.

Although researchers don’t know exactly what happens in the brain when a child learns to sing or play a piano, there is some biological evidence to suggest that something different may indeed be going on.

Dr. Gottfried Schlaug, a Harvard Medical School neurology instructor, has done a series of experiments using magnetic-resonance-imaging technology to examine the brains of musicians who took up their instruments before age 7, musicians who started later, and non-musicians. He found that certain regions of the brain, such as the corpus callosum and the right motor cortex, were larger in musicians who started their musical training before age 7. Similarly, musicians with perfect pitch – the ability, in other words, to identify musical notes heard out of context – have larger left temporal lobes than non-musicians do.

Does that mean that children should get music lessons before their 7<sup>th</sup> birthdays? Not necessarily, Dr. Schlaug says.

“It may be much easier to become a concert pianist if you start very early because the brain may adapt to challenges in a certain way,” he says. “But there are enough examples out there where people started playing in their second or third decade and they’re doing fine.”

But, Dr. Schlaug adds, “we just don’t know so much about how the brain processes music. We know more about the way we process language.”

“I also think there’s not really such a big group doing music-related research,” he says. “You must really have to have some sort of musical experience in order to do research.”

That lack of knowledge has not hampered a renewed interest in music learning among parents and policymakers. Despite such interest, says John J. Mahlmann, the executive director of the Reston, Virginia based Music Educators National Conference, music programs are still viewed as a curricular frill in many school districts.

In California, for example, a state-appointed committee is exploring how to rebuild school music programs that have been cut back over the last decade.

“Are we better off now than we were last year? Yes. Are we better off now than 10 years ago? I’m not so sure,” Mahlmann says.

And that’s the kind of insecurity that drives educators such as Gary Wolfman, the director of Appleton High School-North’s orchestra, to stuff research studies into concert programs. Ideally, Mr. Wolfman would like students to join his program because they love music – not because they want to boost their math grades. But he also knows a good selling point when he sees one.

“I once told my father that I’d never go into sales, and now, I think I am,” he says.

# **Music And Art Lessons Do More Than Complement Three R's**

Want to give the brain a good workout? Try making music or doing art.

“Children not only enjoy the arts but learn a great deal from it,” said Sarah Tambucci, principal of Chartiers Valley Intermediate School and past president of the National Art Education Association. She thinks the arts can stimulate learning, help with memory and foster creative problem solving.

Researchers are bolstering that argument made by arts educators in two main ways:

- \* Studies that link music training with math-related skills.
- \* The theory of “multiple intelligences,” which shows that people learn in many ways, some of them through the arts.

The theory of multiple intelligences was developed by Harvard University professor Howard Gardner, whose book “Frames of Mind” was first published in 1983. Gardner says there are at least eight forms of intelligences, which people have in varying amounts: language, logic, musical, spatial, bodily, naturalist, interpersonal, and intrapersonal.

“A good educational system ought to nourish and nurture the range of intelligences, which include several featured in the arts. Otherwise, we will be neglecting important forms of human potential and stunting the cognitive development of youngsters,” Gardner said.

“All youngsters everywhere should have exposure to the greatest creations of the human mind and spirit in our society. That would include painters like Rembrandt and Picasso, musicians like Mozart and Duke Ellington, writers like Shakespeare, George Elliot, and Toni Morrison.”

Ideally, Gardner said, students should be exposed to all art forms at all ages, but he doesn't think that's practical. He favors depth over breadth, allowing each child to choose an art form to master well enough to create in it and appreciate it.

Other researchers have focused brain-related studies on music.

Teaching music to preschoolers and kindergarten students helps to develop their spatial-temporal reasoning, according to research by Frances Rauscher of the University of Wisconsin at Oshkosh and Gordon Shaw of the University of California at Irvine.

This skill is needed to understand geometry, proportions, and how objects fit together in time and space.

The students usually offer keyboard education with reading music, improvisation, playing by ear, pitch, rhythm, and creativity exercises. Rauscher said she didn't find significant improvements with just basic sing-alongs.

"The firing patterns (of neurons in the brain) that are relevant to music cognition are relevant to spatial-temporal ability," said Rauscher. "Music training requires mental imagery and temporal ordering of the notes."

She was intrigued enough by the results of a pilot study with just five low-income children that she has begun a bigger study with 400 preschool children. She wants to see whether music training on a keyboard can have lasting effect on spatial-temporal skills in low-income children.

"The most glaring deficiency in economically disadvantaged kids is in their spatial skills, abstract reasoning that relates to math," said Rauscher. "I felt if we were going to make an impact, we could make it most with the disadvantaged children... These are children whose parents can't afford to take them to music lessons." While there aren't enough studies yet to tell how much instruction is best, Rauscher said, "if anything, you should be giving more time to music rather than cutting back on it."

Other researchers also have found a link between music and math.

Martin Gardiner, a visiting scholar at Brown University at the Center for the Study of Human Development, said the types of mental processing – such as organization, production of melodies and learning pitch – needed for making music also help students to learn math.

"Once you learn how to organize and use a scale in your thinking, that may make it easier for your brain to organize and use a number line," he said. He said the music helps to provide "mental stretching." "Your mind is now different than it was before," he said. "It's stretched out in some particular area and now has a new capability which can be applied, it seems, in other areas."

The conclusion is based on several studies, including some still under way, in which elementary school students and eight-graders improved their math ability through music education. The programs emphasized music-making, sight-reading at a keyboard, or using a computer to compose music. Gardiner said it can take one to two years to see the effect.

Using spring 1997 information, the Pittsburgh School District has developed its own statistics to show that students who were in instrumental or choral classes had higher grade point averages, higher graduation rates, better attendance, and lower dropout rates. The average GPA for gifted students with one or two years of music was 3.45, compared with 3.19 without music.

Among students overall, those without music training had a dropout rate of 7.4 percent; those with one to two years had a rate of 1 percent; and those with three or more years had a 0.0 percent dropout rate.

Aside from how the arts can enhance the overall process, some arts supporters say that arts also should be learned for their own sake.

So why is music so often considered extraneous? Natalie Ozeas, chairwoman of music education at Carnegie Mellon University and Eastern Division president of the Music Educators National Conference, has a theory. “Perhaps because it’s such an enjoyable thing to do,” she said, “that somehow making music doesn’t seem to fit into the same category as doing your homework.”

Source: “Music And Art Lessons Do More Than Complement Three R’s” by Eleanor Chute, Pittsburgh Post-Gazette (April 13, 1998)



## **Music And Reading Skills**

Perhaps one of the most talked about relationships between music and another subject involves the area of language and reading skills. On the surface it would appear logical that the process of reading music and reading words should somehow be related. Further, rhythmic and pitch study should seemingly transfer to assist with the learning of language.

A 1965 study by H. Pelletier found that teaching students to play string instruments in third grade increased their reading achievement. He divided 110 third graders into control and experimental groups. The two groups were equated on I.Q., sex, reading achievement, and spelling achievement. The experimental group received 25 weeks for instrumental (string) instruction during the school day.

At the conclusion of the study he found that the experimental groups' reading gain was 1.9 months higher than the control group. He further noted that when the low readers in each group were compared, it was found that the experimental group students were 3.5 months ahead of the same students in the control group. Pelletier reports these differences to be significant ("not due to chance").

The implication of this study is that learning to play an instrument in the formative stages of learning to read language will enhance the language reading ability of the students. The problem readers in the class will benefit more from the music instruction than the average readers.

# Music in the Education of Young Adolescents

by Robert H. Woody

A quality music program can have a positive impact on a middle school. Clearly music education provides young adolescents, including at-risk students, with much-needed opportunities for success. Music can also be an attention grabbing part of integrated instruction reinforcing concepts in math, science, and social studies. However, music education can have powerful indirect effects as well. School music involvement has been linked to character growth and academic achievement in adolescents. In addition, to learn about music is to learn about human expression; such aesthetic education can increase perceptiveness and sensitivity in middle school students.

The music teacher is not the only one contributing to the music program at a middle school. Most teachers and administrators are supportive, usually by encouraging and accommodating the students involved in music. Such support is necessary for a school music program to survive. Teachers and administrators, however, may not as readily recognize the ways in which they can BENEFIT from music in their schools. When quality music education occurs, its positive impact permeates a middle school.

The benefits of music education to young adolescents are not always obvious. Often, a school's music program appears isolated and not associated with other curricular activities. This is partly because the subject of music (with art, physical education, business, and similar classes) is often conceptualized as being in an "other" category – so-called "non-academic" courses. In addition, too many music teachers may happily relegate themselves and their programs to such a role, perhaps thinking it will relieve them from additional busywork assigned to "academic" teachers. Such isolation, however, can seriously limit the positive effects a music program can have on a school in total.

## THE MIDDLE SCHOOL CONCEPT AND MUSIC EDUCATION

When properly presented, music education will have a positive impact on various facets of a middle school. The philosophical concept of the middle school would seem to require a music program that is active, cooperative, and accessible to all students. Like all middle school programs, music education should address the unique interests and needs of this age group. Virtually every teenage subculture promotes an interest in some kind of music, as well as involvement in activities with peers. Also, at this point in their development, middle schoolers feel the need to experience success and a sense of "fitting in." In that music accommodates these student interests and meets these student needs, a school music program is a necessity at the middle level. Further, increased student enrollment and the ensuing greater musical activity can enrich a school environment to be more conducive to all learning and more satisfying to administrators, teachers, parents, and students.

## OPPORTUNITIES FOR SUCCESS

The contributions of music to effective middle school education are often easy to identify. The National Association of Secondary School Principals' (NASSP) Council on Middle Level

Education has offered suggestions with direct implications for music programs. It concluded that schools should “provide opportunities for students to achieve and demonstrate excellence in a number of domains (i.e., the arts, athletics, academics, crafts)” (NASSP 1985, p. 3). Such chances to succeed are plentiful in music classes. Students need not be the best musicians in the band or chorus to know that they have accomplished something special. Feelings of achievement and success can come from simply learning to play a familiar melody on an instrument or from singing on-stage with the chorus at a schoolwide assembly.

A music program can provide even more opportunities for student success if it expands its offerings beyond the traditional band and chorus classes. Exploratory wheels at the middle level should AT LEAST include a general music class of some kind. However, the possibilities are even much greater. Groups of students who would otherwise be uninterested in school can be “reached” and motivated with alternative classes and minicourses (Chamberlin, Clark, & Svengalis, 1993; Modugno, 1991). Kuzmich (1991) described how a class offering instruction in electric guitar, drum set, and bass guitar attracted a different audience of students to the school music program. Students learned to play some of their favorite songs heard on the radio; the resulting performance opportunities – in class and in a rock band competition – earned students much-needed favorable attention from their teachers and peers. Similarly, Fallis (1996) acquired 31 MIDI synthesizer keyboards and offered a technology-based “Music Synthesis” class. Students learned to play familiar pop music and to write songs of their own. As their musical skills improved, their self-confidence and creativity grew as well. Both of these classes resulted in increased student motivation and more positive associations with attending school. Other examples of successful alternative music classes are steel drum ensemble, electronic and computer music, and the history of rock and roll.

## INTEGRATED INSTRUCTION

An integrated approach to instruction is another important element of the middle school concept. This philosophy eliminates teacher “isolationism” and instead encourages teamwork. The student-oriented goal of this approach is that learners will experience connections across content areas, and thus better understand the relevance of all the information taught. As one might expect, music can be an effective tool in accomplishing this goal. For instance, Taylor (1981), after examining literature on music and language arts, reported that instruction in musical rhythm can enhance listening skills and language awareness. In addition, McLaughlin and Helm (1993), in a study of middle school students, found that contingent access to music increased the number of correct problems completed in mathematics.

All subject areas can tap into music’s appeal to middle schoolers. For example, historical events and cultural studies are commonly reflected in the written and recorded music of the time. The feelings and events of the 1960s American civil rights movement are documented in “freedom songs” like “We Shall Overcome” and “Ain’t Gonna Let Nobody Turn Me ‘Round.” Said Dr. Martin Luther King, Jr., “The freedom songs are playing a strong and vital role in our struggle. They give the people new courage and a sense of unity” (Silverman, 1992, p.4). Social studies teachers may be able to foster much-needed student interest by introducing recordings of these songs in their classrooms. Further, a lesson on the lasting significance of the civil rights movement could begin with stereo speakers booming out the song, “Pride (In the Name of

Love)” by popular rock group U2. The lyrics of this 1984 song lament the assassination of Reverend King. More generally, teachers can offer to play music brought in by students, providing the students connect it to the topics of class. Such contingent use of music has been shown to increase attentiveness in adolescents (Madsen, 1982).

Music also contains elements that are undeniably mathematical, scientific, and physical in nature. A unit on musical rhythm can reinforce concepts of mathematical fractions. Standard musical notation uses symbols like half notes, quarter notes, and eighth notes to represent durations of sound. Having students chant and clap notated musical rhythms is an engaging way to explore the adding and subtracting (as well as other relationships) of fractions.

A scientific approach to music includes the study of the acoustical properties of sound. That vibrations produce musical sounds with varying amplitude (loudness), pitch, and tone quality can be shown by snapping an outstretched rubber band or a yardstick hanging on the edge of a table. It can also be demonstrated with the plucked strings on a guitar, the vibrating wooden reed of a saxophone, or the “buzzing” lips of a trumpet player. Human anatomy can also be presented musically by examining how the muscles of the larynx and vocal chords create a singing voice and how the eardrum at the end of the ear’s auditory canal receives vibrating sound waves in the perception of music. The incorporation of musical ideas and examples into “general” education will help both the music program and the academic curricula.

## REACHING AT-RISK ADOLESCENTS

Increasingly, the middle level is the target for school dropout prevention. Many student problems that result in dropping out of school begin in this early stage of adolescence. Educators are recognizing that school music programs can help in this cause. Research studies have indicated that at-risk secondary school students benefit from visual and performing arts classes (Frakes, 1984; Jenlink, 1993). Many times, these classes provide the sole reason for staying in school.

In a Florida Department of Education study (1990) that surveyed at-risk students enrolled in arts classes, a majority of the students indicated that their participation in the arts influenced their decision to stay in school. These students benefited from the strategies and techniques that are commonly a part of arts education: hands-on involvement, opportunities for individual expression, pride in creative accomplishment, and an environment of high standards and expectations. The researchers concluded that “the arts can be a powerful vehicle for motivating the student at risk to remain in school” (p. 27).

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In 1991, the Music Educators Journal devoted an entire issue to the subject of music and at-risk students (Music and the at-risk student, 1991). Throughout the issue, teachers shared their strategies for getting at-risk students engaged in music activities. Song writing, taught in the context of a synthesizer-keyboard class, is suggested as a positive outlet for self-expression. Students have the opportunity to explore and incorporate into their musical creations the unusual and entertaining sound effects supported by the synthesizers. Also, percussion ensemble classes are used to encourage cooperative social behavior. The teenagers develop a sense of community among themselves while collectively pounding out rhythms on xylophones, cymbals, bongos, and other drums. These experiences give at-risk students something to really look forward to in school.

To most educators, this type of impact is not particularly surprising. Many (if not most) teenagers have a seemingly inherent interest in music, drama, or visual arts; the popularity of MTV among adolescents, and its sway in their lives, has been verified by researchers (Thompson, 1993; Sherman & Etling, 1991). Also, students of this age are looking for their place or identity in school, whether it comes in the form of a social clique or a school activity. They want to belong to something. Commenting on at-risk students’ desire to feel that they are part of a quality experience, one middle school specialist noted that “this positive human connection does much to prevent all students from feeling alienation and much to enhance feelings of self-worth” (Ruff, 1993, p.12).

It is easy to see how a student’s involvement in a school band, chorus, or other musical activity would meet these adolescent needs. A student in the Florida Department of Education study explained, “Band in general is like my second home because I am always there for practice. It is like one big family” (Florida Department of Education, 1990, p.40). Another music student commented, “He [the music teacher] made it challenging, a place to learn, not only music, but how to make something out of yourself, to be somebody” (p. 40).

## THE UNSEEN EFFECTS OF MUSIC EDUCATION

Beyond its congruence with the middle school philosophy, music education can contribute in other lesser-known ways. Specifically, it impacts the environment of a middle school. If the schoolwide opinion of the music program is favorable and supportive, overall school spirit is positive. Unfortunately, the mention of music and “school spirit” may bring to mind a music-filled pep rally or mass singing of the school song. But the spirit referred to here is an enriched and culturally vibrant learning atmosphere. It is important to recognize the powerful indirect effects of music education that can add to a more positive and satisfying school environment.

## BUILDING CHARACTER

For years, music educators have touted the character traits that musical involvement builds in students. DISCIPLINE is instilled through individual practice and group rehearsal. Students learn COOPERATION and SELF-CONTROL as they see the importance of their efforts to the success of the larger musical ensemble. And encouraging students to perform solos, improvise, and compose their own original works develops their CREATIVE ENERGY.

Certainly, the acquiring of such character traits is not exclusively a byproduct of music participation. Other academic subjects and extracurricular activities can foster them as well. In music, however, ideas like cooperation and creativity are VITAL to the subject. They are not only a part of “good” music, they are intrinsically essential to music itself.

## ACADEMIC ACHIEVEMENT

The development of qualities such as cooperation and self-discipline contributes to the degree of success that adolescents experience in school situations, at present and in the future (Leming, 1985; Gaddy, 1988). Accordingly, music educators (and arts educators in general) are interested in whether involvement in the performing arts positively affects academic achievement. School band directors, for instance, experientially attest that many of the students who receive academic recognition are also band members. Although music teachers admittedly try to recruit the “best” students for their musical groups, they also contend that music involvement helps students to become the “best.” According to one performing arts teacher:

“Students learn that if something is worth doing, it is worth doing well. They begin to appreciate themselves for who they are; they learn to set challenging and realistic goals for themselves. The performing arts teach students to overcome obstacles and to appreciate the process of accomplishment, as well as the end product of achievement.” (Wright, 1994, p. 41).

Several research studies have examined these claims. In their support, music educators are publicizing such studies that indicate high correlations between music involvement and academics – some suggesting that students participating in music actually outperform non-music students in grade point average and on achievement tests, including the Scholastic Aptitude Test (SAT) (Hanshumaker, 1986; Mickela, 1990; Morrison, 1994). Some researchers have associated music involvement with general academic achievement (Frakes, 1984); others have linked it to success in specific areas, including language acquisition (Harding, 1989) and mathematical-spatial reasoning (Rauscher, Shaw, & Ky, 1993). Although most of this type of research is only correlative and cannot support claims that music CAUSES better educational results, they seem to secure the place of music as a positive, meaningful part of a complete education.

## THE AESTHETIC DIMENSION

Perhaps the greatest contribution of music to the growth of young adolescents lies in its aesthetic element. The subject of aesthetics addresses human feeling and expression. Obviously, it is important that adolescents receive guidance and assistance in these areas. In fact, the NASSP’s Council on Middle Level Education specifically suggested that schools provide opportunities to

develop skills in “aesthetic sensitivity” (NASSP 1985, p.6). Music education can attend to and develop the aesthetic or affective capacity of middle school students. They can learn and experience empathy, responsiveness, and “feelingful” environment.

Prominent music educator and philosopher Reimer (1989) has tried to show how aesthetics go beyond mere appreciation of music. Musical qualities, he explains, are.... designed to be analogous to human subjectivity or “the patterns of felt life” and “the conditions of livingness” (p. 102). For middle school students, the value of aesthetic education comes in its sensitizing of feelings – the ability to empathize with something outside oneself and feel accordingly. Reimer writes:

“The purpose of aesthetic education is to develop the ability of people to perceive the embodied, expressive qualities of things and to react to the intrinsic significance of those qualities...Some of that special kind of perception and reaction must be present for any aesthetic experience at all to take place. The task of aesthetic education is to influence that ‘some’ – make it ‘more’ as a result of teaching and learning.” (p. 106-107)

The objectives of aesthetic education need not seem unapproachably abstract and idealistic, although this is a problematic tendency in any discussion of aesthetics. The main goal is that of other middle level efforts, including the adviser/advisee program: to encourage adolescents to be compassionate and caring. Music education that is also aesthetic education can help produce “well-balanced” young people. Equipped with greater sensitivity and perceptiveness, they can better understand their own experiences, the world in which they live, and the music of that world.

Exposing students to the music of different cultures is a simple but effective approach toward teaching aesthetics. This direct application can have a real impact in discouraging cultural and racial intolerance (Florida Department of Education, 1993, p. 6). For example, a unit exploring Salsa music, with listening, singing, and dancing, can provide insight into the Caribbean Hispanic culture (p. 98). The musical exposure – accompanied by applicable geography, history, and other social studies – can build recognition and respect for the cultural differences, as well as understanding of the cultural similarities. Former U.S. commissioner of education Howe (1991), in reacting to the frequent omission of the arts in discussions of educational excellence, noted: “We assign second-class status to the very areas that can do the most to help our schools attune the curriculum to the special contributions and interests of the most rapidly growing student groups. What is the purpose of removing from our nation’s educational planning those areas that have more to do with creativity, imagination, and cultural diversity than any others?” (p. 192)

## THE NEED FOR TRUE MUSIC EDUCATION

The impact of a school music program will be strongest if there is real teaching and learning (as opposed to mere music rehearsal) occurring in the music classrooms. Unfortunately, this seemingly obvious statement is frequently ignored. Because music is perceived by many people as mere “entertainment,” there is a tendency to have low educational standards for its place in schools. Further, the facets of school music that are most visible are often only a small part of the entire program. Many parents, teachers, and even administrators do not realize that the music education curriculum is (or should be) made up of much more than performances by a marching

band and swing choir. when music classes are viewed as ACTIVITIES (comparable to school sports and clubs), their educational value is undermined.

A music education curriculum, like any other, should consist of sequentially organized learning experiences that lead to clearly defined skills and knowledge. The ultimate goal of music education is not great student performances, but musical learning that will allow young people to actively participate in their musical cultures for their entire lives. The curriculum should go beyond the performance of published music and also provide students with opportunities to experiment with musical improvisation and composition, thus building their creative skills. Music classes should encourage students to employ and develop their problem-solving and higher-order thinking skills, in the form of musical decision-making, self- and peer-evaluation, and other activities involving increased student responsibility. The music education curriculum should also emphasize the interdisciplinary potential of the skills and knowledge being taught; that is, facets of musical understanding can be applied to other areas of the fine arts, as well as to social studies, language arts, and other fields of study (Music Educators National Conference, 1994). If these elements, which define a music education curriculum, are missing from a school music program, classes can become mere rehearsals and music education becomes mere music production.

A low regard for true music education is partly the fault of music teachers themselves. In some cases, they all too readily assume the roles of band or chorus DIRECTOR, as opposed to EDUCATORS. Their daily working objective is limited to preparation for the next concert or performance. Such a narrow view excludes real teaching of music from classroom activities; the discovery of the “world” of music is replaced with the meticulous rehearsal of only a few pieces. While this position is inexcusable, it is often simply a resignation to the pressures of the school and community for “successful” performances. But in reality, when their children are robbed of the enriching effects of musical exploration and learning, it is the school and community that ultimately suffer.

The challenge is to properly integrate the aforementioned facets into a balanced music program. School bands and choruses should provide some music for school and community events; such performances are part of real-life musical involvement and, thus, a part of music education. Also, students’ participation in area music festivals can be valuable as adjudicators’ comments can stimulate musical growth. But these activities are only the means to a more important end.

Whether performance-oriented (like band and chorus) or not (like general music), the ultimate goal of all music classes is the same. In short, it is to familiarize students with the nature of music. Middle school students are trained, disciplined, and enriched as they learn about the innately expressive qualities of sound. The musical and artistic benefits of this development are obvious. But the aesthetic and affective benefits go well beyond the music classroom. They touch the lives of adolescents and can improve the overall environment of a middle school.

Source: “Music in the Education of Young Adolescents” by Robert H. Woody. Published in Middle School Journal, vol. 29 no. 5, May 1998.

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# **Music Making Beats Computers at Enhancing Early Childhood Development**

A research team exploring the link between music and intelligence reports that music training -- specifically piano instruction -- is far superior to computer instruction in dramatically enhancing children's abstract reasoning skills necessary for learning math and science.

The new findings, published in the February 1997 issue of *Neurological Research*, are the result of a two-year experiment with preschoolers, led by psychologist Dr. Frances Rauscher of the University of Wisconsin at Oshkosh and physicist Dr. Gordon Shaw of the University of California at Irvine. As a follow-up to their groundbreaking studies indicating how music can enhance spatial-reasoning ability, the researchers set out to compare the effects of musical and non-musical training on intellectual development.

The experiment included three groups of preschoolers: one group received private piano/keyboard lessons and singing lessons; a second group received private computer lessons; and a third group received no training. Those children who received piano/keyboard training performed 34% higher on tests measuring spatial-temporal ability than the others. These findings indicate that music uniquely enhances higher brain functions required for mathematics, chess, science, and engineering.

The implications of this and future studies can change the way educators view the core school curricula, particularly since music-making nurtures the intellect and produces long-term improvements. "It has been clearly documented that young students have difficulty with the concepts of proportion (heavily used in math and science) and that no successful program has been developed to teach these concepts in the school system," stated Dr. Rauscher. "The high proportion of children who evidenced dramatic improvement in spatial-temporal reasoning as a result of music training should be of great interest to scientists and educators," added Dr. Shaw.

## **Results Reinforce Causal Link Between Music and Intelligence**

The research is based on some remarkable studies that have recently begun pouring out of neuroscience laboratories throughout the country. These studies show that early experiences determine which brain cells (neurons) will connect with other brain cells, and which ones will die away. Because neural connections are responsible for all types of intelligence, a child's brain develops to its full potential only with exposure to the necessary enriching experiences in early childhood. What Drs. Rauscher and Shaw have emphasized has been the causal relationship between early music training and development of the neural circuitry that governs spatial intelligence. Their studies indicate that music training generates the neural connections used for abstract reasoning, including those necessary for understanding mathematical concepts.

## **Music Training And Mental Imagery**

Researchers at Utrecht University in the Netherlands studied the effects of musical training on the ability of college students to “hear” musical sounds without the actual presence of sound. This skill is sometimes called *audiation*.

The researchers used two groups of college students. One group had about five years of instrumental music training. The other group had no formal musical training. The students then performed two tests.

In the first test, the students were given the lyrics to a familiar song. Two words were highlighted. Without hearing the song, the students had to decide if the first word was higher or lower in pitch than the second word. This test required the students to “hear” the song in their mind and discriminate between the pitches of the words. The music students scored significantly higher on this test than the non-music students.

In the second test, the students were given sets of three cards. On each card was listed an everyday sound. For example, one set of three cards listed, “crying baby,” “laughing baby,” and “meowing cat.” The students had to choose the sound that was most different from the others. (In the above example, the most different sound is “laughing baby.” “Crying baby” and “meowing cat” are similar.) The music students also scored significantly higher on this test, which did not directly involve musical skills.

Students with musical training may therefore have a greater capability to process all sounds, including speech.

Source: “Music Training and Mental Imagery Ability.” - by A. Alemean, M.R. Nieuwenstein, K.B.e. Bocker, and E. H. F. de Haan. Published in Neuropsychologica, Vol. 38 (2000), pp. 1664-1668.

## The Musical Mind

Music helps kids' brains grow. Carole Walker, an elementary school music teacher in Auburn, Maine, knows that, and to spread the word, she's likely to show up for a presentation wearing a hard hat and carrying signs that say "Slow Down – Work in Progress" or "Caution – Dendrites Growing Here."

Similarly, Lucille Croscup, an elementary music teacher in Bennington, Vt., and Janet Hanratty, a junior high school music teacher in Elmira, N.Y., can't help talking about neurons and synapses when they talk about their teaching. "I think of my seventh- and eighth-graders in my instrumental music class and chorus as being part of my big brain bash," says Hanratty, whose graduate thesis explores the latest neurological research on brain development and its relationship to music education. "When I'm conducting, I can almost see the kids' brains glowing inside their heads as the music excites firing patterns in the cortex."

And in fact, showing brains in living color is exactly how Donald Hodges, a professor of music at the University of Texas at San Antonio, presents the latest discoveries on neuromusical research. Hodges demonstrates what he calls the "musical brain" with slides of what goes on inside people's brains as they listen to music. The pictures are taken using such techniques as magnetic resonance imaging (MRI) and positron emission tomography (PET). "Music actually changes the organization of the brain," says Hodges. "Now we can see what happens when a person listens to Bach," he says, pointing to vivid hues that show the research subject's active motor cortex.

Along with studies being done by other neuroscientists Hodges' research dismantles some misconceptions while building new theories about music. One widespread misconception is that musicians are exclusively "right-brained" – that is, that they draw primarily on the right hemisphere of the brain, which dominates functions such as imagination, creativity, and artistic endeavors. But, as Hodges' compelling images show, music is distributed across locally specialized regions on both sides of the brain. Just how much musical ability is lateralized throughout the whole brain is subject to more study, Hodges says. But he says it shouldn't be surprising to learn that both brain hemispheres are involved in musical processing. Musical experiences are, to use Hodges' term, "multimodal" – that is, they involve auditory, visual, cognitive, affective, and motor systems.

"Think of what it takes to be a violinist," says Hodges, "and you'll realize that a musician relies on different brain systems to read symbols on a page, tune the instrument to the correct pitch, and coordinate finger and arm movements."

Neuromusical investigations also are yielding new findings that, in turn, are creating new theories. For example, on the basis of observations and experiments with newborns, neuroscientists now know that infants are born with neural mechanisms devoted exclusively to music. And, perhaps most important for music teachers, studies show that early and ongoing musical training helps organize and develop children's brains.

## *A Learning Window*

“Music,” says Harvard University’s Howard Gardner, “might be a special intelligence which should be viewed differently from other intelligences.” Gardner, renowned for his theory of multiple intelligences first described in *Frames of Mind*, says musical intelligence probably carries more emotional, spiritual, and cultural weight than the other intelligences he has described (verbal/linguistic, mathematical/logical, spatial, bodily/kinesthetic, interpersonal, and intrapersonal).

But perhaps more important, Gardner says, is that music helps some people organize the way they think and work by helping them develop in other areas, such as math, language, and spatial reasoning.

The work of Frances Rauscher of the University of Wisconsin at Oshkosh (formerly at the Center of Neurobiology and Memory at the University of California at Irvine) bears out that claim. The 100 billion neurons in a baby’s brain are eager and willing to learn and grow, Rauscher’s studies show, but to do so they need stimulation and enrichment to form connections (synapses) and to grow branching extensions (dendrites). And when their little brains are nourished with music, Rauscher and other researchers say, young children grow more connections and extensions. In effect, they get smarter.

In a study involving 3-year-olds, Rauscher and her colleague at Irvine, Gordon Shaw, demonstrate how musical training helps develop preschoolers’ spatial reasoning skills. The children, some from an inner-city day-care center and some from a school for the arts, were given music training involving group singing classes or keyboard lessons. After the music lessons, the spatial reasoning scores of both groups of children nearly doubled. The value of such studies, which Rauscher is continuing on more extensive populations of children, lies in understanding higher brain functions (the firing pattern by groups of neurons over large regions of cortex, for instance) and understanding how to help children develop such functions.

“Through our studies, we’re opening windows and looking in on children’s learning,” says Rauscher. “Music might be considered a pre-language which, while children are very young, excites inherent brain patterns and promotes their use in complex reasoning tasks. Based on our findings, we predict that music training at an early age – when the connections in the brain are most plastic – provides exercises for higher brain functions. Perhaps, when all our work is completed, we will be able to say that music should be introduced in preschools and should continue as an integral part of a school’s curriculum.”

## *Conclusion*

Music does seem to be linked to academic performance. Kathy Mazourek a music teacher in Newfield, N.Y., analyzed the academic performance of 27 students enrolled in her high school band and chorus. “The patterns I saw when I looked at my students’ grades in subjects such as English, math, science, physical education, and foreign

language jumped right off the page,” Mazourek says. “Almost every student my co-music teacher and I rated high in musicality was on the high honor roll. In math my band kids almost go off the chart.”

To many researchers, the best vantagepoint for studying the effects of musical training on children and young adults is within schools and classrooms. One such school is the Greenhouse School in Salem, Mass., a year-round primary school that serves mainly children from low-income families. There, with the help of Principal Daniel Patrick Welch and researcher Patricia Jennings-Welch, teachers are trying to integrate music education throughout an interdisciplinary curriculum.

Some 60 students who would be assigned to grade kindergarten through six in other schools mingle and learn together in an open, ungraded classroom where music is woven into learning activities. Infants and toddlers from a nearby child-care join the Greenhouse School kids for weekly group singing – an event where, teachers say, their integrated curriculum program begins. And while teachers are quick to acknowledge that they pay attention to multiple intelligences, they agree they think of music as special. Music provides the structure that, as Jennings-Welch puts it, makes the school “more organic, complex, lifelike – human.”

Music also helps expand students’ math and language learning, Greenhouse teachers say. Referring to a music matrix used to plan and assess curriculum, one teacher comments, “It might look jumbled to a visitor, but kids are learning such things as patterns and symbols – the undergirding concepts that make math and reading possible.”

So is music a necessary part of the school curriculum? Increasingly, educators agree that it is. “At Greenhouse School, we think of all the riches music can bring to our lives,” the teachers there say, explaining why they called their booklet on music at Greenhouse ‘The Richest Cousin.’ “At our school, music is definitely not thought of as a ‘poor stepchild.’”

School districts that “lop off” music in a child’s education are simply “arrogant” and unmindful of how humans have evolved with musical brains and intelligences, charges Howard Gardner. Students are entitled to all the artistic and cultural riches the human species has created, and schools should help kids understand these valuable gifts. Think of the highest aspirations possible for students, he says. Then think of those aspirations without music and art.

What’s more, Gardner concludes, music can help students learn one of the most valuable lessons of all: that hard work and perseverance have their own rewards – and, in the case of music, at least – can even be fun.

**Source: “The Musical Mind: Training in music, researchers find, has a positive effect on cognitive development” – from an article by Susan Black**

# Notes Of Nurture

Many parents wonder when to start their children on music lessons. The answer, according to some educators, is easy: nine months before birth. That may be a bit extreme for some parents' tastes. But with study after study showing the academic, social and cognitive benefits of childhood music education, it seems a clear case of the earlier, the better.

"The brain pathways - the circuitry that a child is born with - are connected and enhanced by music activity," said Sandy Barber, director of Kindermusik of Charlotte, a music education program for children from newborns to age 7. "These are the same pathways the child will use for reading, for science, for math. The earlier you start the better for brain development. There are critical periods of brain development you can lose when a child gets to be 8, 9, 10."

In researching the link between the brain and the ability to make music, Frank Wilson, a San Francisco neurologist, discovered that music study enhances muscle development, coordination, timing, concentration and memory. Recent studies show music bolsters mathematical ability by enhancing spatial reasoning -- the ability to see relationships and patterns among objects.

For instance, to sing "The Itsy Bitsy Spider," children must order the notes mentally to create the sounds that form a melody. Doing this strengthens certain neural pathways in the cortex -- the higher brain centers where spatial reasoning takes place.

Elda Franklin, a music professor at Winthrop University in Rock Hill, North Carolina wrote her Ph.D. dissertation on music and brain development. Franklin said mankind had music before it had speech, and she theorizes that music may have served some sort of survival function for early humans. "Every culture on earth has music and music education," she said. "It's universal. Perhaps, a few million years ago, signals of complex sound patterns were used to warn others of danger, resulting in greater awareness and readiness to receive further information."

## *Violin looks like fun*

But that's not the reason a half-dozen children from ages 5 to 7 have gathered with Franklin for a special class offered through the university's Academy of the Arts. These kids are here to learn the violin - and they have no ideas about boosting their brainpower. They just think it looks like fun. In fact, most of the children are here because they want to be, not because their parents pushed them. "She begged to play the violin," said Leslie Cooper of Rock Hill, mother of 5-year-old Liza. "She wanted to be in the symphony before she could say 'symphony.' I put her off for almost a year, because I thought it was a whim."

Robin Mejia, mother of 7-year-old Erika, had a similar story. "She had been asking for violin lessons for two years," said Mejia, of Catawba, South Carolina. "She chose this over gymnastics, which really surprised me. When we asked her to choose, she didn't think about it for a minute."

The children's desire to take lessons raises a chicken-and-egg question that has never really been answered, said Franklin: Does music make a child smarter, or do smarter children gravitate to music?

"This is a complex question that probably doesn't have a simple answer," she said. But there's no doubt, she added, that children benefit from the "highly complex multisensory experience" of music, which requires them to process information through their eyes, ears and hands at the same time.



## *Active makers of music*

Educators say teaching children to make music is more important than ever as our society becomes ever more passive about music. "Families used to create music together - singing around the campfire or the parlor piano," said Kindermusik's Barber. "Groups of people would sing together frequently in public.

"With the emergence of the electrical age, people began to be passive listeners to music rather than active makers of it. It started with radio, continued with TV and now we have CDs and Walkmen.

"A child learns to sing by responding to its mother's voice. That doesn't happen with recorded music. We're allowing this primal thing to be replaced by electronics."

Parents should sing to their children, dance with them, pound spoons on kitchen pots with them. Don't be ashamed if you don't have an opera-quality voice. In fact, as you make music with your child, you'll likely find yourself becoming more comfortable with your own musical ability.

As children get older, more subtle benefits of music start to appear. Karl Criswell, manager of Howren Music in Huntersville, said he sees his students developing discipline and the ability to concentrate on a task. "When you sit down with an instrument, you have to be focused," he said. "I see an awareness in our children. You tell them something, and they don't have that blank look in their eyes."

Hollie Michael, owner of the Allegro Academy of Musical Performance in Charlotte, said music also builds self-esteem. "They have something that is theirs -- an accomplishment they have done themselves," Michael said. "That's really valuable." And if it makes their brains bigger, that's OK, too - to a point."

"I hope her brain doesn't develop any faster," said Teresa Creech of Rock Hill, watching her 7-year-old daughter, Maggie, play in Franklin's violin class. "She's about to knock me out of the race as it is."

Source: "Notes Of Nurture – Kids Who Make Music Also Build Brain Power, Research Shows" – by John Reinan, Staff Writer, [The Charlotte Observer](#), January 5, 1999

# Read With a Beat: Developing Literacy Through Music and Song

by Gayla R. Kolb

Music is a language with powerful appeal. Children, especially, are captivated by the music in their environment. They respond freely to a variety of tempos, from drum beating to gentle swaying, and their undivided attention commits to memory verse after verse of popular songs and jingles. The enthusiasm displayed and the eagerness to sing and move with the beat reflect a child's natural propensity toward music.

The spontaneous disposition children have toward rhythm and melody makes music an ideal tool for assisting them with the interwoven facets of language: listening, speaking, reading, and writing. Through music, children experience the wholeness of language. The ideas and emotions communicated are presented in meaningful context, and the melody and lyrics provide a source for interacting with the thoughts of others. In addition, the emotive quality and the structure of musical composition engage children in fulfilling personal meanings (Harp, 1998).

“Music and reading go together because singing is a celebration of language. Children's language naturally has rhythm and melody. Children bring this natural ‘music’ language with them to the task of learning to read, and so using singing to teach reading draws on this natural understanding.” (Harp, 1988, p. 454)

A most effective way to teach children to learn and to value language is to provide them with a variety of meaningful experiences that fine-tune their ability to hear rhythm, sounds, and melodies. The skill children gain in listening will then provide a solid framework for successfully attending to language in print (Martin, Brogan, & Archambault, 1990). The singing-reading connection not only helps children learn to read but also fosters a love for reading (Handy, 1989).

## INTEGRATING MUSIC WITH READING – GETTING STARTED

A first step toward integrating songs into the reading curriculum is simply to sing a song repeatedly until children are comfortable with the tune and the lyrics (Barclay & Walwer, 1992; Handy, 1989; Harp, 1988; Renegar, 1990). Picture cards in a pocket chart or on a flannel board may be used to assist children with learning the lyrics (Handy, 1989). Creating motions to act out the song also helps children recall the words (Renegar, 1990). It is helpful to tape-record each song and provide children with a special area where they can listen to tapes.

Next, the children are ready to see the lyrics in print. When using a song picture book, the teacher should introduce the book to children in the same manner as any picture book, with a discussion of the cover and illustrations, a complete reading of the book, and a sharing time at the end (Handy, 1989; Harp, 1988). Choral and echo reading techniques are also effective ways to help children connect the song to print.

Printing the lyrics on chart paper so that children can participate in a variety of reading experiences will also help promote print awareness. Activities such as pointing to each word as it is sung, locating words that appear in more than one place, and providing children with word

cards to match like words are excellent ways to reinforce the link between speech and print (Harp, 1988; Renegar, 1990). The recreation of the song using sentence strips will help children to develop sequencing and to understand the relationship between sentences and the whole composition (Handy, 1989; Renegar, 1990). After many opportunities to read the song in print, the children are now ready to participate in various activities designed to extend the singing-reading experience.

#### SIGHT VOCABULARY

“Word Sorts” - Print song lyrics on individual word cards and have students categorize them; then justify and title each category.

“Word Games” - Play word games such as Concentration to help children learn song words by sight. Write the lyrics on pairs of word cards, turn them face down, and then have children take turns turning over and reading the cards until all cards have been matched.

“Word Banks” – After children recognize and read song word cards consistently, deposit them into individual word banks. As each bank grows, sort the words into various word categories.

#### READING COMPREHENSION

“Cloze Technique” – Omit every tenth word or key word from songs. Have children read and fill in the missing parts. Identify context clues that help children decide upon their answers (Handy, 1989).

“Story Maps” – Use story maps to help children identify and organize the elements of songs such as the song’s characters, events, problem, solution, and main idea.

“Music Response Journals” – Provide children with individual music journals in which they can write their thoughts and feelings about songs and singing-reading activities (Davenport, 1990).

#### FLUENCY

“Support Reading/Singing” – Use choral and echo reading and singing activities to help children develop smooth reading.

“Chants” – Chant a variety of jingles and rhymes to assist children with the development of phrasing and intonation. Other suggested activities include clapping to the beat, playing rhythm instruments, and choral chanting.

Music and song in an early reading program have great value. As noted, a wide variety of music and singing activities combined with reading instruction can foster beginning reading success. Specifically, they can facilitate the development of book concepts, sight vocabulary, reading comprehension, and fluency. It is most important to note that because children have a natural love for music and singing, music-integrated reading instruction can help foster a love for lifelong reading. So, the next time it is story time, remember, read with a beat!

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SOURCE: "Read with a beat: Developing literacy through music and song" by Gayla R. Kolb. Published in "The Reading Teacher" vol. 50 no. 1, September 1996. pp. 76-77.

# Rhythmic Ability as a Foundation for Learning and Evolution

Study findings that will soon be published in the *American Journal of Occupational Therapy* show that improving a child's physical rhythmicity (rhythmic ability) also produces statistically significant positive gains in his or her capacity to focus and attend; plan, sequence, and coordinate actions; as well as a variety of cognitive and language skills, including reading, spelling, and math. These findings suggest that the rhythmic experiences shared by our earliest ancestors may have done more than just entertain them. They may have been instrumental to humans developing underlying brain functions that were foundational to our brain's developing higher level capabilities.

Rhythmicity from a practitioner's point of view:

Individuals with fundamental rhythmicity typically have the ability to

1. recognize that rhythmic patterns exist in our surroundings,
2. focus their attention long enough to recognize individual patterns
3. within a group of simultaneously occurring patterns,
4. create patterns (actions and thoughts) that are in sync (entrain) with other patterns,
5. consciously adjust or stop their own patterns so they don't interfere with the patterns of others, and
6. learn from previous experiences.

Individuals with exceptional rhythmicity typically have the ability to:

1. stay focused on internal and/or external patterns for extended periods of time without interruption,
2. unconsciously distinguish between minute individual patterns occurring within a group of simultaneously occurring intricate patterns,
3. unconsciously adjust own personal rhythms when they waver from what is intended,
4. make faster and more precise corrections,
5. create highly creative (productive) rhythm patterns that others tend to follow (entrain with) and learn from,
6. more effectively learn from previous experiences, and
7. have exceptional experiences that often occur as a direct result of having highly accurate rhythmicity (timing).

Bottom line: Rhythmicity is a critical foundation of our ability to learn. The soon to be published studies suggest that helping our children improve their rhythmicity will likely help them become more productive members of society. They also verify another age-old saying : *Everything is just a matter of timing!*

From the Timing, Concentration, and Motor Skills (TCAMS) Professional Resource Center

## **Texas All-State Musicians Score 196 Points Above National Average On The 2000 SAT**

The national average score on the 2000 SAT was 1019. The average score for 2000 Texas All-State music ensemble members was 1215. Here are the average scores by ensemble:

Mixed Choir	1177
Treble Choir	1145
Concert Band	1227
Jazz Ensemble	1160
Philharmonic Orchestra	1223
String Orchestra	1301
Symphonic Band	1191
4A Symphonic Band	1233
Symphony Orchestra	1286
ATSSB Symphonic Band	1188
ATSSB Concert Band	1222
Texas All-State Composite Score	1215

These scores demonstrate that many of the best musicians are also among the best students academically. Students can succeed in both music and academics at the same time.

Source: [www.tmea.org/025\\_Advocacy/allstate.html](http://www.tmea.org/025_Advocacy/allstate.html)

## Verbal Memory Improved by Music Training

In a study in the journal *Nature*, researchers studied a group of 60 female college students from the University of Hong Kong. Thirty of these students had at least six years of musical training with a Western musical instrument before age 12, and thirty of the students had no musical training.

The musical and non-musical students were closely matched in terms of age, grade point average, and years of formal education.

Researchers administered two types of tests to the college students. In the verbal memory test, students heard a list of 16 words read aloud, and the students were asked to recall as many words as possible. In the visual memory test, students briefly saw simple figures, and they were asked to draw the figures from memory. Each test was given three times.

On the verbal test, the music students consistently outscored the non-music students by an average of 16%. This means they remembered an average of 2.56 more words from a list of 16 words than their non-music peers.

On the visual test, there was no significant difference between the scores of the music students and non-music students.

A 1995 study of the magnetic resonance images (MRI) of musicians' brains shows that the left planum temporale region is larger in musicians than in non-musicians. This region of the brain is responsible for verbal memory, while the right planum temporale is responsible for visual memory. The difference in brain structure and organization is believed to account for the improved verbal memory demonstrated by musicians in the above study.

Source: "Music Training Improves Verbal Memory" by Agnes S. Chan, Yim-Chi Ho, and Mei-Chun Chuang, from the Chinese University of Hong Kong. Printed in *Nature*, Vol. 396, November 12, 1998.

# Want Sharp Students? Music Notes Might Be The Key

Schools commonly boast of a computer in every classroom. Make that music keyboards at McDonald Green Elementary. Not only does every class have one, students also get a hefty dose of the instrument in a keyboarding lab.

The program has spread throughout the district, and this fall all nine Lancaster County, South Carolina elementary schools incorporated keyboarding into their curriculums.

Educators have long exposed children to music, but Lancaster has taken it to another level, based on recent studies stating that learning to play instruments boosts a child's intelligence in spatial reasoning and mathematics. Over the past five years, the district has spent \$135,000 on keyboards.

"It's rare for the arts to be (such) an important part of the overall school," said Ruby Goff, music teacher at McDonald Green. "You can't just lecture to children. The music and visual arts are a part of how children learn."

It's not surprising that the district's keyboarding program germinated at McDonald Green. The school plays songs over the speaker system when children arrive. Goff sings to her younger students as they enter her music room. She plays the guitar outside classrooms as students sing along.

"We have a free arts atmosphere," Goff said. "It's the children's school, not ours."

Five years ago, McDonald Green bought a few keyboards. Goff took keyboard technology courses during the summers. Now she has enough instruments to teach a whole class at once.

Fifth-graders pulled stools up to Korg keyboards atop old school desks in Goff's room last week. They clapped big earphones over their heads. That way, they could hear the music they played, but no one else could. Goff wore a headset equipped with a microphone.

She can manipulate the system to work privately with one student or to hear all of them.

The keyboards give students a wide range of sound options. The ivory- and ebony-colored keys can sound like a piano or violin or a mellow voice saying, "Doo."

For J.S. Bach's "Musette," Goff had the students change the sound from steel drums to something more appropriate.

"Probably, Bach . . . played it on a harpsichord," she said. Using their left hands, the students played as she read the notes out loud: G, F, E, D, C, G, F, E, D, C.

"Got it?" she asked as they played music silent to those without headphones. "Great."

Studies say the younger the child, the greater the benefits of playing music. So Goff also teaches kindergartners. And that's a challenge. They swap stools and fiddle with the sound and press the keyboards' glowing buttons. Goff encourages them to create their own songs.

"This is not a quiet class," she said. "I want to be able to use their energy. I want them to be able to express themselves."

She believes the music patterns help them learn and pulls out a recent article from [the Music Educators Journal](#). It cites various studies, including a 1998 report from the College Board that found students with course work in music performance had higher SAT scores. A University of



California, Irvine, study found keyboarding helped preschoolers score higher on spatial-temporal ability tests.

"We're really not certain why that affects the brain as it does," said Alisa Goodman, principal at McDonald Green. "The neuroscientists know only the littlest things. Sometimes we don't understand why things work, but that they do. ... We think it's because of the patterns in music helping the brain to make sense of patterns."

There's no way to measure whether it has improved McDonald Green students' state test scores. To do that, the school would have to create a control group that doesn't take keyboarding. And Goff said that's not about to happen.

She can see that it boosts students' confidence. They like performing and seeing their skills improve, she said.

Jasmine Crawford, 10, enjoys keyboarding but found it very hard at first. "Sometimes you don't know where to put your hands," she said.

Heather Bailey also likes the class. He didn't know the school promotes keyboarding to improve intelligence and learning. She thought it was simpler than that: "So we can learn about music."

Source: "Want Sharp Students? Music Notes Might Be The Key" - by Carrie Sturrock, Charlotte Observer, August 30, 1999

# Why Arts Education Is Basic

Aside from specific disciplinary content (e.g., how to play the clarinet or execute basic dance sequences), an arts education is valuable to our children in three important senses. First, it makes a contribution to the quality of education and build critical thinking skills. Second, it builds specific skills that business value. Finally, it builds values that connect a child to himself and his culture and civilization.

These arguments form the core of the argument for why an arts education is basic and vital to education and to the needs of businesses. Let us take a closer look at each of these points.

*An arts education contributes to the quality of education overall and builds critical thinking skills.*

1. An arts education engages students and invigorates the process of learning.

Educational researchers have shown that people use many routes to learning-including kinesthetic, visual, auditory, synthetic (putting ideas together), analytic (taking ideas apart), and other means. An education that uses the arts readily engages a wider variety of learning styles and increases learning potential for the student. At the Guggenheim Elementary School in inner-city Chicago, for example, after the arts were integrated into the curriculum, daily attendance increased to 94%, and 83% of the students achieved at or above national norms in reading and math.

Keeping young people in school is not just an educational or social issue, it's an economic one, too. In Los Angeles, for example, 85% of all daytime crime is committed by truant youth. The annual cost of truancy to the nation is \$228 billion. Later on in the lives of young people, it costs the business community about \$30 billion annually to train unskilled employees in reading, writing, and mathematics.

2. An arts education sets many "hooks" to capture a student's attention, appealing to many levels of experience at the same time.

\* The arts disciplines reach out to the mind because each is rooted in specific content. They all offer rigorous intellectual challenges. The cognitive problems of representing a particular light in a painting can be as formidable as those involved in constructing any scientific experiment.

\* In every art form, an arts education also engages a child across a broad spectrum of emotions. That is part of what any work of art is designed to do.

\* An education in the arts brings many other faculties into play. These include curiosity, wonder, delight, a sense of mystery, satisfaction, unease when quality is neglected, and even frustration.

\* The various art forms have special forms of engagement. A dance engages the body and delivers exhilaration while a drama invites the willing suspension of disbelief, creating the context for a deeper message. A painting summons reflection and a song can open a new window onto events, ideas, and historical eras.

\* An arts education builds connections between the content of the art form and the total experience of the student.

### 3. An arts education teaches students to draw on new resources to empower their lives.

Dr. Ramon C. Cortines, former Chancellor of the New York City Schools, who has directed some of the most innovative school restructuring initiatives in California and New York, has this to say about the power of the arts for individual students:

"The arts, or the 'Fourth R,' offer a powerful tool for meeting the challenges of reform. Teachers want materials and activities that are hands-on, challenging students to move from the concrete to the abstract... [Everyone] has seen the life of at least one child changed by the power of a brush stroke, the discipline of a dance step, the expressive opportunities of music, and the searing courage and vitality of the theater. We know that to live full lives, all children, indeed all people, need opportunities to experience, appreciate, create, and reflect upon art."

### 4. An arts education teaches critical thinking skills.

An education in the arts appeals to the great variety of human intelligences and contributes to the development of the "higher order thinking skills" in Benjamin Bloom's Taxonomy of Learning - analysis, synthesis, and evaluation. Therefore it helps lay the groundwork students need to be successful in a world where the ability to produce knowledge is at a greater premium than ever before.

Professor Howard Gardner of Harvard University is widely known for his studies on the nature of human intelligence. He theorizes that far from being a single quality, intelligence comprises seven distinct areas of competence: linguistic, logical/mathematical, musical, spatial, bodily kinesthetic, interpersonal, and intrapersonal. His work demonstrates that by making use of all seven areas learning can be deeply enriched. Arts-based instruction is one of the best ways to engage all seven forms of intelligence. The thinking skills inherent in the arts disciplines teach students how the parts of a work of art fit together, how to create works of art using disparate materials and ideas, and how to judge the quality of the finished product whether their own or that of others.

Other key intellectual skills, such as problem posing, problem solving, and decision making, are integral to arts education as well.

Researchers have found not just a correlation but evidence of a solid, statistically based, causal connection between at least one art form-music-and improved reasoning abilities. In 1994, Drs. Gordon Shaw and Frances Rauscher of the University of California (Irvine) showed that music lessons among preschoolers produced a statistically significant correlation with gains in spatial reasoning (i.e. the ability to perceive the visual world accurately, to form mental images of physical objects, and to recognize variations in objects).

Other research suggests that the arts can be a valuable tool for integrating knowledge across other academic disciplines, and that the arts can be effectively used to create cross-disciplinary curricula. An education in the arts can make this contribution because it develops the ability of students to see and think in wholes. As one of America's foremost experts on "learning organization," Peter Senge, puts it: "From a very early age, we are taught to break problems apart, to fragment the world. This apparently makes complex tasks and subjects more manageable, but we pay an enormous price. We can no longer see the consequences of our actions; we lose our intrinsic sense of connection to a larger whole... After a while, we give up trying to see the whole altogether."

## *An arts education builds specific work force skills that are valued by business.*

An arts education teaches directly life attitudes and skills that businesses are looking for. More and more executives are beginning to discover not only that the arts make for a more stimulating and rewarding work environment, but that they can also have a direct, positive impact on the bottom line. In business lingo, the study of the arts provides "value added."

### 1. An education in the arts encourages high achievement.

Arts instruction pushes students to perform -- and to produce - by offering models of excellence, and by clearly defining paths for achieving it. Schools that incorporate music, art, dance, drama, and creative writing into their curricula discover they can make a significant impact on overall school success. Students who take arts courses in high school, for example, out-perform students who don't on the Scholastic Aptitude Test (SAT), according to the College Entrance Examination Board. In 1995, SAT scores for students who studied the arts for four years scored 59 point higher on the Verbal portion and 44 points higher on the Mathematics portion than students with no arts course work.

### 2. Study of the arts encourages a suppleness of mind, toleration for ambiguity, a taste for nuance, and the ability to make tradeoffs among alternative courses of action.

The truth that there are many ways of seeing the world and interpreting it is fundamental to an education in the arts. The vision of van Gogh is not the vision of Jasper Johns. Young people who create a dance to express the "meaning of independence" learn that there is no "right" way to present that idea, only movements that are faithful to the idea itself. Former ARCO president and CEO William F. Kieschnick says that "those at home with the nuances and ambiguities of art forms are far more likely to persist in the quest to resolve ambiguity in the practical world." Knowing how to shift intellectual gears beats rigid thinking every time.

### 3. Study of the arts helps students to think and work across traditional disciplines.

They learn both to integrate knowledge and to "think outside the boxes." With some exceptions, the tendency in American public education is to pay scant attention to the integration of learning. Today's school curricula still mirror the 19th century German university system of academic "disciplines." Forty-five minute class periods are parceled out to English, physics, and civics with the result that students seldom see their studies as a whole. Nor are they taught how to breach subject-area lines to enhance learning in more than one discipline, or how to create contexts for new knowledge that do not necessarily fit into the traditional disciplinary boxes.

Arts education affords excellent opportunities for breaking down such barriers. At New Dorp High School on Staten Island, for example, the art history and aesthetic components of required arts classes tie into the cultures explored in the school's Global Studies curriculum. Art teachers construct their own curriculum units, which use economic, historical, geographic, and political factors as they relate to the art of each culture, country, and continent.

Similarly, leading-edge companies, which now spend millions annually to spark imagination throughout their organizations, find that the most creative ideas come from people who are not bound by conventional modes of thinking. Says A. Thomas Young, former executive vice-president of Lockheed Martin, "many great ideas come from people poking around unfamiliar disciplines-often the arts-who apply what they find to their own field." Knute Rockne, he points

out, patterned backfield formations for Notre Dame's famed "Four Horsemen" after watching a dance performance, and military designers borrowed Picasso's cubist art to create more effective camouflage patterns.

4. An education in the arts teaches students how to work cooperatively, and how to work out conflicting points of view.

Both these skills are critical in the workplace. Playing in a school orchestra, singing in the choir, and putting on a dramatic production are all cooperative activities that require and create well-developed communication and interpersonal skills. In a 1992 Wall Street Journal article, John Kelsch, director of quality at Xerox, put it this way: "We want to hire students who are better prepared ... to work in team environments, and we want them to understand work as a result of processes."

5. An education in the arts builds an understanding of diversity and the multi-cultural dimensions of our world.

Every art object (play, composition, painting, sculpture, dance, and poem) invites the student who encounters it to see the world from someone else's vantage point. All the arts naturally draw on their cultures' tales, songs, histories, myths, and values to create meanings. The changing demographics of the United States make these capabilities crucial to education and the future of our children. An arts education can lay the foundation for a deeper understanding of the global marketplace.

6. Arts education insists on the value of content that helps students understand "quality" as a key value.

Real arts education goes well beyond mere "appreciation" for the arts. It also includes performance, creating products, and the mastery of the knowledge, skills, and persistence required to do both. The idea of quality also enters arts education as students strive to make their next work better than the last. If that sounds like W. Edwards Deming and "continuous improvement," it is.

Arts education students also experience the strong connection between personal (or group) effort and quality of result. They also come to understand and value what makes a work of art "good" and what it means to work to a standard. That kind of education is not just education about arts, it is education about life.

Not incidentally, this engagement with content, quality, and standards is why "exposure programs" (e.g., periodic trips to the art museum or visits by a string quartet from the local symphony) are insufficient compared to a basic education in the arts. The arts are not a kind of cultural vaccine a student can take with a simple injection. Real engagement with content in the arts takes hard work, practice, study, and repeated assessment, just as learning English composition and French take hard work. Without rigor, students never achieve quality. In an arts education, they receive such rigor.

7. An arts education contributes to technological competence.

Technology has always been integral to the arts, from ancient times when sculptors in marble used metallurgy to hone their chisels, to the studios of today, where metals are shaped using acetylene torches. Similarly, the dramatists of ancient Greek theater had a profound knowledge of acoustics, while their modern counterparts are masters of such technologies as electronic sound, lighting, film, and television. In all the arts disciplines, a wide variety of technologies

offer students ways to accomplish artistic, scholarly, production, and performance goals. New technologies also make it possible for students to try out a vast array of solutions to artistic problems. Well used, interactive media-which are a combination of artistic and technological resources-spark creative thinking skills, as any parent can testify whose 10-year-old has reprogrammed the VCR!

Used appropriately, technology extends the reach of the learner. Not only can interesting and innovative technologies attract students to the arts; the arts also attract students to technology and encourage technological competence. Employing computers to create media animations calls on the same competencies business needs to strengthen the work force.

Sharon Morgan, executive director of the Oregon Coastal Council for the Arts, insists that arts-in-technology programs impart a special kind of academic discipline. She reports that "the kids in our Animation Project find that while the software may give them quick access to working tools, the work is hard. When they find out how difficult it is, some naturally fall by the wayside. But it turns others around. Animation arts have introduced them to why they need a broad and content-rich education."

*An education in the arts builds values that connect children to themselves and to their own culture and civilization.*

1. An arts education speaks to and helps children build the capabilities that help them grow as unique individuals.

\* It nurtures the imagination to see something wholly new in the most ordinary materials and events,

\* the daring to challenge tired modes of expression,

\* the eye of critical discernment that can separate the good from the mediocre, and the truly beautiful from the merely good,

\* the self-knowledge that comes from exploring the emotional side of life that the arts evoke and

\* a sense of responsibility for advancing civilization itself.

2. An education in the arts helps children experience and understand their cultural heritage.

It enables them to make new connections to the past that continues to nourish them, and to the world of beauty in all art forms that surrounds and inspires Americans today. An education in the arts provides children with unique ways of understanding the broad range of human experience, and how to find personal fulfillment, whether vocational or avocational.

Source: "The Changing Workplace Is Changing Our View Of Education," Business Week, October 28, 1996.

## **Year-Old Babies Remember Music Heard In Womb**

Researchers at the University of Leicester in England performed tests to determine if babies could remember music heard in the mother's womb.

A group of women played a particular recording from one of three genres – opera, pop, or reggae, repeatedly during the last three months of pregnancy.

When the children were over a year old, eleven of the babies were tested. Each child demonstrated through behavior recognition of and preference for the music heard before birth.

To further validate the test results, scientists observed a control group of 11 babies who were not exposed repeatedly to music in the womb. These babies showed no specific reaction to a particular genre or piece of music.

Said researcher Dr. Alexandra Lamont, "Now we've discovered that babies can remember and prefer music that they've heard before they were born."

Source: "Babies have ear for music in womb" by Tim Radford [Guardian Unlimited/The Guardian](#)

[http://www.guardian.co.uk/uk\\_news/story/0,3604,519873,00.html](http://www.guardian.co.uk/uk_news/story/0,3604,519873,00.html)

# *Articles: Music and Learning: Higher Education*



*Arts Courses Aid College Admission*



*College Prep Arts*



*Music Education – Just What The Doctor Ordered*



## Arts Courses Aid College Admission

The College Board indicates, in its publication Academic Preparation for College, that the arts are among the six disciplines that should be considered “The basic academic subjects” for college admission. Our nation’s education goals and policy statements by the National Association of Secondary School Principals (NASSP) use only slightly different words to affirm precisely the same six subjects as the core curriculum for all schools. The NASSP states that these subjects are the “set of essential learnings in... which students must demonstrate achievement in order to graduate.”

College admissions officers give special consideration to students whom have mastered the arts in depth by taking arts courses in high school. For example, admissions officers at Harvard, Yale and more than 70 percent of the nation’s other major universities have stated that high school credit and achievement in the arts are significant considerations for admission to their institutions. An increasing numbers of individual universities and state university systems are requiring high school credits in the arts for admission.

The following are examples of common statements by university admission officers endorsing arts study:

**Harvard University:** “We look for students whose previous participation in the arts shows that they can make a substantial contribution to our community.” William R. Fitzsimmons, Dean of Admissions at Harvard University

**University of Tennessee:** “Beginning in the fall of 1993, the University of Tennessee will require the completion of one year of high school course work in the visual or performing arts for admission to the university.” Gordon E. Stanley, Ph.D., Director of Admissions, University of Tennessee, Knoxville

**Virginia Polytechnic Institute and State University:** “At Virginia Tech, the arts are quite important in our admissions policies, and we pay particular attention to prospective students who have arts training or experiences as part of their secondary school curricular or extracurricular records.” David R. Bousquet, Dean of Admissions, Virginia Polytechnic Institute and State University

## **College Prep Arts**

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.

Source: "Getting Ready for College Early: A Handbook for Parents of Students in the Middle and Junior High School Years," U.S. Department of Education, 1997.

## **Music Education – Just What The Doctor Ordered**

Contrary to popular misconception there is a life and opportunity for instrumental music students other than music. A high percentage of participants in instrumental music programs go on to pursue professional careers other than music and later credit disciplines learned in instrumental music with giving them the impetus for their achievement. The opening paragraph of a study done by the Rockefeller Foundation supports this conclusion: “An enduring myth within the academic world is that getting into the medical school is exhaustingly difficult and that doors are open only to science majors, hence the soul destroying pre-med rat race. Leaders of the medical profession themselves generally hold to this belief, yet the facts are quite otherwise. They suggest that an excellent piece of advice for an outstanding student eager to be admitted to medical school is to be a music major.”

The Rockefeller Foundation study states that music majors have the highest rate of admittance to medical school, a whopping 66.7 percent. Biochemistry, the subject closest to medicine, has a rate of 59.2 percent. The humanities in general have 51.2 percent admittance rate compared to 47 percent admittance rate for the natural sciences. The credibility of these statistics and the study lies in the fact that the study was done by medical doctors involved with medical schools throughout the United States. The study not only encourages but strongly suggests that students concentrate on liberal arts and maintains that physicians with liberal arts backgrounds make better doctors. This study should be read not only by music teachers and the counselors who insist in loading students schedules with heavy duty science courses, but especially by administrators and boards of education who, when contemplating cutbacks, arbitrarily begin with music programs and the arts in general. The Rockefeller study also states that students with interest and background in the liberal arts will not be at a disadvantage during their years in medical school and that this should be worthy of note by admissions committees, pre-medical school advisors, and the like.

Administrators and boards of education should begin to realize that there is more to instrumental music than marching band and the more visible performing groups. The need to realize that instrumental music can be and is more than a training ground for future teachers, professional musicians, informed listeners, and appreciators. It does go beyond that, as borne out in the Rockefeller study. If you are in the position of defending programs against cutbacks, you should take time to research and use such studies as the Rockefeller study and to document the successes of your students in careers other than music.

Source: “Music Education – Just What The Doctor Ordered” by Les Susi from [Instrumentalist](#) July 1990 -- Used by permission of Coyle Music, Columbus, Ohio. Article originally appeared in [Adlib](#) newsletter published by Coyle Music.

## *Articles: Music and Quality of Life*

- Address From Richard W. Riley About Music Education*
- Adult Participation In Community Bands*
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- The Case For Arts And The Humanities In Youth Development*
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## Address From Richard W. Riley About Music Education

*Following are excerpts from an address by former U.S. Secretary of Education Richard W. Riley to the National Assembly of MENC on Tuesday, July 13, 1999:*

Several weeks ago, I went to England, Scotland, and Ireland to visit schools and share ideas with educators. While I was in London, I went to see a play, "The Prisoner of Second Avenue," starring Richard Dreyfuss. Afterward, I spoke with him backstage and he said that of all his movies, he was most proud of "Mr. Holland's Opus."

As a child, I took piano lessons for three or four years. I was not destined to become a great musician. But I know that through music, children learn to reach for their very best. You have all witnessed the intensity with which children prepare for a recital. They practice and practice until they can play the piece without errors. Imagine if, when they are a few years older, they approach a geometry test with the same intensity. Then imagine if they continue to strive for excellence as college students, as citizens, and as parents.

As music teachers, you lead children to do their best, and you teach them that through practice and persistence they can achieve something close to perfection. You also teach them to appreciate the joy of music.

No one ever derived more joy from music than the great cellist Pablo Casals. At the age of 93, after his long, wonderful career, Casals decided it was time to write his autobiography, which he called "Joys and Sorrows." You have to admire a man who waits until he is 93 years old before he begins his autobiography. Casals was either very confident of his longevity...or an incredible procrastinator.

For eighty years, he began each day by sitting down at the piano and playing two of Bach's preludes and fugues. In his autobiography, Casals explain this morning ritual: "It is a sort of benediction of the house. But that is not its only meaning for me... It fills me with awareness of the wonder of life, with a feeling of the incredible marvel of being a human being. The music is never the same for me -- never. Each day it is something new, fantastic, and unbelievable."

None of us claim to have Casals' understanding and talent for music. But all of us share part of his experience -- the miraculous feeling when music lifts our spirits, transports us, and helps us sense the beauty of the world.

As music teachers, you help your students experience that miraculous feeling. And your best students, when they become accomplished musicians, can inspire that feeling in others. You are giving all your students -- whether they are musicians or not -- a tremendous gift.

The American composer Charles Ives' first teacher was his father. As you know, Ives' compositions ignored tradition, jarred listeners, and could not be played by the best musicians of his time. So, you won't find it surprising that his father employed some unusual teaching methods.

For example, while Charles sang "Swanee River," his father would accompany him on the piano. Now, that's normal enough. But the trick is, his father would ask Charles to sing in the key of E-flat, but he would accompany him in C major.

Why would he do such a thing? No, the discord was not a form of punishment. As Charles recalls it, his father created this odd musical exercise so the Charles would "stretch" his ears, leave customs and habits behind, and take nothing for granted.

A more recent American musician, Leonard Bernstein, could identify with both Casals and Ives. Like Casals, he loved the pure beauty of music. Like Ives, he promoted avant-garde music. And Bernstein was a teacher. In his "Omnibus" television programs, he led millions of viewers -- children and adults -- to a better understanding of music.

He wrote a book, "The Joy of Music," that was based on the television programs. In a chapter called "What Makes Opera Grand," he describes the power of opera. According to Bernstein, when we watch the greatest operas, we enter a different world, and, afterwards, "we are enriched and ennobled."

So, what does all this mean? Casals says music fills him with the wonder of life and the "incredible marvel" of being a human. Ives says it expands his mind and challenges him to be a true individual. Bernstein says it is enriching and ennobling.

To me, that sounds like a good case for making music and the arts an integral part of every child's education. Studying music and the arts elevates children's education, expands students' horizons, and teaches them to appreciate the wonder of life.

Communities all across America are coming to realize the necessity of including music and arts education as core subjects in the curriculum. In doing so, they are improving their schools and giving more children the opportunity to succeed.

In Las Cruces, New Mexico, every school board meeting begins with a student performance. What a great way to remind school officials that music and art should be at the heart of the curriculum.

In Miami's elementary schools, every child learns art and music, receiving 60 minutes of art instruction and 90 minutes of music instruction every week. When schools emphasize music and the arts, teachers and students become more enthusiastic and the entire school day is infused with energy.

In the early 1980s, the Charlottesville, Virginia, orchestra program had eight members. That's not an orchestra -- that's two string quartets bumping into each other. Thanks to enthusiastic teachers and support from parents and community members, the orchestra now has nearly 100 members. And they have won state awards, earned national honors, and performed at the White House.

And in a suburb of Washington, D.C., a young girl named Riley -- whose grandfather is very proud of her and likes to mention her in speeches from time to time -- recently participated in an elementary school band concert. The turnout and enthusiasm for the concert was incredible. The parking lot was full. Parents were supportive. They praised the band teacher. And, of course, the music was great.

All of these are good reasons for supporting music education throughout the country. And I'm sure that you are all aware of the research that shows a connection between studying music and improving skills that are useful in other academic areas.

When the Jet Propulsion Laboratory put together a team of engineers and scientists to work on the Mars rover project they weren't looking to form a band. However, most team members were artists. There were metal sculptors, photographers, actors, and musicians.

To celebrate a successful launching in June 1999, a group of engineers and scientists at Jet Propulsion Lab did in fact form a band, calling themselves "The Big Band Theory."

If we can develop strong music education programs in schools all over the country, good things will happen. Our schools will be stronger. Our children will be smarter. Our nation will be greater. And our lives will be filled with music.

What message does it send our students if a modern prison is built right down the road, but their band room has a leaky roof? We need your help so that Congress will understand the need for modern schools across America.

I'd like to close with a few more words from Pablo Casals, who wrote about the important role that teachers played in his life:

"To be a teacher is to have a great responsibility.... Children and young people are our greatest treasure; when we think of them, we think of the future of the world. Then consider the significance of nurturing their minds, of helping form their outlook on the world, of training and preparing them for the work that they will do. I can think of no profession more important than that of teaching."

I am grateful to each of you for your work in the classroom. When you teach children to love and appreciate music, you are helping them lift themselves up to new places of the mind and the heart.

Thank you.

Source: MENC

# Adult Participation In Community Bands

The number of community bands in the United States is rising, and adults in community bands cite two main reasons for their participation:

- 1) Social environment
- 2) Pursuit of happiness and excellence

The overwhelming majority of participants in community bands performed in school bands, and statistically, very few have taken private lessons on their instrument (generally less than 10% in most community bands.)

The trend toward community bands makes us believe that school music directors are doing something right. The sense of community, aesthetics, and perseverance instilled in school band members remains throughout life. Adults who play in community bands come from different occupations and backgrounds. However, they are all taxpayers, they can vote, and through their actions they are advocates for music education.

Here are some quotes from members of a Japanese community band about the reasons they are musicians:

*"I feel it gives me a rich life."* (Nurse)

*"It helps to keep good communication between my husband and myself. I feel good when we get applause from the audience when we are on stage."*  
(Housewife)

*"The music I play helps me to express myself...Music is part of my life."* (Office worker)

*"I like to continue to pursue the joy of learning."* (Government official)

*"This is the only thing I can do."* (Operator)

*"I get frustrated if I just listen to music."* (Junior high school teacher)

*"I can't forget the emotion [happy moments] when we perform the concert."*  
(University student)

*"I can forget about myself."* (Salesman)

*"I never forget the impression of beautiful harmony."* (Graphic designer)

*"I can see the communication among the city people."* (Businessman)



*“Since I started to play music when I was little, if I continue, I feel I can keep my childhood feeling and memory.”* (Electrical engineer)

*“Music is the oasis of my heart. Through music I can express myself.”* (Doctor)

*“Being a musician is, I think, the order from God. As long as music exists in the universe, I will continue.”* (Computer hardware engineer)

*“For my life.”* (Bookstore clerk)

Encourage your students to keep playing and singing after they leave school. It will lead to more music supporters in your community and an enriched life for your former students.

Source: “Participation in Community and Company Bands in Japan” by Deborah A. Sheldon. Published in “Update: Applications of Research in Music Education.” Vol.17 No.1, Fall-Winter 1998.

# Arts Education's Place in a Knowledge-Based Global Economy

by Ken Robinson  
Professor of Arts Education  
University of Warwick (England)

I don't know who your heroes are, but Paul McCartney is one of mine. About a year ago I got to meet him over lunch to talk about the future of the Liverpool Institute for Performing Arts. Paul is its patron, and I'm its chief examiner. It's his old school. I told him I was from Liverpool too, and he asked me what school I went to. I said I went to Collegiate, because I did, which was a selective grammar [school]. And he said, "Oh, I wanted to go there." And I said, "Why didn't you?" And he said, "I wasn't good enough." I said, "Well, come on Paul, it worked out. Let it go, forget the school."

The point is that people don't. It amazes me how many successful adults carry with them some idea that they're not really very clever. What is it that we're doing to kids at school which makes so many people believe they're not very good? Or being demoralized by the whole experience? And, is this justifiable? This is the seat of my interest in the arts.

In most education systems throughout the world, the arts are at the margins. They're optional, low status and not in the center of educational provision. That's been the case now for the last 150 years. It's true in your [American] system; it's true throughout Europe and in Asia.

Now, education worldwide is undergoing a revolution. That's not too strong a word; it's a complete revolution. The arts need to be at the center of the new forms of education that are emerging. Private foundations have absolutely pivotal roles in achieving the shift that's required in realigning the arts to the center of education. They can leverage the kind of innovation that's needed. But to do that you have to tackle three questions.

The first is, "What are the arts?" You can have very interesting and amicable conversations with people about the arts all day, providing you don't say what you're talking about.

The second is, "What are the arts for in education?" The phrase the "creative arts" is a misconception. The arts are not always creative, and they don't need to be, and other areas of education can be equally creative if properly taught. These conceptions separate the arts from other parts of the curriculum where they should be naturally joined up...

The third issue is provision. "What kind of experiences do people need to benefit from the arts properly?" One of the problems in most of our school systems is that children do not have the kinds of arts experiences they need to feel the positive benefits from them. So definition, function, and provision are key questions.

For the last year I have been leading a national inquiry for the government of the United Kingdom, the National Advisory Committee on Creative and Cultural Education

(NACCCE). When Tony Blair was elected prime minister in 1997, he said he had three priorities, “education, education, education.” All countries are having to reposition themselves economically, culturally and socially, and education is a key to that process. There isn’t a country in the world that isn’t reforming its education system and talking about raising standards. Tony Blair also talks about raising standards. The problem is that he, like most political leaders, means academic standards in particular. They confuse academic work in particular with education in general. Their more specific interest is in literacy and numeracy. These are important but not enough.

Our education systems have been built on the economic model of industrialism. The industrial economy required a workforce that was 80% manual and 20% professional. Most of our education systems were designed to pick out this 20% of kids and give them privileged access to certain sorts of occupations. That model is changing irrevocably. We no longer live essentially in an industrial economy, and the work force we need now has a new pattern. We cannot fulfill our current economic objective by just doing better what we used to do; we have to educate differently.

Academic standards are very important but they’re very particular. Academic ability is not the whole of your intelligence. If the human mind was restricted to academic intelligence, most of human culture would never have happened. There would be no paintings, there would be no music, no love, not intuition; there would be no dance, no feelings, no architecture, no design, nothing. I think these are rather large factors to leave out of a model of human intelligence.

The arts have been at the margins of education because they have not been seen as useful in getting jobs. This is partly because the practice of the arts does not conform to the dominant idea of academic intelligence. There’s a very interesting contrast in this respect in universities, which are the apotheosis [finest example] of the academic system. If you’re a chemist in a university science department doing research, you do chemistry. If you’re in an art department at a university, you don’t paint; you write about painting. The reason is that our dominant model of education doesn’t recognize that the arts are essentially ways of knowing. Research is defined as a systematic inquiry for new knowledge. Yet, really, music, poetry, dance and painting are ways of knowing things that we couldn’t know in any other way. There are ideas, feelings and sensations that can only be understood in these ways. The arts are ways of understanding.

The NACCCE committee brings together artists, scientists, business people and educators. One member of my committee is Professor Harry Kroto. He won the Nobel Prize for chemistry three years ago. Harry is a professional designer as well as a distinguished scientist. I asked him, “What is different between the creative process of the arts and the sciences?” He said there was no difference; that in both cases, it’s a dialogue between speculation and tradition. He said, “The outcome is different but the process is the same.”

Another NACCCE member is Sir Simon Rattle, director of the Berlin Philharmonic. Sir Simon and I were discussing the similarities between mathematics and music, both forms

of representation. If you don't read music well and come across a new musical score, you see a puzzle rather than hear the symphony [in your mind]. People who don't speak mathematics can find it an equally perplexing puzzle; they see numbers rather than elegant solutions.

We owe it to children to give them access to all of these different modes of understanding. Without them they never engage with the real heart of themselves. We're creating world of such immense complexity now that children need many ways of engaging in order to experience it fully. Education has to say to them, "what can you do?" rather than, "can you do this?"

In order to move arts to the center of education, we need to address three issues. The first is the CURRICULUM. I know of no argument that can be sustained that mathematics is more important than music or that science is more important than arts and humanities. These are equally important. But all of our systems perpetuate a hierarchy of ability in which the arts are at the bottom.

The second is the TRAINING of professional teachers and others. Teaching the arts is an expert job. It is not easy. A great disservice has been done to the arts over the years with the general idea of free expression, that all we have to do with children to get them to benefit from the arts is let them loose. It isn't true. To benefit from the arts children need to be immersed in the disciplines and practices of the arts. There's a delicate balance between learning skills and having the freedom to innovate and speculate. Most of our teachers and most of our artists are not trained to do this.

The third is PARTNERSHIPS. Schools should no longer be sole traders in education. There are thousands of organizations – businesses, cultural organizations of every sort – that want to be and should be partners in education.

These three: curriculum, training, and partnership, are pivotal to moving forward this agenda of getting arts from the margins to the center. We have to recognize synergies, not separateness, between science and art, mathematics and music. We have to recognize synergies between what goes on in schools and what goes on outside of schools. This is a job of melding different areas of children's experiences.

Private foundations can do a huge amount by setting up pilot projects, which provide evidence of success, by generating new models of practice and by advocacy. There is a genuine revolution happening out there. It isn't that we need to consolidate the old system; we need to renew and reconstruct it. That's a job for innovation, adventure, and creativity, and [private] organizations could be at the very heart of that adventure.

Education is key to the future. The arts are part of the combination. But a key can turn two ways. Our leaders keep talking about human resources and the need to unleash them. Education will do that but if you turn this key the wrong way, you lock people in. I think we've done that systematically for years.

The real trick is to turn the key a different way so that we unlock people's potential. That means developing a system of education which is mapped onto a conception of human capacity rather than on some traditional model of academic and nonacademic substitutes. That's where we should start. Too often teachers are employed to teach the curriculum, not to teach children. To teach children we need to start with a view of what their natural capacities are. That isn't just a question for the arts; it's for the arts in combination with science and humanities and physical education and the rest.

Turning that key is the real challenge we face. It's a challenge that can only be met collaboratively and can only be met essentially...by crossing boundaries. Thank you.

Source: [www.giarts.org/Learning.pdf](http://www.giarts.org/Learning.pdf)

From "Learning and the Arts: Crossing Boundaries" an invitational meeting for education, arts and youth funders held January 12-14, 2000, Los Angeles

# **The Case For Arts And The Humanities In Youth Development**

Organized youth activities can deter risky behavior in adolescents, according to a recent national study. Students who participate in band, orchestra, chorus or a school play, for example, are significantly less likely than nonparticipants to drop out of school, be arrested, use drugs or engage in binge drinking. Unfortunately, this same study also notes that today's most vulnerable youth spend less time in activities like these and are therefore deprived of their benefits.

Quality youth programs, whether organized around the arts and the humanities, sports, science or outdoor exploration, are a crucial source of supportive relationships and vital experiences. Arts and humanities programs are particularly potent in promoting youth development. We see this most clearly in educational settings when the arts and the humanities are fully integrated into the curriculum.

Several integrated educational models currently exist in the United States. The Duke Ellington School of the Arts in the District of Columbia provides its high school students, most of whom come from disadvantaged backgrounds, with the chance to attend a school where academics and the arts share the school day equally. In Kansas City, 7 public school districts, 11 arts organizations and 35 donors have banded together across state lines to form Arts Partners, an initiative to integrate community arts resources into the school curriculum. Schools benefiting from this approach have seen the transforming effect of the arts and the humanities on the quality of education and on student achievement.

While humanities disciplines such as history, literature and language have long been accepted as part of the standard school curriculum, the enlightened educator who understands the value of the arts has had insufficient educational theory and research upon which to base his or her insight. In the last several years, this gap has begun to close.

Studies are exploring the role of arts education in the development of higher order thinking skills, problem-solving ability and increased motivation to learn. Other studies are finding correlations between arts education and improvements in academic performance and standardized test scores, increases in student attendance and decreases in school drop-out rates. The following points elaborate on the important ways culture counts in the development of children and youth.

The arts and the humanities draw upon a range of intelligences and learning styles. Experts believe that people do not possess a single general intelligence, but several different kinds: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal and intrapersonal. Schools by and large focus on linguistic and logical-mathematical intelligences. In so doing, America's educational institutions may consign many children to under-achievement and failure. As eminent psychologist Howard

Gardner notes, "[S]tudents with strengths in the spatial, musical, or personal spheres may find school far more demanding than students who happen to possess the "text-friendly" blend of linguistic and logical intelligences.

The arts and the humanities provide children with different ways to process cognitive information and express their own knowledge. Using processes different from traditional approaches, the arts and humanities provide children with unique methods for developing skills and organizing knowledge. Each arts and humanities discipline has its own distinct symbol system, whether it is nonverbal, as with music or dance, or uses language in a particular way, as with creative writing or oral history. Exposure to these alternate systems of symbols engages the mind, requiring analysis, synthesis, evaluation and application.

The arts have the potential to enhance academic performance. The arts give youngsters a richer reservoir of information upon which to draw in pursuing other subjects, such as reading, writing, mathematics and history. "Drawing helps writing. Song and poetry make facts memorable. Drama makes history more vivid and real. Creative movement makes processes understandable."

By honing nonverbal skills such as perception, imagination and creativity, the arts also develop vocabulary, metaphorical language, observation and critical thinking skills. The elements of sound, movement, space, line, shape and color are all concepts related to other subject areas such as math and science. The concepts taught in the arts permeate other scholastic disciplines, and a child's comprehension of an artistic concept can extend across the academic curriculum.

Furthermore, the teaching methods used in many arts and humanities programs provide alternative approaches to learning. For example, some children can process and retain information more effectively when they learn by doing, engage in apprentice-like relationships and use technology such as in computer graphics and videography.

The arts and the humanities spur and deepen the development of creativity. By their very nature, the arts and the humanities place a premium on discovery and innovation, originality and imagination. As such, they can be powerful vehicles for stimulating creativity in young people, a valuable trait throughout their lives.

Businesses today increasingly look for workers who can think and create. Clifford V. Smith, Jr., president of the GE Fund, is typical when he says, "Developing business leaders starts in school. Not in assembly-line schooling, but rather through the dynamic processes that the arts-in-education experience provides."

The arts and the humanities provide critical tools for children and youth as they move through various developmental stages. Preschool children, before they are fluent in language, are powerfully affected by music, visual arts and dance. Preschoolers can paint, color, mold clay, sing songs, and dance in order to convey feelings and ideas. These activities encourage young children to express themselves and learn through the use of

nonverbal symbols.

Teenagers struggle with issues of identity, independence, competency and social role. The arts help to mediate this confusion. Creative art activity allows the adolescent to gain mastery over internal and external landscapes by discovering mechanisms for structure and containment that arise from within, rather than being imposed from outside. The artistic experience entails repetition of actions, thoughts or emotions, over which the adolescent gains increased tolerance or mastery. While providing a means to express pain and unfulfilled longings during a distinct maturational phase, the arts simultaneously engage the competent, hopeful and healthy aspects of the adolescents' being.

Similarly, the humanities encourage youth to read, write and express themselves in a disciplined way.

Changes in body image may be expressed through movement and dance. Drama offers the opportunity to explore identity by integrating childhood roles and experimenting with future possibilities. Music expresses emotional dissonance and volatility.

The visual arts provide a vehicle for translating inner experiences to outward visual images. Writing and oral history projects bring a greater understanding of one's family and neighborhood.

The arts and the humanities teach the value of discipline and teamwork and the tangible rewards each can bring. When children's efforts culminate in a performance or exhibition, they have a chance to experience meaningful public affirmation, which provides them with some degree of celebrity. For those few minutes, children are in their own eyes every bit as important as anybody-any TV, sports, music, movie or video idol.

This can be an experience of particular potency for youngsters whose lives are primarily characterized by anonymity and failure.

The arts and the humanities provide youth with a different perspective on their own lives, a chance to imagine a different outcome and to develop a critical distance from everyday life. For one adult poet, a well-known children's book allowed her to envision a different world from the abusive one in which she lived as a child. At a conference for adults learning to read, she recalled this experience, held up *Smokey and the Cowhorse* and said, "This is the book that saved my life." Victor Swenson, executive director of the Vermont Council on the Humanities, elaborates: "It [the book] represented a world outside of her own circumstances; a world of honor and honesty, love and loyalty and bad luck and good luck. It gave her something outside of her own experience. And she could see that there was a way out."

Developing cultural literacy in children and youth gives them a sense of perspective as they participate in traditions of expression from which they learn and to which they can contribute. As humanist John William Ward wrote in 1985, "[H]umanistic learning is centered on the individual who has important questions about self and society. To learn



some of the answers to those questions means the fullest and richest and most imaginative development of every single self.”

A respected gang-interventionist writes, "One of the most natural and effective vehicles for gang members is the road of the arts, especially theater. New values only emerge through new experiences, and the arts provide a unique laboratory where truth and possibility can be explored safely. Validating emotional safety is everything.”

Because dance, music, photography and other visual arts transcend language, they can bridge barriers among cultural, racial and ethnic groups. The arts also can promote a deeper understanding of similarities and differences among religions, races and cultural traditions. For some children, the exploration of their unique cultural histories can be critical to their sense of themselves and to others' images of them. This knowledge can help bind them more fully to the larger society of which they are a part.

The arts and the humanities are a critical part of a complete education. The true worth of cultural knowledge transcends any of its specific applications.

Source: Coming Up Taller, a report about youth arts programs by the President's Committee on the Arts and Humanities - [www.cominguptaller.org](http://www.cominguptaller.org)

# Effective Arts Programs in Schools and Communities

excerpts from the report “The Impact of Arts Education on Workforce Preparation,” an Issue Brief from the National Governors Association Center for Best Practices

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As states continue to focus on the future development of their workforces, arts-based education proves to be a viable option for developing skills necessary for increased productivity and prosperity. The following programs highlight several states’ best practices in arts education for general [and] at-risk...youth.

Schools throughout the country are implementing arts-focused curricula targeting the general population to create a more educated workforce with a set of well-rounded and applicable skills.

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In Mississippi, the Whole Schools Project expands regular classroom instruction to include the arts and promotes collaborations between arts and classroom teachers to create arts-infused instruction. Currently, Mississippi has 20 schools (more than 15 percent of all school districts) participating in this model of school reform. All members of the school community play an important role in this initiative: superintendent, principal, arts and classroom teachers, students, parents, community organizations, and businesses. The Art Commission’s goals for this initiative are to foster sequential, comprehensive arts education programs that serve every student in a single school and offer the prospect of being replicated in other parts of Mississippi.

**OUTCOMES:** The measured results of Mississippi’s arts-infused instruction include enhanced curriculum assessment practices (as measured schoolwide); increased student engagement (as measured by lower absenteeism rates and fewer discipline problems); and increased student achievement (as measured by classroom grades and higher test scores). (1)

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In Ohio, the cities of Hamilton and neighboring Fairfield resolved during 1990 to map out a cultural action plan for their schools, beginning at the elementary level. The program outlined in the plan called SPECTRA+ (Schools, Parents, Educators, Children, Teachers Rediscover the Arts) was implemented during the 1992 school year. SPECTRA+ is a methodology that places the arts in a daily curriculum as a basic subject. The program has five major components: arts instruction, arts integration, artists-in-residence, professional development for teachers, and evaluation and advocacy. These components combine into a curriculum that involves art, music, dance, drama, literature, and media arts. Each school must offer arts instruction in music, visual arts, dance, and drama at least one hour per week, and classroom teachers are trained to deliver academic subjects through the arts by teaming and planning with arts teachers and artists. As a

result, students receive direct arts instruction as well as lessons that combine, for instance, math with music or science with drama.

**OUTCOMES:** SPECTRA+ schools showed significant gains in student creativity, teacher/student attitudes, academic and thinking skill improvement, attendance, discipline, school climate, student self-esteem, and parental self-esteem (children's belief that parents are proud of them). These outcomes were documented through an independent evaluation that included pre- and post-program testing in four schools, as well as through comparisons between SPECTRA+ schools and other schools in the Hamilton-Fairfield area. (2)

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Initiated in South Carolina in 1987, the Arts in Basic Curriculum (ABC) Project is a statewide initiative to ensure that every child from preschool through college has access to quality, comprehensive education in the arts, including dance, music, drama, visual arts, and creative writing. It is directed cooperatively by the South Carolina Arts Commission and the South Carolina Department of Education. ABC was founded on the premise that the arts are an indispensable part of a complete education because quality education in the arts significantly adds to the learning potential of students. Arts education complements learning in other disciplines and establishes a foundation for success in school and lifelong learning.

**OUTCOMES:** Educators report that the adoption of an arts-centered school curriculum has positively affected student and teacher attitudes, student behavior, parent participation, and other key variables that are linked to general student achievement. (3)

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Begun in Ft. Myers, Florida, in 1989, Success Through Academic and Recreational Support (STARS) is a multifaceted arts studies and crime prevention program for at-risk youth that offers a variety of classes, including modern dance, African Folk dance, poetry, creative writing and vocal arts, as well as tutorials in math, reading, and computers. The cost for each participant in Florida's arts intervention program is only \$850 per year – compared with as much as \$28,000 per youth in the typical juvenile boot camp. Participation in STARS is a family affair: Both parents and children must agree to participate in the activities. Children are required to maintain good behavior and at least a C average in school.

**OUTCOMES:** At the start of the STARS Program, 75 percent of the children were making less than a C average; now 80 percent are making a C average or better. Since the program's inception, juvenile crime has dropped 28 percent, and for youth ages 11 and 12, the rate of recidivism has dropped 64 percent. (4)

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The Manchester Craftsmen's Guild (MCG), was created in 1968 as an answer to a rapidly deteriorating Pittsburgh, Pennsylvania neighborhood – Manchester – home to many at-risk children with little prospect of graduating from high school, let alone attending college. MCG is an arts education organization that employs visual and performing artists to educate and inspire inner-city youth to become productive citizens. Its success lies in its ability to combine academic guidance, high school and college entry counseling, and development of self-esteem, decision-making, and team building skills – resources ordinarily not available to children in the Manchester neighborhood. The goal of the program is not to create artists, but to use the arts as a means through which students learn the skills necessary to perform as productive members of society.

OUTCOMES: With an 80-percent college attendance rate, this arts program has been so successful that it currently is being replicated in five cities nationwide (Baltimore, Los Angeles, San Francisco, Seattle, and St. Louis) and has attracted attention from technological powerhouses such as eBay, Hewlett Packard, and Cisco Systems. (5) Through successful outcomes, MCG has overcome the common misperception that using the arts to teach workforce skills only produces artists – not a skilled workforce.

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Created in 1985 as an after-school program to provide an alternative to community despair and to standard education and social programs, the Boys Choir of Harlem in New York [City] has grown into a nationally recognized school and after-school program. This program uses an integrated model of education, counseling and the performing arts to prepare inner-city youth to become disciplined, confident, motivated, and successful citizens. Five days a week from 8:30 in the morning until 6:30 in the evening, young boys and girls in grades 4-12 study academics and music at the Choir Academy, which operates in partnership with the local school district. After school, they rehearse for up to three hours and participate in counseling and tutoring sessions.

OUTCOMES: The program's progress is measured by college-bound participants. To date, 98 percent of the participants have gone on to college. (6)

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3. See [www.winthrop.edu/abc/ABCmission.htm](http://www.winthrop.edu/abc/ABCmission.htm)

4. Arts Programs for At-Risk Youth: How U.S. Communities are Using the Arts to Rescue Their Youth and Deter Crime, Americans for the Arts, 1998.

5. See [www.manchesterguild.org](http://www.manchesterguild.org)

6. See [www.cominguptaller.org/profile/pr32music.htm](http://www.cominguptaller.org/profile/pr32music.htm)

SOURCE: “The Impact of Arts Education on Workforce Preparation,” Issue Brief, May 1, 2002, National Governors Association Center for Best Practices.  
[www.nga.org/cda/files/050102ARTSED.pdf](http://www.nga.org/cda/files/050102ARTSED.pdf)

# **The Effects Of Music on Alcohol And Anxiety Problems**

College-aged music students generally have fewer problems with alcohol, are healthier emotionally, and have a stronger ability to concentrate and study than students in other fields of study, according to a study conducted at the University of North Texas at Denton.

“This study is interesting on many levels,” said Dr. Kris Chesky, one of the study researchers. “First of all, it flies in the face of all the stereotypes out there about musicians, and it seems to support that studying music helps people to learn to concentrate.”

Conducted by Chesky, assistant professor of music, and Dr. John Hipple of the UNT counseling center, the study is the latest piece of research to come out of the Texas Center for Music and Medicine. The center, which is the first of its kind, is a collaborative effort between UNT’s College of Music and the UNT Health Science Center.

“The purpose of the center, and of the study, is to find out what the reality of the music profession is so we can appropriately address musicians’ medical, psychological, and vocational needs,” Chesky said.

The study looked at 362 students who were in their first semesters of college. The students were given three tests, which measured performance anxiety, social and emotional concerns, and alcohol-related problems.

The results show that while both music majors and non-music majors had similar levels of performance anxiety, there was an apparent difference in the other two areas. The disparity between the groups’ alcohol-related problems and social and emotional concerns were significant.

Further analysis of the results showed the two groups differed in their perceived ability to concentrate and study and their self-esteem. The music majors generally showed confidence whereas the non-music majors showed concern.

(the following article comes from the Association for the Advancement of Arts Education, AAAE)

## **How do the Arts Contribute to Education?**

An Evaluation of Research

by Kent Sidel, PhD

### WHAT DO

more than 350 university and independent researchers

more than 2 million students

more than 35,000 teachers

tens of thousands of artists

hundreds of U.S. cities

and 20 international business leaders

HAVE IN COMMON?

They are all represented in the AAAE's review of recent research, and they all believe that the arts are a necessary part of an education that will help our children become successful adults.

### OUR REVIEW OF RESEARCH AND PROGRAMS

Our review of hundreds of research studies, program evaluations, and research analyses conducted since 1983 provides recent compelling evidence that we must include the arts in the education of all students if we want our children to be prepared for the challenges of life and work in our global society. The challenges of today, and most certainly of tomorrow, require the abilities, skills, habits, and knowledge that education in the arts is uniquely able to provide.

For this report, we cast a wide net for research which considered the arts and other aspects of education. We did not include research which studied how to better teach the arts themselves-although there is a substantial body of knowledge in this area. Instead, we considered a number of skills, basic competencies, and knowledge areas which would connect the arts with broader educational goals. We included only research conducted since 1983, a milestone year in education because of the release of the report "A Nation at Risk" by the U.S. Department of Education, and the book "Frames of Mind: the theory of multiple intelligences" by Howard Gardner and Harvard University.

Specifically, we reviewed research related to what business leaders, education leaders, and policy makers have identified as important for all students. The list includes skills and competencies identified as necessary for work and school by:

- the Secretary's Commission on Achieving Necessary Skills, a 1991 report from the U.S. Department of Labor which identified skills necessary for successful employment; - the National Alliance of Business; - the National Study of School Evaluation and the regional K-12 school accrediting associations; and - the bipartisan America 2000 and Goals 2000 education legislation.

We found nearly 400 studies in dance, music, theatre, and visual arts which provided compelling evidence that the arts are necessary at all grade levels for many aspects of students' success in school and in life, as well as in their careers.

## THE ARTS ARE ESSENTIAL FOR SUCCESS

These studies and programs demonstrate that:

- Not only are the arts fun for kids, they help keep kids in school and working to learn.
- Not only do the arts require self-discipline, creativity, and confidence to succeed, but these and other important habits stay with students and help them succeed in other areas of school, life, and work.
- Not only do the arts represent many ways of experiencing and understanding the world, but they actually help develop the many types of intelligences that all people possess and use all the time.
- Not only do the arts remove boundaries and allow students to explore aspects of life around them in new ways, but connecting the arts with other disciplines like math, reading and writing, or science often helps students learn about, comprehend, and value those disciplines as well.

In short, the arts are as much a part of a child's development and success as they are a part of a successful and enlightened society.

## FOUR CORNERSTONES OF SUCCESS

The arts-dance, music, theatre, and visual arts-contribute to students' education in many ways. We've grouped them into four major areas, each of which is an important component for success.

1. Basic Abilities - In early grades, the arts help develop basic mental and physical capacities that allow students to learn and live better.
2. Ways and Means - Participation with the arts helps students develop methods and habits of mind that help them succeed in many areas.



3. Knowledge and Skills - The arts themselves are important to understand-they surround us everyday-and when connected with other subjects, they can make learning easier and more meaningful.

4. Working and Connecting - The arts teach students ways to connect and communicate with others in our society, critical skills in our interconnected world.

In the sections that follow, "substantial evidence" means we discovered at least twenty (in some cases, more than fifty) examples of good research or program evaluation which support the arts' contributions to the area in question (such as school discipline or teaching math). "Other evidence" means we found some solid research and good program models, but that the evidence is less thorough and varied.

## BASIC ABILITIES

Substantial evidence: There is evidence that working with the arts, especially in grades kindergarten through seven, develops students' minds and bodies in ways that enable them to learn better. The arts, particularly music, dance, and visual art, develop neural connections and body/brain connections which further learning in many areas, including math, reading, writing, and general language development. Having students work with creative drama and theatre in these earlier grades gives them a great advantage in their capacity for developing language skills, reading, writing, and verbal, and interpersonal skills. And all of the arts help students develop emotionally and socially, so that they are more prepared to deal with school, life, and other people.

The arts represent ways of knowing and interacting with the world around us. They let us experiment with new ways of thinking and doing, and encourage us to stretch our limits and develop our minds, bodies, and emotions.

## WAYS AND MEANS

Substantial evidence: All of the arts are effective in keeping kids in school, in reaching students at-risk and students with distinctive learning styles, and in helping to develop a more disciplined educational environment in which students' energies are directed at learning and creating. The arts not only make education more interesting, they literally make learning accessible to many students

for the first time.

The arts also help students develop key "habits of mind" that include creativity, critical thinking, the ability to pose and solve problems, self discipline, and self confidence. These skills are necessary for success in the arts and, once learned, can translate to success in other areas of school and life.

Other evidence: There is other recent research to indicate that the arts teach students to become self-motivated learners and to use time and other resources effectively-important skills in school and business.

## KNOWLEDGE AND SKILLS

Substantial evidence: The arts themselves are important for students to understand. We are surrounded by arts-almost nothing is created or communicated without their influence, and we are influenced continuously by music, art, drama and dramatic media, dance and movement.

And there is evidence that when the arts are connected in meaningful ways with other subject areas, students comprehend and retain more about the subjects involved. Arts programs have been quite effective in teaching math, science, reading, writing, general language development, history, and social studies.

Other evidence: In addition, there are numerous good examples of how the arts have aided in the teaching of other languages, including English as a foreign language; and how the arts assist teachers in more effectively reaching students with disabilities and learning disorders.

## WORKING AND CONNECTING

Substantial evidence: The arts are the voice and the record of a people. What we know about past cultures, we learn chiefly from the arts that they leave behind. It is not surprising, then, to discover that the arts are very good at teaching students many skills which they need in order to live and work in a society. Interpersonal skills; the ability to work in teams; an understanding, tolerance, and even appreciation for diversity in people and ideas; and the ability to lead and communicate effectively with groups are all strengthened through participation in the arts.

## MAKE THE ARTS PART OF A QUALITY EDUCATION

Our review of research and arts programs strongly supports the need to include dance, music, theatre, and the visual arts in education for all students. It seems clear that sustained, carefully planned programs in the arts are quite effective in preparing children to succeed in school, work, and life. Particularly strong are those programs which

- are school based
- have a sequential curriculum in the arts
- include school arts specialists
- include community artists and arts organizations
- include a clear assessment component, and
- connect the arts with other subject areas in the school.

The research tells us what the arts can do. Hundreds of well-documented school and community arts programs around the nation tell us how we can make the arts a valuable part of education for all students. Our commitment is all that is necessary to enlist the arts to help lead our children to success.

Source: [http://www.aaae.org/artsbro/arts\\_bro.htm](http://www.aaae.org/artsbro/arts_bro.htm)

# How Music Affects Us: A Medley

Scientists have found that music involves the left, right, front, and back portions of the brain.

-Donald Hodges, "Neuromusical Research." Handbook of Music Psychology (San Antonio: IMR Press, 1996).

Studies show that tonotopic maps (pathways in the brain involved in determining the pitch of a note played on a piano) are about 25 percent larger in musicians than non-musicians, demonstrating that musical experiences during childhood influence the development of the brain's auditory cortex.

-"Neurology: Musical 'Maps' May Grow with Experience." Washington Post, April 1998.

Magnetic resonance imaging (MRI) shows that certain areas of the brain - the planum temporale and corpus callosum - are larger in musicians than in non-musicians and even more exaggerated for those musicians who started training before age seven. (The planum temporale plays an important role in language and in early auditory processing. The corpus callosum transfers information from one hemisphere of the brain to the other.)

-Donald Hodges, "Neuromusical Research." Handbook of Music Psychology (San Antonio: IMR Press, 1996), 242.

Neurologist Dr. Gottfried Schlaug of Beth Israel Deaconess Medical Center in Boston found that the cerebellum, which contains about 70 percent of the brain's neurons, is about 5 percent larger in expert male musicians than in men who have not had extensive musical training.

-Robert Lee Hotz, "Study Suggests Music May Someday Help Repair Brain." Los Angeles Times, November 9, 1998.

Listening to Baroque music while studying can enhance one's ability to memorize spellings, poetry, and foreign words.

-Don Campbell, The Mozart Effect (New York: Avon Books, 1997), 74-75.

Music can boost productivity in the workplace. Businesses like AT&T, DuPont, and Equitable Life Insurance have cut training time in half, increased output, and raised efficiency with creative music programs.

-Business Music: A Performance Tool for the Office/Workplace (Seattle: Muzak, 1991).

Music can affect body temperature because of its influence on blood circulation, pulse rate, breathing, and sweating. Transcendent music and loud music can raise our body heat a few degrees, while soft music with a weak beat can lower it.

- Don Campbell, The Mozart Effect (New York: Avon Books, 1997), 70-71.

In an aerobics class, researchers reported that music increased the subjects' strength and improved their ability to pace their movements, all while enhancing their mood and motivation.

- Kate Gfeller, "Musical Components and Styles Preferred by Young Adults for Aerobic Fitness Activities," Journal of Music Therapy 25 (1988): 28-43.

The city of Edmonton, Canada, pipes in Mozart string quartets in the city squares to calm pedestrian traffic, and, as a result, drug dealings have lessened.

- "Music-Let's Split," Newsweek, 1990.

Researchers at John Hopkins have found that rock music causes people to eat faster and to eat a larger volume of food, while classical music - especially slow string music - makes them eat more slowly and consume less.

- Don Campbell, Music-Physician for Times to Come (Wheaton, Illinois: Quest Books, 1991).

Doctors in the coronary care unit of Saint Agnes Hospital in Baltimore report that a half an hour of listening to classical music produced the same effect as ten milligrams of Valium.

- Sheila Ostrander & Lynn Schroeder with Nancy Ostrander, Superlearning 2000 (New York: Delacorte Press, 1994), 76.

In recovery wards and rehabilitation clinics, music is widely used to restructure and "repattern" repetitive movements following accidents and illness.

- Don Campbell, The Mozart Effect (New York: Avon Books, 1997), 69.

Researchers at Michigan State University concluded that listening to one's "preferred" music may elicit a profound positive emotional experience that can trigger the release of hormones which can contribute to a lessening of those factors which enhance the disease process.

- Dale Bartlett, Donald Kaufman, and Roger Smeltekop, "The Effects of Music Listening and Perceived Sensory Experiences on the Immune System as Measured by Interleukin-1 and Cortisol," Journal of Music Therapy 30 (1993): 194-209.

Music can help migraine sufferers reduce the intensity, frequency, and duration of the headaches.

- Paul Chance, "Music Hath Charms to Soothe a Throbbing Head," Psychology Today, February 1987, p. 14.

Music therapists working with Alzheimer's patients have found that rhythmic interaction or listening to music has resulted in decreased agitation, increased focus and concentration, enhanced ability to respond verbally and behaviorally, elimination of demented speech, improved ability to respond to questions, and better social interaction.

- Carol Prickett and Randall Moore, "The Use of Music to Aid Memory of Alzheimer's Patients," Journal of Music Therapy 28 (1991).

Researchers in Colorado found that stroke patients who were given rhythmic auditory stimulation a half hour a day for three weeks had improved cadence, stride, and foot placement compared with a control group.

-Marwick, "Leaving Concert Hall for Clinic." In The Mozart Effect by Don Campbell. (New York: Avon Books, 1997), 273.

Music making makes the elderly healthier. There were significant decreases in anxiety, depression, and loneliness following keyboard lessons. These are factors that are critical in coping with stress, stimulating the immune system, and in improved health. Results also show significant increases in human growth hormones following the same group keyboard lessons. (Human growth hormone is implicated in aches and pains.)

- Dr. Frederick Tims, Michigan State University. Music Making and Wellness Project, 1999.

Source: Taken from "Music Advocacy Action Kit," provided by The Selmer Company for School Reform sessions presented by Tim Lautzenheiser and Michael Kumer at the 1999 Midwest Band and Orchestra Clinic in Chicago

# **The Impact of Arts Education on Workforce Preparation**

Excerpts from an “Issue Brief” from the National Governors Association Center for Best Practices

## **HUMAN CAPITAL’S ROLE IN THE NEW ECONOMY**

The New Economy has reshaped previously held beliefs about productivity. Knowledge has supplanted labor-intensive careers as the preferred path to economic growth and stability. Human capital has become the primary determinant of a region’s economic vitality. Today’s challenging workplace demands academic skills (i.e., a college degree) as well as “intangible” assets such as flexibility, problem-solving abilities, and interpersonal skills. Old hierarchical, boundary-laden, and static organizational structures are giving way to new kinds of “learning organizations” with flattened hierarchies. More decision-making and problem solving authority rests in the hands of front-line employees, and self-managed, cross-functional teams are replacing bureaucratic assembly lines. Furthermore, extensive cross training, teamwork, and flexible work assignments are taking the place of elaborate work rules. (1)

## **THE ARTS HELP BUILD NEW ECONOMY WORK SKILLS**

The arts are one tool used by states to enhance workforce readiness for students in both general and at-risk populations. Programs incorporating the arts have proven to be educational, developmentally rich, and cost-effective ways to provide students the skills they need to be productive participants in today’s economy. Arts programs combine academic and workforce development skills in a manner attractive to participants of all age groups and economic backgrounds. Children raised in higher socioeconomic brackets and exposed to the arts through other sources such as families and communities reap the benefits of these activities. In general, at-risk children lack the resources available to other children, are less likely to be introduced to the arts, and lose out on the important educational advantages that the arts can provide. Arts education can have a beneficial and enriching effect on all children, but in some cases, the effects on at-risk children are even more dramatic, especially among those from low-income situations.

Research reveals that when young people (both general and at-risk populations) study the arts they show heightened academic standing, a strong capacity for self-assessment, and a secure sense of their own ability to plan and work for a positive future. The report, “Champions of Change: The Impact of the Arts on Learning” reviews research conducted by scholars from Columbia University’s Teachers College, Harvard University, Harvard’s Project Zero, Stanford University, the University of California at Los Angeles, and the University of Connecticut. (2) The researchers found that arts education can enhance academic achievement, reach students on the margins of the educational system, create an effective learning environment, and connect learners’ experiences to the world outside of school. Multiple studies cite strong positive impacts across socioeconomic groups with respect to both academic and personal success.

Other studies of the effects of arts instruction on learning have found that children who study the arts are:

- four times more likely to be recognized for academic achievement
- elected to class office within their schools three times as often
- four times more likely to participate in a math and science fair
- three times more likely to win an award for school attendance; and
- four times more likely to win an award for writing an essay or poem.(3)

In addition to academic success, students introduced to arts education have heightened soft skills. In a study of more than 2000 middle school students in four states, researchers at Columbia University found that children receiving at least three years of in-school arts instruction scored significantly higher on quantitative tests of creative thinking than their peers with less arts instruction. Students with more arts instruction had index scores averaging 20 points higher than their peers on measures of creative thinking, fluency, originality, elaboration and resistance to closure. (4)

Some critics have argued that arts curricula may not produce increased standardized test results. An analysis of 188 previous studies describing correlations between the arts and performance on mathematics and verbal skills tests found a causal link between studying the arts and improved academic performance in only 3 of 10 areas studies. Researchers Ellen Winner and Lois Hetland, in Harvard's Reviewing Education and the Arts project, urged caution with respect to justifying arts education programs on the sole basis of instrumental grounds such as test scores. (5)

Nonetheless, arts education appears to develop cognitive skills and traits which may or may not be easily measured through standardized testing. According to Dr. Elliot W. Eisner of Stanford University, schooling in the arts has cognitive effects that help prepare students for the 21<sup>st</sup> Century workforce. (6) Eisner identifies key competencies of cognitive growth that are developed through education in the arts. These include:

- perception of relationships;
- skills in finding multiple solutions to problems;
- attention to nuance;
- adaptability;
- decision-making skills; and
- visualization of goals and outcomes.

School districts are finding that the arts develop many skills applicable to the "real world" environment. In a study of 91 school districts across the nation, evaluators found that the arts contribute significantly to the creation of workers with flexible and adaptable knowledge that businesses demand to compete in today's economy. (7)

In addition to supporting general workforce competencies, arts competencies in themselves can be marketable skills in today's economy. For instance, today's media workers are applying arts skills in careers such as television and film production, Web site design, and advertising. Design skills taught through the arts are both professional



and technical and can lead students to careers in the architecture or fashion industries. The U.S. Bureau of Labor Statistics has counted more than 2 million full-time workers in artist occupations. (8) In this way, workforce development programs that involve the arts may provide dual benefits, opening up careers in the creative industries for some students while enhancing the overall workforce preparedness of others.

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## In the Arts Spotlight

by Rebecca Hotvedt  
Second Grade Teacher  
St. Paul, Minnesota

Students who don't care, never turn in homework, read far below grade level, are physically aggressive, have poor attendance – these are some of the children whom I have taught. As a new teacher, I tried many ways to reach them. Finally, I realized that if I wanted to help my students learn, I needed to understand the underlying causes of their destructive behavior.

After many hours of attending workshops and reading about at-risk students, I began to see my students from a different perspective. These were not just “tough” kids; their behavior stemmed from the cycle of poverty. They had created defense mechanisms to survive in what were often chaotic home situations. To make any improvements in their lives, they needed knowledge and a sense of direction. Above all, they needed someone who believed in them. I saw my role as a teacher change. I couldn't just teach them; I first needed to inspire them to learn. Integrating the arts into their learning provided the inspiration that they needed.

### THE ROAD TO DISCOVERY

My experience with integrating the arts into my teaching began early in my career, when I had my 5<sup>th</sup> graders role-play historical events from the social studies textbook, using costumes and props. Hidden talents within each student began to emerge, and I decided to extend this role-playing experience beyond the school day. The music teacher and I collaborated to produce a musical. The students rehearsed after school and then performed for the entire school during the day.

The experience was the first exposure to theater for many of my students. In addition to drama and music skills, they learned such life skills as punctuality, responsibility, and cooperation. They were proud of their accomplishment. The whole school was impressed, too.

The next phase of integrating the arts into my teaching came when I taught a class of extremely tough 4<sup>th</sup> graders. I decided to “soften” them with one of my favorite ballets, *The Nutcracker*. As a dance teacher in college, I had co-produced and performed *The Nutcracker* several times. I showed my students a video of my performance, brought in my ballet memorabilia, and read them the story. Soon they were eager to make *The Nutcracker* part of their lives.

We decided to produce a puppet show, with each student making a puppet to portray one of the characters. The media specialist helped the students design the costumes, using the Internet to find photos of actual costumes used during a performance. The students worked in groups to practice their puppets' movements to the music, sent invitations to parents and teachers, and performed to a packed house.

Afterward, I reflected on how involved the entire class had been. Students who typically had behavior problems had been focused intently on the task. Students who didn't get along had become friends. A delightful transformation had occurred.

Soon I was integrating the arts into as many lessons as possible. In reading class, for example, students had a choice of projects upon completing a book: make puppets of the characters, create a salt-dough map of the setting, write a diary from the main character's point of view, or make a board game using vocabulary words from the book. The students created rubrics for each project and agreed on a deadline. They presented their projects in front of the class and answered questions from their classmates.

### THE ARTS, MOVEMENT, AND EMOTION

My students were engaged in their learning, but I didn't quite understand why. Through my reading, I began to see why the arts – and the related elements of movement and emotion – were having such a strong impact. To overcome the barriers to learning that poverty may create, students need to have a talent or skill that takes them to a new environment and a mentor who takes an interest in them and provides emotional support while they are still learning (Payne, 1998). In my classroom, students uncovered new talents and skills and were exposed to a world that they had never known before – the world of the arts. I acted as a mentor to provide them with a safe and supportive atmosphere.

In *Teaching with the Brain in Mind*, Eric Jensen (1998) discusses the power of movement as an element in learning: “Give a school daily dance, music, drama, and visual art instruction where there is considerable movement, and you might get a miracle” (p. 87). Jensen says that movement is a pleasure link to the brain. Children who lack stimulation from touch and physical movement seek other ways to satisfy their brain, usually through aggression and physical violence. These children need daily physical activity in their learning.

The school where I currently teach is a good example of successful arts integration and use of movement. Arts specialists (dance, drama, music, visual art, literary arts) and classroom teachers collaborate to make the arts a part of daily academic learning, usually through thematic instruction. Area artists also work with students, and the school holds weekly “gatherings” at which all students share their learning through performance.

I have found that the more movement that I include in daily lessons, the more attentive the learners are. I was surprised, for example, by the results of combining a simple game of tag with science vocabulary. My 2<sup>nd</sup> graders were studying basic cloud types. I adapted a tag game so that each of them had to be a cumulus, stratus, or cirrus cloud. They could run only when the person who was “it” called out their cloud type. By playing this game, every student learned these terms, which they then applied to their weather studies.

Brain research also tells us that emotions play an important role in learning. According to Jensen (1998), the most significant learning occurs when emotions are integrated with

instruction because all body systems are united. The arts are strongly linked to emotions, enhancing the likelihood that students will remember something.

To prove these theories, I wanted to measure how the arts, movement, and emotion affected my students. I collected data from a group of 20 2<sup>nd</sup> graders in an after-school program that I taught. Each student was identified as being at least one year below grade level in achievement, and all could be considered at risk. Many of the students had troubled home lives, and some spoke a primary language other than English. Some would be considered average kids with caring parents, but they were struggling with school.

I collected information about reading comprehension by reading a story to them a few times, discussing and pointing out things as I read, and then asking them to rewrite the story in their own words, using picture cues. Only one student successfully retold the whole story. It was difficult to get the others motivated to finish. I also conducted a reading attitude survey that asked the students to answer yes, no, or OK to the following questions: “I really like to read,” “I think I am a good reader,” and “I wish I could be a better reader.”

One month later, I read the same story, but this time I assigned each student a character, and the students had to act out the various parts. They performed the whole story easily. Then they switched parts and acted out one another’s characters. They cut and pasted labels that identified events of the story and placed them in sequential order next to the correct drawing of that event. The room was nearly silent as they wrote the story in their own words again – this time with ease and confidence. Every student successfully retold the story; further, they could all read the book. Their decoding skills improved because they understood what was happening in the story. I also repeated the reading attitude survey and found that more students responded positively to the questions.

By integrating the arts into the curriculum, I have seen students master concepts that I thought were beyond their abilities. For example, the math curriculum for 2<sup>nd</sup> graders required them to identify two- and three-dimensional shapes by name and features (sides, angles, edges, vertices, faces). My students created a shape museum of actual objects that they brought from home. We examined and compared the shapes. The dance teacher and I collaborated to integrate these math concepts into dance class. I provided her with the geometry information and vocabulary so that she could use the same names and shapes in her dance lessons. These lessons had a remarkable impact. On the unit test, all but four students earned passing scores.

#### ARTS FOR EVERYONE

Integrating the arts in academics is one of the best ways to reach every child. Middle-class families can offer the arts to their children through music lessons, dance classes, and many other experiences. But students living in poverty also need these enriched environments. Budget cuts have caused many schools to reduce or even eliminate instruction in the arts. This makes it even more important for [classroom] teachers to integrate the arts into daily classroom instruction.

A strong arts foundation builds creativity, concentration, problem solving, self-efficacy, coordination, attention, and self-discipline (Weinberger, 1995). Isn't that what we want for all students?

Source: "In the Arts Spotlight" by Rebecca Hotvedt. Published in Educational Leadership, October 2001, pp. 70-73.

References:

- Jensen, E. (1998). *Teaching with the Brain in Mind*. Alexandria, VA: ASCD.
- Payne, R. (1998). *A Framework for Understanding Poverty*. Baytown, TX: RFT.
- Weinberger, N.M. (1995). The nonmusical outcomes of music education. *MuSICA Research Notes*, 2(2), 6. Available: [www.musica.uci.edu/mrn/V212F95.html](http://www.musica.uci.edu/mrn/V212F95.html)

## Music Education Teaches “Key Competencies”

How do the arts contribute to the skills that employers need in their future employees?

In Australia, ministers of education and various committees met in 1989 to determine what their students should learn in school. In addition to requirements in each subject area, the concept of “Key Competencies” emerged.

Key Competencies are skills that are learned not just in one class, but through the overall educational experience. They are also skills that the business community believes school graduates must possess.

The Key Competencies in the Australian education system are:

- 1) Collecting, analyzing, and organizing information
- 2) Communicating ideas and information
- 3) Planning and organizing activities
- 4) Working with others and in teams
- 5) Using mathematical ideas and techniques
- 6) Solving problems
- 7) Using technology

In 1996, the National Affiliation of Arts Educators (of Australia) and the Australian Council for Educational Research worked together to apply the Key Competencies to arts education and to help educators understand the connections between the Key Competencies and the teaching activities of arts educators. Their study concluded “THE ARTS CONTRIBUTE NATURALLY AND SIGNIFICANTLY TO ALL OF THE KEY COMPETENCIES.”

Here are the applications of music education to the Australian Key Competencies:

### COLLECTING, ANALYZING, AND ORGANIZING INFORMATION

interpreting and creating artworks [compositions], exercising aesthetic judgement, managing sensory and emotional information

### COMMUNICATING IDEAS AND INFORMATION

making artworks [composing], communicating ideas and information nonpropositionally [without speaking or writing], interpreting artworks through talking and writing

### PLANNING AND ORGANIZING ACTIVITIES

rehearsing and presenting a performance or concert

### WORKING WITH OTHERS AND IN TEAMS

experiencing ensemble discipline for corps, orchestra, etc.

practicing group skills in rehearsal, production, and exhibition; negotiating in multi-arts contexts

### USING MATHEMATICS

learning about basic musical structure, rhythm, balance, and acoustic science

### SOLVING PROBLEMS

improvising, researching, creating artwork [composing], interpreting, preparing presentations

### USING TECHNOLOGY

using samplers and synthesizers, using multimedia in presentations, concerts, and performances;  
using sound and lighting principles and technology

Source: "Exploring the Role of the Arts in the Curriculum: Some Australian Initiatives" by Joan Livermore and Gary E. McPherson. Published in "Arts Education Policy Review" Vol. 99 No. 3, Jan/Feb 1998. pp. 10-14.

## **Singing, Musical Ability, And Success**

As a child's tonal and musical skills improve, so does his or her ability to listen. As listening skills improve, a child's personal, social, and academic skills also improve.

Following is an excerpt from an article by Paul Madaule, a listening clinician and one of the world's leading experts on listening. This excerpt includes an example of the positive changes observed in children as they learn to sing with accurate pitch.

Different types of music reach and stimulate different parts of the brain. There is music that provides physical energy to the body, and music that provides mental energy to the mind. Music with the heavy beat, such as rock, rap or techno, stimulates the body primarily through the vestibular system. [The vestibular system, regulated by the inner ear, measures body movement and position and controls balance.] Like it or not, this music "gets into us," often to the point of being invasive or even aggressive. Music for the mind, on the other hand, primarily stimulates the cortex via the cochlea. [The cochlea/cochlear system of the ear measures the pitch, timbre, and attack of sounds.] In this kind of music, there is less emphasis on the beat and more on melody. The richer the music is in high harmonics, the more mental energy it provides. Music for violin is at the top of the chart.

Both types of music have a purpose, but they need to be used appropriately. I would never recommend using Mozart's music or Gregorian chants for aerobic exercise classes, but I would also never recommend doing homework while listening to rock or rap.

Music is neither "all rhythm" nor "all melody." By definition, it is a composite of both. Most music, however, exhibits a clear predominance of one or the other. At one extreme there is music with little or no beat or tempo, such as the earlier mentioned Gregorian Chants or Tibetan "ohms." This music is intended for meditation and spiritual work. It is the quintessential "music of the mind." At the other end of the spectrum there is rap, an almost exclusively vestibular music – music of the body, by the body, and for the body. The beated monotone voice of the rap singer has no melodic line and only minimal pitch differentiation.

A music teacher once asked me how he could develop music appreciation among students who are "into" rap with the exclusion of all other kinds of music. The answer was expanding their listening to a wider range of the auditory spectrum. I am very aware that this is easier said than done because rap music requires virtually no listening skill to be enjoyed. Its impact on the body is such that it "gets into you" – whether you want it to or not. In the following story, I will demonstrate that with skill and patience it is possible to open the ear. I will also show that the "payback" is well worth the effort.

A few years ago I met Walter Bahn, Benedictine monk and former music director of a cathedral in San Francisco. He now works as a social worker in the Dominican Harlem



of Manhattan, where community programs are available to keep children off the streets. One such program includes an initiation to singing and chanting which, if successful, would enable the children to join a church choir.

I was fascinated by the approach he developed to sensitize children who knew nothing about music other than rap. In the beginning, the children had no sense of tonal differentiation whatsoever. To see if they would change pitches, Walter had them imitate motorcycles or fire truck sirens. While they could do this, they were still unable to measure their pitch accurately. To help them, he used hand signs invented in the teaching of Gregorian chant. The hand signs are very simple: for DO the child points to the navel; for RE, to the middle of the chest; for MI, to the chin; for FA to the nose; and so on. The method is not unlike Kodaly's hand signals. Both are excellent multi-sensory approaches which use awareness. Adding to the teaching of music, both movement and singing reinforce the vestibular, proprioceptive [internal stimuli generated by the body to regulate itself], tactile and visual stimuli which reinforce and develop auditory cochlear-vestibular integration – so important in the development of listening.

I met Walter at a time when he was searching for other techniques...that might speed up the children's progress. At that time, it was taking him several months to bring these children from a completely amusical mode to singing and chanting in a well-established choir. During this process, dramatic changes were taking place in the children's personal, social and academic lives. Those participating in his choir program were staying out of trouble, were attending school, and were improving their marks. In short, the more their musical abilities, (and hence, listening skills) developed, the more integration, self control and direction they acquired. Some of them are now studying at Harvard, Columbia, and West Point. Walter Bahn offers a beautiful illustration of what a music educator can do to improve listening and turn lives around.

SOURCE: "Listening Training and Music Education" by Paul Madaule.  
Published in Early Childhood Connections: Journal of Music and Movement-Based Learning, Vol. 4, No. 2, Spring 1998.

# Ten Lessons the Arts Teach

by Elliot Eisner  
Professor of Education  
Stanford University

- 1) The arts teach children to make good judgements about qualitative relationships. Unlike much of the curriculum in which correct answers and rules prevail, in the arts, it is judgement rather than rules that prevail.
- 2) The arts teach children that problems can have more than one solution and that questions can have more than one answer.
- 3) The arts celebrate multiple perspectives. One of their large lessons is that there are many ways to see and interpret the world.
- 4) The arts teach children that in complex forms of problem solving, purposes are seldom fixed, but change with circumstance and opportunity. Learning in the arts requires the ability and willingness to surrender to the unanticipated possibilities of the work as it unfolds.
- 5) The arts make vivid the fact that words do not, in their literal form or number, exhaust what we can know. The limits of our language do not define the limits of our cognition.
- 6) The arts teach students that small differences can have large effects. The arts traffic in subtleties.
- 7) The arts teach students to think through and within a material. All art forms employ some means through which images become real.
- 8) The arts help children learn to say what cannot be said. When children are invited to disclose what a work of art helps them feel, they must reach into their poetic capacities to find the words that will do the job.
- 9) The arts enable us to have experience we can have from no other source and through such experience to discover the range and variety of what we are capable of feeling.
- 10) The arts' position in the school curriculum symbolizes to the young what adults believe is important.

Source: [www.giarts.org/Learning.pdf](http://www.giarts.org/Learning.pdf)

## *Articles: Music Advocacy Strategies*



*A Community Arts Advocacy Success*



*Advocacy Guidelines For Teachers and Parents*



*Advocacy Versus Aesthetics*



*Connecting Music To Other School Subjects*



*How To Approach A School Board In Time Of Crisis  
Suggestions for Music Teachers and Music Booster Organizations*



*Where Does Your Music Program Stand?*

# **A Community Arts Advocacy Success**

The following message about the importance of arts education was created by the Community/Schools Partnership for the Arts (C/SPA) of Sarasota County, Florida:

## *The Message*

"We are a special interest group. Our special interest is the students, the future citizens of Sarasota County. As a coalition of parents, community organizations, and businesses, we believe that all Sarasota County students MUST receive a complete and balanced education including, at minimum, the comprehensive study of music from a qualified music teacher and art from a qualified art teacher.

We believe education in the arts is vital for ALL OUR STUDENTS because:

- Children who study the arts are better overall students.
- Children who study the arts are more employable after graduation.
- Studying the arts emphasizes innovation, problem-solving, communication skills, personal discipline and responsibility, collaboration, and teamwork – universally recognized skills for the future.
- Studying the arts balances education through experiences fostering the creative imagination with experiences using logic and analysis.
- Sarasota is known as the 'County of the Arts' and we are proud of the significant impact of the arts on our economy. We must have an education system which reflects the prevailing cultural values of our community.

Our goal is to join with the Sarasota County School System to provide the best, balanced, fiscally responsible education for all our students."

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The statement above was developed by the Community/Schools Partnership for the Arts of Sarasota County, Florida, or C/SPA. This organization consists of arts organizations in Sarasota County, including the Asolo Theater Company, the Florida West Coast Symphony, the John and Mable Ringling Museum, and the Sarasota Ballet. Teachers, school district administrators, parents, students, and community foundations are also part of C/SPA.

The Community/Schools Partnership for the Arts was founded in 1995, when the Sarasota County School District eliminated almost all of its arts teachers. Using a three-point plan, the group worked to successfully restore arts education programs.

### *1) Take A Proactive Stance*

Instead of defending the existing arts program or trying to restore the arts program to its pre-budget-cut status, C/SPA started at ground level. C/SPA members envisioned a new arts program achieving new goals, and they enlisted the assistance of the school administration in creating the arts program.

Despite early setbacks in dealing with the school administration, C/SPA remained positive, persistent, and united. Eventually a true partnership was established. Although struggles persisted, there were more arts teachers and more arts course offerings in the Sarasota County School District in 1999 than before the budget cuts in 1995.

### *2) Create And Follow A Mission Statement*

C/SPA members spent a great deal of time discussing, drafting, and revising a mission statement. (Their statement is called THE MESSAGE and is featured at the beginning of this article.)

After all members of C/SPA voiced their opinions, they developed a concise, easily understood "Message" that the public and school officials could comprehend. This "Message" served to guide all actions and decisions of C/SPA. Surprisingly, the goals stated in the final draft of the "Message" were very different from those in the first draft. Through discussion and revision, points that at first seemed insignificant became important, and other goals became less relevant.

### *3) Make Arts Education The Responsibility Of The School District*

The arts organizations in C/SPA agreed to assist and augment the arts education program of the Sarasota County School District only if the school students received regular arts education from teachers certified in the arts. C/SPA would not opt for a quick fix, and their decision held true to their mission statement or "Message."

Of course, the three principles above did not, by themselves, restore arts education to Sarasota County. The efforts and achievements of the Community/School Partnership for the Arts (C/SPA) required a great deal of organization, cooperation, and action. Many "movers and shakers" in the community shared their expertise and power. A local movie theater showed slides before movies promoting the school arts program. At a performance of the Florida West Coast Symphony, all the musicians who began studying music in the public schools were asked to exit, and only two musicians remained on stage.

In the federal study “Gaining the Arts Advantage,” the school districts with the strongest arts programs typically have a great deal of community involvement and support for those programs. The circumstances that surround each community, school district, and arts program are unique. However, Sarasota County, Florida sets an example of successful community support for a school arts program.

Sources: “Back from the Brink: The Community’s Perspective” by Bruce E. Rodgers. Published in “Teaching Music,” February 1999, pp. 40-42, 62.

“Gaining the Arts Advantage” from the Presidents’ Committee on the Arts and Humanities. [www.pcah.gov](http://www.pcah.gov)

# Advocacy Guidelines For Teachers and Parents

The following advocacy guidelines appear in the High School Director's Communication Kit. Permission is granted by the Hal Leonard Corporation to re-print them.

## ***WHAT YOU CAN DO***

1. Unite with other teachers on the music staff. The music department must be unified with itself, totally committed to providing the highest caliber of music education for children. Infighting cannot be tolerated.
2. Be sure your actions are always student-centered. The "I don't want to lose my job" approach is not as effective as the potential lost benefits to children and their overall development in our educational system.
3. You are not alone. Get to know your music parents, community officials, business leaders, etc. Cultivate them for your team. A united effort involving multiple community resources creates a strong and powerful force.
4. Use numbers to your advantage. Music is offered to all students. Use the total number of students enrolled in your public (or private) school district or state when discussing the benefits of music education.
5. Define your purpose. Develop a mission statement. Succinctly state your purpose for involvement in music education. Make this concise document available to anyone who visits your classroom.
6. Get to know your administrator, school board members, and school counselors. Send them invitations to concerts. Ask them how they feel about arts and music education. If they oppose arts in schools, ask them why. The key is to listen, not react and defend. Find out the percentage of funding available to all other school programs.
7. Work with your local music dealer, community service clubs, industry leaders, etc. Become acquainted with these community leaders. Invite them to concerts, band parent meetings, advocacy sessions, school board events, and/or daily rehearsals.
8. Know your local and state legislators. Find out your local state legislators' names (and the names of their staff), addresses, phone and fax numbers. Ask your music parents if any if they have assisted during one of their campaigns. Ask these government officials how they feel about arts education. Invite them to your concerts, and send them your mission statement.
9. Schedule a concert where all groups perform at the same event. Provide an impressive showcase of talent and educational consistency within the department by performing a concert involving all grades K-12 music students.

10. Set up a phone tree/fax system for efficient communication. Communicate frequently with parents, government officials, community leaders, and anyone who should be interested in supporting arts education for students.

### ***WHAT PARENTS CAN DO***

Music parents are often willing to help, but may not know what to do or where to begin. Here are a few starting points.

1. Ask school board members about their views on arts and music education. Be positive. Do not be defensive if an administrator or school board official opposes arts education. Simply get the facts, preferably in writing. Ask questions.
2. Organize your parent group. If you are an independent group (not under the auspices of PTA or other parent groups), you'll need to develop by-laws, appoint a board of directors, and apply for charitable deduction status.
3. Attend school board meetings. Observe the process, personalities, and effective persuasive techniques. Always be polite and cordial to school board members.
4. Work with the music staff to develop a mission statement. Keep children's education as the focal point, not entertainment events or music trips.
5. Organize and print a calendar of local music events for all nearby schools. Include all school concerts, festivals, as well as professional groups appearing in the area. Send the calendar to school board members, administrators, all school parents, government officials, and your local newspaper.
6. Assemble the concert program for the music teacher. Offer to enter type on a computer disc, or take responsibility for producing the entire program. Be sure to include the correct spelling of every student, director, administrator, and custodian who helped with the event. The music teacher may also provide composer backgrounds and program notes for the concert program.
7. Invite officials to speak and/or conduct at concerts. Develop a rotating schedule with the music teacher, and include administrators, school board members, community leaders, and government officials. Write thank-you notes to every person who speaks or conducts the group during a music concert.
8. Start an after-school lesson program. Offer scholarships for first- and second-year students to study with local or area teachers.
9. Help establish a student mentoring program. The music teacher might want to 'pair up' an elementary or middle school student with a high school student. During post-



concert refreshment time, mingle with other parents to make them feel they are a part of the music family.

10. Call the music teacher(s) regularly, and simply offer to help. Often, there is typing to do, ticket sales, bookkeeping, distributing uniforms, arranging trips, helping with the props for musicals, etc. A number of important tasks always await the music teacher.

# Advocacy Versus Aesthetics

by David Madara

A music educator recently e-mailed me the following question:

"I believe that the true value of music education is music literacy and aesthetics, not that it makes one smarter. What is your position concerning why music education is important, and why we need music in our schools?"

After some thought I sent this reply to her:

I agree that the end goal of music education should be to produce music that is as satisfying and musical as possible. Music is a unique form of human communication and it conveys information that cannot be expressed any other way. For me there is no greater thrill than performing or hearing an expressive series of dynamics, musically tender phrasing and ensemble balance, or a chord so purely in tune that the overtones scream. It touches me, and for me it's better than riding a roller coaster.

However, researchers are uncovering many benefits that occur in the PROCESS of making music. Brain activity increases greatly.<sup>1</sup> Students often feel better when making music because music making lowers the levels of the stress hormone cortisol and increases the production of disease-fighting antibodies.<sup>2</sup> The respiratory system gets a true workout when singing or playing a wind instrument, and manual dexterity and coordination improve when playing almost any instrument. Music educators know these benefits that occur in the process of making music already, but the majority of the public does not fully understand all the processes that must take place to sing well or play an instrument.

Music (and the arts in general) have the unfortunate place in today's educational system of having to justify their existence to people in positions of power who have either little experience in the arts or little understanding of the arts. Could you imagine math teachers having to stand before the school board and explain why math is important? This, unfortunately, is what music and arts teachers have to do to ensure the very existence of their programs. We are still in a society that often recognizes the traditional "3 Rs" and athletics as the most important parts of the school day.

How do you get administrators, school board members, and others in your community to pay attention, to give of their time and energy, to support music and the arts? My principal told me, "You'll have fun with the kids. Music is fun. Have a fun time." That was his understanding of music - it was fun, just like playing a game. If I had tried to tell him about the intricacies of music, he would have turned his "receiver" off. I might as well have been talking to a brick wall. But if I say, "Schools that have a sequential, structured, integrated arts curriculum also have students who get higher test scores. We need to give some sequence and structure to the arts program in this school," I suddenly have his attention. All principals are under pressure to get higher test scores in their schools, and by knowing my principal's needs I can work with him and help him. I want to make my principal appreciate the many details that go into making even the simplest music. First, though, I need to get his attention and make him an ally.

The ultimate goal of music education should be music literacy and aesthetics. These qualities ARE valuable, and they should be what we all strive for. Even my principal could tell the difference between an aesthetically pleasing performance and a poor one. Music advocacy - sharing the fact that music makes kids smarter and describing the PROCESS of music making - is a tool that we use to get and hold the attention of our parents, policy makers, administrators, and community members.

We also need to be team players in our schools, not the isolated "music teacher at the end of the hall." By coordinating activities with other teachers, chaperoning the school dance, helping out the volleyball team, (and the list goes on) we are creating a rapport that gives us more support, again, to accomplish the ultimate goal of educating students musically. And the fact that we're helping kids to develop brain connections through music can't hurt, either.

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1. Eric Jensen, Arts with the Brain in Mind (Alexandria: Association for Supervision and Curriculum Development, 2001), 21-23.

2. Eric Jensen, Arts with the Brain in Mind (Alexandria: Association for Supervision and Curriculum Development, 2001), 38-39.

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# Connecting Music To Other School Subjects

As we searched for new studies and information about music education, we recently found an article titled "The Intersection of Two Unlikely Worlds: Ratios and Drums" in the February 2001 issue of the journal "Teaching Children Mathematics." This article described an activity in a fifth grade math class using the polyrhythms of Afro-Cuban drumming to teach the math concept of least common multiplier. As we studied this excellent activity we were haunted by the title. As musicians, we always took for granted the link between music and math. Why did the authors use the term "Unlikely" in the title of this article? Our guess was that the authors suspected the readers – math teachers - may never have fully considered the connections between music and math.

Do the faculty, parents, administrators, and students at your school know that music is mathematical? Do they know how music encompasses almost every other subject in school, too? Do they realize that the actual "doing" - the performing of music, is a chance for students to experience for themselves many concepts that they read about in textbooks in other classes?

One of the phrases becoming increasingly common in our music advocacy work is "integrated arts curriculum." When the arts are effectively connected to the rest of the curriculum, students understand all of their subjects, including music, better than they would if the arts were treated as a separate entity. By working together with teachers of other subjects, arts teachers and arts programs gain respect and support from the school faculty and administration.

We enjoyed reading about the activity using Afro-Cuban polyrhythms to teach the concept of least common multiplier and we highly recommend it, but there are many other ways to integrate music and other subjects, too. Following are five easy examples.

1) **WRITING** - Have students write program notes to print in the concert program, and have them write a review of the concert afterward as though they were an arts critic. Enforce proper spelling, punctuation and grammar.

2) **SOCIAL STUDIES AND LANGUAGE** - Find pieces of music in your music library that are historically or culturally significant (folk songs, music from around the world, music to commemorate an occasion, etc.). Consult with social studies and language teachers and include a piece in each concert that corresponds with a topic being studied in another class.

3) **BIOLOGY/PHYSIOLOGY** - Reinforce the mechanics of breathing and the respiratory system together with the biology or science teacher. Have the science teacher visit a rehearsal to discuss the parts of the respiratory system and show a diagram. Use a student musician as a guest in a science class to demonstrate proper breathing technique and breath

support when the science class is studying lungs and the respiratory system.

4) PHYSICS - When a science class is studying sound, there should definitely be some guest musicians present. No matter whether simple concepts (vibrating air makes a sound, and the vibration comes from the reed, brass player's lips, bow on the string, etc.) or complex concepts (the harmonic series) are taught, a student playing an instrument will hold the interest of the class and bring the concepts to life.

5) MATH - Do some math with the beat values of notes. (A quarter note plus a half note equals 3.) Use proportions to teach beat values in cut time. Introduce rhythms to the math class when they are studying fractions.

The ways to integrate music and the arts with the school curriculum are limited only by imagination.

We believe that arts educators must work together with the teachers of other disciplines in order for the arts to survive in public schools. The connections between music and other disciplines already exist. In the teaching of music it is impossible not to draw upon the skills and content of other school subjects. By making these connections explicitly clear and being "part of the team," music teachers and music programs are likely to gain support and respect from many facets of the school community.

Reference: "The Intersection of Two Unlikely Worlds: Ratios and Drums." by Anthony C. Stevens, Janet M. Sharp, and Becky Nelson. Published in Teaching Children Mathematics, February, 2001.

# **How To Approach A School Board In Time Of Crisis**

## **Suggestions for Music Teachers and Music Booster Organizations**

1. Redefine the situation. The "crisis" is also an opportunity to educate school boards and other decision-makers about the value of music education.
2. Prepare your arguments carefully. Your message is that music belongs in the core curriculum. Be adamant on this issue. Their major concerns are going to be related to funding. Know the budget and be prepared to talk about "bang for the educational buck."
3. Visit each board member separately. Keep the visit positive. You are for students and better education, not against anything. All board members are potential allies.
4. Never argue against someone else's program. Show that you are willing to work for the good of all students. Keep the discussion student centered, not teacher-job centered.
5. Keep current. Understand the pressures they are under and the tough decisions they have to make. Attend meetings regularly and report back to your group.
6. Become a source of solid information. Local board members have a hard time keeping up on all the issues. They need you to tell them exactly what's happening in specific schools and programs. Use information to build trust.
7. Never lie or "fudge." Your long-term credibility is too precious to squander simply to gain a short-term advantage.
8. Work to re-elect board members who support music education. Their support should beget yours.
9. Invite board members to student musical events. Encourage them to experience the results of their support. Introduce them as a "friend of school music" at these events. If appropriate, ask them to say a few words. It helps them vote your way next time.
10. Anticipate crises by:
  - \* Having a telephone tree in place for quick response to network hundreds of phone calls in a 24-hour period.
  - \* Having a "speaker's bureau" poised to talk to community groups, visit school decision-makers, and speak at board meetings.
11. Conduct a telephone campaign before the big meeting. Petitions are OK, but letters and calls just before the meeting will carry more weight. All board members should get several calls.
12. Learn school boardroom etiquette. Know the rules of the school boardroom (public comment scheduling, rules on signs, time limits on remarks, etc.). Observe them closely. Address people by their proper titles. Be respectful.
13. Cover all points, but don't repeat yourself. Speaker after speaker talking about "how wonderful school music is" gets old fast. Address issues from many different points of view. Provide a broad spectrum of information. Key emotion to facts, not opinions. Do your homework.
14. Fill the boardroom. Numbers count; think in hundreds.

15. Use videos to supplement your presentation. Watch for programs on the national news and other television news programs.

16. Follow up with "thank you" notes. Thank administrators and board members for their positive comments and support. Thank even those who did not vote with you, as there will be other battles.

17. Be proud of your work. Take control. Plan, analyze, and act professionally.

Source: Based on an article, "Strategies for Effective Lobbying" - by Joanna Newhouse, Action Chairperson, Los Angeles City Elementary School Music Association

# Where Does Your Music Program Stand?

Does every student in your schools have access to music instruction? Do your schools require music courses for high school graduation? In short, do your schools have a program of good scope and quality?

If your schools meeting these basic standards, you will need to work toward maintaining the place of music in the curriculum and toward refining the music program to the point at which it offers every student a path to a lifetime enriched with musical experiences. If not, you will need to plan a strategy that works toward achieving these basic objectives. As a first step, use the following checklist to keep track of which objectives are met - or not met - by your program. (For a more detailed look at the standards to be expected, see MENC's publication "The School Music Program: Descriptions and Standards.")

Here are some basic questions you should ask to find out how healthy your school music program is. If you answer "yes" to all these questions, you need only work to maintain the quality of your program. If you have more than five "no" answers, it is time to get to work in earnest!

## **PROGRAM CHECKLIST (Answer yes or no)**

### *District-wide*

1. Is there a music educator who is designated to administer and coordinate the music program?
2. Is there a written curriculum in music that leads logically from level to level, elementary through high school?
3. Is there sufficient budget to ensure that reasonably new music books and other types of equipment, such as cassette or CD players, instruments, and electronic keyboards, are available for music instruction?
4. Is the music program fully funded through the school district budget?
5. Do all students in the school district have equal access in terms of course offerings, scheduling, and resources, to a quality music education program?

### *Elementary School*

1. Are all children receiving about 100 minutes of music instruction each week from a teacher certified in music?
2. Are the children being taught a variety of types of music through activities such as singing, listening, and playing simple instruments?
3. Do the students have a chance to create music?



### *Middle/Junior High School*

1. Do all students have the chance to study wind, string, and percussion instruments?
2. Are bands, orchestras, and choral groups available for interested and able students?
3. Are all students required to take at least one year (or its equivalent) of general music during these grades?
4. Are there at least seven periods for instruction in the school day so that students have sufficient time to pursue an interest in music?
5. Do the students study a variety of types of music?

### *High School*

1. Is one year of music or other fine art required for graduation from high school?
2. Are bands, orchestras, and choral groups offered in the school day for credit?
3. Are courses such as music theory, music appreciation, general music, and guitar and keyboard offered in the school day for credit?

### **What Challenges Do You Face?**

#### *Analyzing the Budget*

If your program needs improvement in staff, equipment, supplies, or facilities, you need to investigate the budget. Keep in mind that the making of a school budget is an extended project. As soon as one year's budget is completed, work starts on the next. This means that the only way to avoid unpleasant surprises is to be involved in monitoring the budget on a year-round basis.

Here are some questions to help you identify any budget problems that need your attention:

### **BUDGET CHECKLIST (Answer yes or no)**

#### *The Nature of the Problem:*

1. Is the budget for your entire school system inadequate?
2. Is the music program funded at a lower level than are other curricular programs?
3. Does the program of music instruction depend on fund raising efforts by faculty, parents, and students?

#### *The Location of the Problem:*

1. Does your problem arise in the budget proposed by district-level administrators?
2. Does it come about in administrative fund transfers or callbacks made after adoption of the budget?
3. Is it based in the way money is distributed to individual schools or programs as defined in the district's allocation policies?
4. Does it have its roots in the administration of funds by building principals?
5. Do the district's financial reports in recent years show any downward trends in spending for the music program?

To determine the nature of budget problems, ask district officials for a rundown of the budget process. You may also need to obtain the following documents and information:

1. The schools budget (both the published budget for the current year and the proposed budget for the coming year). Generally, the budget is proposed by the administrators and adopted by the school board after comment is received from the public. It may have to be approved by the electorate, especially when funding depends on the issuance of bonds.
2. The school system's allocation policies, which contain information on what level of funding can be expected by particular schools or by particular programs. Copies of these policies are probably available from the administrators and financial officers of the district's central office.
3. The district's past financial reports. These reports describe what was actually done with the district's money. If these documents do not provide the detail you need, you may have to ask for figures from the district's accounting records.

### *Analyzing the Decision-Making Process*

Does your music program truly have the informed support of those who make and institute policy? Decide where your support is strongest and where it is weakest-and find out who makes the policy decisions that shape the future of the music program. (You should not attempt to fix blame on any individuals; you should rather identify people and groups that need to be educated about school music and gently pushed to support music in your schools).

Of course, the concept of "support" can be quite complex. Most administrators and board members support the idea of music education, but they may not always act in support of the music program, especially when tough choices must be made. To begin to understand the situation in your area, ask the following questions:

### **DECISION MAKERS' SUPPORT CHECKLIST (Answer yes or no)**

1. Do the actions of your city, county, or parish administrator show that he or she supports school music?
2. Do the actions of your city, county, or parish legislative body generally show support for the music program? (Name your strongest supporters)

3. Do the actions of the local school board show support for school music? (Name your strongest supporters)

4. Do the actions of the local school administration show support for school music? (Name your strongest supporters)

### *Gauging Public Support*

Your campaign will be directed toward obtaining the goal of a strong music program. The long-term health of your school music program depends in part on the attitude of the public. Does your music program lack public support, or is it facing the erosion of existing support?

Again, "support" can be a difficult thing to pin down. The public may simply not think about the music program until someone brings up the fact that it is in danger.

To begin to understand the breadth of public support that school music commands in your area, determine whether you have the informed and active support of the following groups:

### **PUBLIC SUPPORT CHECKLIST (Answer yes or no)**

1. Do the parents in your community support school music? (Name your strongest supporters)

2. Does the teachers' organization support school music? (Name your strongest supporters)

3. Do local community organizations support school music? (Name your strongest supporters)

4. Does the local business community support school music? (Name your strongest supporters)

5. Do teachers of other subjects support school music? (Name your strongest supporters)

6. Do the school guidance counselors support school music? (Name your strongest supporters)

If you are to make intelligent decisions about what to do, you will have to gather information about the evolving actions of school boards and other decision-makers. This information might include reports about proposed changes in administrative procedures and news about who said what at public meetings. Consider drawing on the following sources:

1. Volunteers such as teachers, parents, and others from a cross section of the music community who will attend and report on the meetings of the entities involved. This strategy not only serves to lessen the time required of any one person, it helps get a large number of people involved in your campaign.

2. Your local PTA or teachers' professional organization. These groups may already send representatives to attend and report on important meetings; ask them if they would be willing to share the information they gather with you.

3. "Insiders" such as sympathetic school board members and supervisors of music.

Source: "Where Does Your Music Program Stand?" - Used by permission of the National Coalition for Music Education

## *Tips for Success*

by the Iowa Alliance for Arts Education

- *Choose to Teach Music*
- *Focusing on the Classroom*
- *The Business of School*
- *Telling the Story*

# *Choose to Teach Music: Questions and Answers*

-  *On Teaching Music*
-  *Music Education Programs*
-  *Music Education Faculty*
-  *Finding A Career In Music*
-  *Are You Ready For The Interview?*

# Questions & Answers

## On Teaching Music

▲ *How do you know if you want to become a music teacher? Some students just know, and some students make that decision later when considering career options. For many students sharing the joy of music becomes their passion. The information that follows will assist you in making an informed choice. Becoming a music teacher can be an extremely rewarding and challenging career. If you love to make music and enjoy working with others, there is no better way to continue that passion than by sharing your sound knowledge with others as a professional music educator.*

### ▲ What Does A Music Teacher Do?

▲ They **teach** classes, **share** their love of music with students and other teachers, **prepare** lesson plans, **develop** curriculum, **assess** and **evaluate** student progress, **share** this information with parents, fellow teachers, and school administrators, **prepare** and **perform** concerts. They develop their course content based on local, state, or national standards. Music teachers work with a wide variety of students with various interests, abilities, and cultural backgrounds. Understanding motivation and discipline techniques is very important. Music teachers must also be "good at the business of school." This means being good at administration, including managing resources—time, money, facilities, equipment, transportation, and people. Music educators must have good problem-solving and "people" skills. **Communication is key.**

### ▲ What Do I Have To Know To Be Able To Teach Music?

▲ Successful music educators must know and be able to do a variety of things. A music educator must: ▲ know **pedagogy** — the techniques of teaching choral, instrumental, and classroom music at all levels - elementary, middle school, and high school; ▲ have reached an accomplished level of **musicianship**. Mastery of your instrument, conducting, sight reading, singing, and studying a score are all examples of musicianship; ▲ have developed effective **time management, organization, communication, and facilitation skills**; ▲ be an **advocate** for music education. This means learning why music is important for all children; how being involved with music contributes to brain development of young children and can enhance student achievement; ▲ have **compassion**. A music educator must be exceedingly sensitive to whatever student need exists at any time. You must like kids! ▲▲▲▲

### ▲ What Are The Differences Between Teaching At The Elementary, Middle School, and High School Levels?

▲ The amount of time music teachers spend in the classroom each week varies from district to district, often depending on state regulations. Each state is different. Additional time is spent preparing lessons, assessing or grading students, meeting with colleagues, working on committees, attending professional development in-services, and other school-based activities.

▲ Some elementary teachers have their own classrooms and some travel from room to room. Elementary teachers may also cover more than one school and travel to different schools different days of the week. Again, classroom time per week varies by district and state.

▲ In middle school, you may have groups of students for several weeks in a row that rotate until all students have had music for a session. Some middle schools have semester or year-long classes. Typically you see these students every day or every other day. You may teach courses such as general music, band, choir, orchestra, guitar, keyboards, electronic and multi-media, music appreciation, music history, and music theory.

▲ At the high school level, music classes last a semester or a year. In schools with a music department and several teachers, you might teach only specific areas. Depending on the traditions and expectations of your school district competition can be an important and integral part of a secondary music program. There may be a variety of student performing groups you will work with in addition to regularly scheduled concerts and performances. Secondary music teachers are often responsible for teaching music theory. And there are also opportunities for community performances.

### ▲ In Addition To Education And Performance Classes What Courses Are Necessary For Teaching Music?

▲ Students who study to become music educators will also take classes in music theory and music history. These courses are seen as helping you to teach, research, and perform on a high level.

### ▲ What Can I Do Now To Help Me Gain Experience Necessary For Teaching?

▲ Any work with students will help you develop skills for the classroom. Teaching private lessons on your primary instrument, volunteering to tutor students, working at a band camp or as part of a summer program, observing teachers, and assisting a teacher are the kinds of things that can help you gain experience and confidence. Does your school have a future teacher club? If not, suggest it. **Demonstrate leadership!**





# Questions & Answers

## Music Education Programs

▲ *How do you know what kind of music education program will best prepare you to become the kind of music teacher you want to be? Music education programs vary in terms of **emphasis and quality** so asking questions when you visit campuses, and reading program descriptions carefully will **help you make the right choice for your professional goals**. Many colleges and universities have course descriptions on the web and provide links to specific program descriptions. Your **high school counselor and your high school music teacher** can also provide you with information. The following questions can help you **make a more informed choice**.*

▲ **Does The Music Education Program Focus On Both Process and Performance?**

▲ The process of making music — preparing the product — is very important. Much of the value to students of music is **experiencing the process** of getting the performance ready. It is in this process students learn and develop critical thinking skills.

▲ **Does The Music Education Program Provide A Variety Of Experiences Observing and Working With Students, Beginning Early In Your Studies?**

▲ In other words, **does the program prepare you to teach music** through coursework and classroom experiences addressing how children, adolescents, and young adults learn and develop in music? Does the program prepare you to develop age-appropriate instruction?

▲ **Does The Music Education Program Provide Theory and Practice In Music Education Methods?**

▲ Knowing what to do in educational theory is good, but real life opportunities to experience the unedited learning environment—the **classroom**—will be critical to your success as an educator. Many music education programs are getting students into the classroom long before the final semester of their senior year. The more experiences, and the more varied the experiences you have prior to going into your own classroom the better prepared you will be for success.



### ▲ Does The Music Education Program Include Opportunities For Students To Observe, Assist, And Work In Environments Which Include Diverse Cultures And Socioeconomic Experiences?

▲ Student teaching, in which you work in a classroom setting under the direction of an experienced music educator and a college supervisor, is the culmination of the necessary training to become a music teacher. This is the time **you put your ideas into practice** and make the transition from college student to music teacher. **Experiences observing and working** with students should occur throughout your program of study, not just during your student teaching. The more opportunities you have to **observe and assist** in music classrooms, the better prepared you will be for teaching. This is only the beginning of your real world experience!

### ▲ Is The Program Accredited Nationally As A Teacher Preparation Program?

▲ Most college and university programs are nationally accredited.

### ▲ What Is The Range Of Certification Options?

▲ Individual states set the criteria for certification, a process that **acknowledges the preparation** you received and your ability to teach young people. In addition to graduation, many states require passing scores on an examination designed to test knowledge in music and music education. **Reciprocal certification agreements** also exist between many states making it possible for teachers who are certified in one state to relocate to another. Many music education programs are designed to prepare music teachers for certification in choral, classroom, and instrumental music K -12.

The Use Of Computers And Other Related Technology  
□ The music education program should also help you gain the skills necessary to use technology in instruction – technology involved with teaching and learning. This could involve such applications as notation, composition, and Internet-based programs. Downloading materials from the Internet, recording audio and video excerpts, and developing multimedia units of instruction, as well as CD ROM and time management applications should be covered. Use of technology in your classroom should be student centered.

### ▲ What Kinds Of Financial Aid and Student Assistance Are Available?

▲ This is a question that is **best answered** by the college or university admission office. Generally, incoming students apply for financial assistance as part of the admissions procedure. Your counselor can give you this type of information. Scholarships are also often offered to **exceptionally qualified incoming** music students. Some programs have specific scholarships awarded on the basis of merit and/or financial need once you have been admitted to the program. Check with your State Arts Council. Some have established scholarship opportunities for students going on to study arts education at a college or university in the state. With the teacher shortage looming large, **many states have established other incentives** for students who are interested in becoming teachers. These are available for any student wishing to become an educator, not just for specific content areas.

### ▲ What Tests If Any Are Necessary To Be Accepted Into The Program and For Student Teaching?

▲ Teacher education programs generally require a specified grade-point average (GPA) for admission to the program. Additionally, most music education programs also establish their own criteria for admittance. Some programs require an audition, pre-professional skills test such as ear training and theory tests, or an essay in addition to having the requisite GPA.

### ▲ Will I Need To Audition To Get Into The Music Education Program?

▲ Most likely yes. The audition will help the faculty evaluate not only your musicianship, but also your communication skills.



# Questions & Answers

## Music Education Faculty

▲ *Deciding on the right college or university music education program should include considering information about the faculty. The following questions can help you determine if the faculty has the training, experience, and commitment to music education essential to training others to be a successful music educator.*

### ▲ Do Members Of The Music Education Faculty Have Degrees In Music Education?

▲ At some institutions, faculty teaching music education courses and supervising music education students have advanced degrees in areas other than music education. Some schools have this information on their web sites while at others an inquiry is all that is needed.

### ▲ Do The Music Education Faculty Have Recent Public School Teaching Experience?

▲ It is recommended that music education faculty have recent experience teaching K-12 students. This hasn't always been the case. Being trained by professionals who have recently worked in classrooms themselves and have experienced the day-to-day challenges and responsibilities of teaching will more thoroughly prepare you for the realities you will encounter.

### ▲ Are The Music Education Faculty Active Members Of Their Professional Organizations?

▲ Many professions require or strongly recommend that one be a member of the professional organization aligned with the profession. Staying professionally involved not only shows commitment to the profession but keeps one up-to-date on the latest information in the field. Attending and participating in regional, state, and national conferences is required in many school districts, providing continual development throughout one's career, including yours. Your membership and costs to attend conferences are often tax deductible.

### ▲ Is The Faculty Knowledgeable About The National Standards For Music and The National Board For Professional Teaching Standards?

▲ The National Standards for Music specify what students K-12 need to know and be able to do in music. Most states have adopted these or similar standards at the state or local level to ensure high quality music education for all students. The National Board for Professional Teaching Standards (NBPTS) has established a process for educators to gain national teaching certification.



# Questions & Answers

## Finding A Career In Music

▲ *As you complete your college or university program you will start preparations for finding a job. As you go through your training, you should develop a teaching portfolio that can be used for interviews, refine your teaching philosophy statement, and document your activities for a resume or professional vita.*

### Your Success In The Marketplace

#### ▲ Is It Easy To Find A Teaching Job?

Over two million teachers will be needed throughout the United States over the next ten years. There will be jobs available. Some recent graduates substitute in different schools first to find out how they like the area and the school district. Other graduates are offered jobs based on their performance during student teaching. Principals often contact college and university music education programs when they have jobs available. There are many web sites listing job openings. If you plan to teach in a state other than the one where you attend college, you may want to contact that State Department of Education for specific requirements. Some states grant temporary licensure and give you time to finish any specific state requirements you need. Many states have what is called reciprocity. This means if you are trained in one state, you can still teach in another. Due to the shortage of teachers many states are offering added incentives or compensation.

#### ▲ Will I Have To Give Up Performing To Teach Music?

**No!** There are many opportunities throughout communities of all sizes to continue to play or sing — to perform. Performing is an essential tool of any good music educator.

#### ▲ What Do School Administrators Look For When They Are Hiring A Music Educator?

Most administrators are looking for teachers who: ▲ have a thorough understanding of the content of music; ▲ make informed decisions about the instructional content for students; ▲ have a comprehensive understanding of student characteristics, abilities at different ages, and learning styles; ▲ have the ability to reflect on the goals and purpose of quality sequential music education, and to develop curriculum that aligns with the values of the local community; ▲ have the ability to work as part of a team of building and district colleagues; ▲ have a working knowledge of instructional uses for technology in the classroom; ▲ conduct meaningful and appropriate assessments of student learning and self-assessments of the music program; ▲ are professionally active, contribute to the growth of the profession, and continually reflect on their own practices.



### ▲ How Much Do Music Teachers Make?

Salaries for teachers vary widely depending on locations and the cost of living in those areas. Salaries also depend on your **continued professional development**. Typically within a certain number of years, you will want to complete additional hours of graduate coursework to maintain your license and complete a master's degree. Many states award **substantial additional salary to accomplished teachers** who pass the NBPTS (National Board for Professional Teaching Standards).

### ▲ What Is Meant By Teacher Certification?

Certification means **you have completed the specified requirements** of a degree granting institution, met the specified requirements of a state to teach music, and successfully completed the state's certification process. If you teach in a different state from the one in which you were trained, you may receive a temporary license until that specific state's certification requirements are met. **Licenses need to be renewed periodically.** ▲ **Each state's licensing procedures are different** so you will want to contact the State Department of Education in all of the states in which you plan to apply for a teaching position. A college degree and passing scores on certain tests may be required in order for you to receive information.

### ▲ What About A Portfolio?

More states are beginning to require a portfolio for teacher job applicants. The specifics vary, but typically they can include such things as: ▲ **a teaching philosophy**; ▲ **sample lesson plans you have developed** that reflect appropriate learning outcomes including **strategies designed to promote critical thinking and assessment techniques**; ▲ **evidence of professional activities** and related self improvement; ▲ **strategies for working with a variety of diverse types** of students with different learning styles; ▲ **evidence of good communication skills**, including written skills.

### ▲ Are There Alternatives To Teaching In The Public Schools?

▲ **Where else can I teach** with a music education degree? ▲ **Besides public schools**, there are parochial schools, other private schools and music institution programs, such as symphony schools or outreach programs. You may wish to teach privately.

### ▲ What If I Want To Teach At The College or University Level?

**To teach at the college or university level** a graduate degree such as the masters and the doctorate in your area are generally required. Many colleges and universities also require recent public K-12 teaching experience before you can apply to their master's and/or doctoral programs.

#### Music Education Web Sites

- ❑ The American Music Education Initiative  
[www.usamusic.org](http://www.usamusic.org)
- ❑ ArtsEdge  
[www.artsedge.kennedy-center.org](http://www.artsedge.kennedy-center.org)
- ❑ Arts Education Partnership  
[www.aep-arts.org](http://www.aep-arts.org)
- ❑ Awesome Library  
[www.awesomelibrary.org](http://www.awesomelibrary.org)
- ❑ British Journal of Music Education  
[www.uk.cambridge.org](http://www.uk.cambridge.org)
- ❑ CARTS: Cultural Arts Resources for Teachers and Students  
[www.carts.org](http://www.carts.org)
- ❑ Education Index: Music Resources  
[www.educationindex.com/music](http://www.educationindex.com/music)
- ❑ Kidzone  
[www.newyorkphilharmonic.org](http://www.newyorkphilharmonic.org)
- ❑ National Association for Music Education  
[www.menc.org](http://www.menc.org)
- ❑ Music Technology Learning Center  
[www.mtlc.net](http://www.mtlc.net)
- ❑ Iowa Alliance for Arts Education  
[www.smartz.org](http://www.smartz.org)



# Interview Guide

## Are You Ready For The Interview?

▲ *The following are some sample questions for you to consider as you start your search to find the perfect fit of your experience and background with a district's music education program.*

### ▲ Candidate's Knowledge of Subject and Teaching.

- ▲ What are the **most important** characteristics of an effective school?
- ▲ How do you **go about planning** a class or rehearsal?
- ▲ How would you **begin a typical** lesson or rehearsal?
- ▲ Which **style of lesson plans** do you use? What components would you include in a lesson plan?
- ▲ What type of **assessment** would you use?
- ▲ What do you read to **stay current** in your field?
- ▲ What **issues** do you see impacting music education today?
- ▲ What is your **commitment** to music education? Are you an active member of the collegiate MENC chapter?
- ▲ If you could **start you own** music education over, what would you change?

### ▲ Awareness of Students.

- ▲ How do you **describe today's** students?
- ▲ How would you **describe the unique** characteristics or needs of high school, middle school, or elementary school students?
- ▲ What **problems might** a student have at this age?
- ▲ How would you **motivate** a student who is not learning?
- ▲ How would you **promote** acceptance, tolerance, and diversity in your classroom?

### ▲ Communication with Parents.

- ▲ When and how **would you communicate** with parents?
- ▲ Please share **examples of positive** communications with parents that enabled you to help a student.
- ▲ Would you be **open to using** parent volunteers?
- ▲ How do you **plan to involve** the community in the school and the school in the community?

### ▲ Classroom Management.

- ▲ What do you feel is **the key** to motivation? What is the key to discipline?
- ▲ With which classroom management writers or theorists **are you familiar**? What do you think of Lee Canter's approach to discipline?
- ▲ How would you **implement** a classroom management plan? What would it look like?
- ▲ How **do you manage** classroom materials, instrument inventory, and the music library? *Note: An administrator may also ask you how you would deal with a specific discipline situation such as insubordination, property destruction, or good conduct violations.*

### ▲ Technology and Computer Requirements of New Hires.

- ▲ Tell us about your **knowledge** of computer applications.
- ▲ How **do you use technology** in program management? How do you use music technology as



part of classroom instruction?

- ▲ How **do you plan** to have students use the computer in the classroom?
- ▲ How **have you used** MiDi or other digital technologies in your classroom instruction?
- ▲ Share three ways to use the Internet **as a component** in your program.

### ▲ Additional Questions.

- ▲ Who are you really? **Tell us about yourself.**
- ▲ What is your **educational training and career experience.** In particular, what was it that interested **you in teaching?** Why did you choose music education **as a career?**
- ▲ What is **unique** about your experience or approach to teaching?
- ▲ Why do you **want to teach here**, in this school, in this community, in this district, at this time?
- ▲ Why should we **hire you?** What can you **do for us?**
- ▲ What is your **idea** of an exemplary teacher, and **what do you need to do** to get there?
- ▲ What exactly do you feel we can **do for you?**
- ▲ Describe your **ideal job.** What type of boss do you like?
- ▲ What are your **strengths and weaknesses?**
- ▲ Please **describe an effective** classroom learning environment. How do you create that model?
- ▲ What are your **most significant accomplishments?** What about a time you failed?
- ▲ What courses in college **did you enjoy most?** Why?
- ▲ What **leadership positions** have you held? What did you learn from them?
- ▲ What are your **professional goals** in five years? Ten years?
- ▲ What **attributes** would you find most helpful in a mentor?
- ▲ What techniques **do you use** to combat stress?
- ▲ What are your **interests outside** of music?

### ▲ Questions For You To Ask.

You are trying to determine if the district has a thorough job interview process that says “music is important to us. We want only the best teachers!”

- ▲ Does the district **have a sequential** K-12 music education

curriculum? How is it **coordinated?** Who is **responsible** for program coordination? Who will be my direct supervisor(s)?

- ▲ Does the district **have a sequential** K-12 arts education curriculum? How is it **coordinated?** Who is **responsible** for program coordination?
- ▲ Is there a **budget allocation** for music or are funds allocated on a building by building, principal by principal basis? **What is the budget process?**
- ▲ What is the district’s music-arts **education advocacy plan?** Does the district have a music-arts education advocacy parent-community **support group?** What do they typically see as their role? How is the school officially **associated** with this group?
- ▲ What is the district’s music-arts **reputation?** (Will you be building from nothing or taking on a well established program?)
- ▲ **How many** music educators are in the district? In your building(s) specifically? What are their teaching **responsibilities?** If you are a “solo” program what mechanisms are in place to **support you work**, especially with other colleagues?
- ▲ Will I be **assigned a mentor** within the district? If not, will it be possible to be mentored by a peer music teacher in a neighboring district?
- ▲ Is the music teacher **part of a teaching/learning team?** If so, what role do you see me playing on that team?
- ▲ What **professional development** opportunities are available? What are the professional development **expectations** of the district?
- ▲ What are the district’s **expectations** of my commitment to the co-curricular program?
- ▲ What are the **specifics** of the district’s salary and benefits package?
- ▲ What is the **criteria** against which I will be evaluated? Who will be doing the **evaluation?**

**Ask to see the standards and benchmarks** that have been written for the music program, have time to look them over, ask questions as to how they were arrived at, and to discuss how the curriculum is set up to get students to those goals.

**Prepare for your interview** as you would for any performance—**practice!** Look upon your interviewing skills as seriously you would your music. Videotaping a mock interview can be very enlightening and helpful. Your appearance and presentation must be professional. **You only have one opportunity** to make that first impression.



# *TIPPS for Success: Focusing on the Classroom*



*A Checklist For Teachers*



*Music Content Standards*



*Know the Territory*



*Recruiting and Retaining Students*



# Focusing on the Classroom

## A Checklist For Teachers

● *What does a music teacher do? They teach classes, share their love of music with students, prepare lesson plans, develop curriculum, assess and evaluate student progress, share this information with parents, fellow teachers, and school administrators.*

*The following are some helpful ideas to being the best you can be, bringing out the best in your students' learning experience.*

### Noteworthy Concepts To Keep In Mind As You Start Your Career.

- **Be genuine.** The students can spot a phony.
- **Be enthusiastic.** This will solve a lot of discipline problems. Students will enjoy your class and be on task if they enjoy what they are doing.

You need to get the students on your side. If they see that you are sold on your product—arts education— this is infectious.
- **Keep things moving!**
- **Be fair to all students.** Be very careful that you do not have “favorites.” This takes a lot of energy because you naturally like some students better than others.
- **Take an interest in what the students are doing outside of your classroom.** The students will respond to you even more if they know you are genuinely interested in them.
- **Be professional in your teaching.** Value the time of your students, parents, colleagues and administrators. Keep lessons regular and changes or cancellations at a minimum.
- **Communicate clearly.** State procedures and expectations in writing, and share them with students, parents, and staff. Follow up individual concerns with a phone call.
- **Praise in public, discipline in private.** Don't get yourself in a “no win” situation with a student in front of the class. Students will do anything to save face in front of their peers.
- **Ask for help when trouble surfaces.** Do not be afraid to admit that things are not going perfectly. They never will!
- **Discuss problems with those who can help to resolve them.** Be a good listener if you can help solve someone else's problem.
- **Communicate with other new teachers.** You will discover that you all are experiencing similar problems.
- **Develop a support network.** Colleagues of all ages and experiences, former teachers, and professional organizations—the profession is filled with individuals who are eager to share time to help you succeed.



- **Develop your own teaching style.** Use what works best for you. Work with your personality, not against it.
- **Build students' confidence.** But remember you can't let bad habits go unaddressed.
- **Be consistent, yet flexible.** Do not vary expectations and format greatly but remember, each child is different.
- **Don't take any nonsense.**
- **Use interesting teaching and performing materials.** Stay out of ruts.
- **Be organized.** Teaching is difficult enough when you are prepared for everything. Don't make it harder that it already is by being unprepared.

Write down all contest and festival deadlines on a calendar. Make sure you meet deadlines early. Many entries are by postmark deadline. You can't always be sure the mail is postmarked the day you mail it.

Always be on the lookout for new music. Visit local music stores, attend conferences, conventions and concerts in your search for new music.

Select music for the students that they will enjoy. As the students become more informed consumers of music, they will value a wider variety of music.

Order extra scores for solos or parts in advance for later concerts and festivals. Publishers get thousands of requests at the same time of the year.

Keep an accurate inventory of all instruments and uniforms. This is necessary for insurance purposes, and will help you design a replacement plan.

Review mailings that come from manufacturers and publishers. These are designed to help you be successful.

Don't be afraid to promote your program, but do not do it at the expense of anyone else. You should not start an "us-against-them" attitude.

- **Stay informed.** Join your state and national professional organization, and an arts education advocacy group. Knowing what is happening on a

state and the national level will enable you to improve your local environment for arts education.

- **Stay current.** Professional development is critical to your success. Visit outstanding programs. Incorporate successful techniques you observe in your teaching. Share what you learn with your colleagues.
- **Enjoy yourself.** Don't take yourself too seriously. Humor is an important teaching tool.
- **Do your best. Nothing more can be asked.**

**MOST IMPORTANTLY, make sure the students know you care.** Students will not care what you know until they know that you care. As a wise student teaching supervisor once said, "You've got to love the kids."



# Focusing on the Classroom

## Music Content Standards

● *The National Standards for Arts Education constitute one of the **biggest educational reform efforts** ever undertaken in America. The standards focus on where the action is—at the local level, the grass roots. The National Standards aren't prescriptive because **community control of local schools is a guiding principle** in American education. But community control also means community responsibility. The arts standards do set important targets for a student's **academic knowledge and achievement** in music, dance, theatre, and visual arts, as measured at the end of grades 4, 8, and 12. They give us and our communities the benchmarks we need to fulfill our responsibility to our kids.*

### What Are the Music Content Standards

- **Singing, alone and with others**, a varied repertoire of music
- **Performing on instruments, alone and with others**, a varied repertoire of music
- **Improvising** melodies, variations, and accompaniments
- **Composing and arranging music** within specified guidelines
- **Reading and notating music**
- **Listening to, analyzing, and describing music**
- **Evaluating music and music performances**
- **Understanding relationships** between music, the other arts, and disciplines outside the arts
- **Understanding music in relation to history and culture**

### Implementing Standards

*Excerpted from a presentation given by Paul R. Lehman, for the Iowa Alliance for Arts Education*

● **"National, voluntary standards have been developed for music, visual arts, theater, and dance.** Nearly every school in the nation offers instruction in music and the visual arts. Programs in theater and dance tend to be less widespread and less fully developed. Although we seek full implementation

of the standards in all four disciplines, we recognize that differential schedules for implementation in the four disciplines may be necessary. If you support arts education you are urged to do these things:

- **Get to know the other arts educators in the schools in your community.** Find out if there is a balanced, comprehensive, and sequential program in



each of the arts offered in the schools.

- **Encourage the arts educators** in the schools of your community to adapt their programs to reflect the national standards.
- **Get to know** the principals, superintendent, and other school officials in your community. Make them aware of your support for strong arts programs.
- **Explain to everyone** who plays a role in education decision-making why the arts should be a part of the curriculum for every American child. Emphasize that both the *Goals 2000: Educate America Act* and *Prisoners of Time*, the report of the National Education Commission on Time and Learning, include the arts among the basics of the curriculum.
- **As standards in the various disciplines are released** and considered for adoption, point out to education decision-makers that we now have national standards for arts education as well. Lobby for the adoption of the national standards for arts education at the state and local levels, and push as hard as possible for implementation.
- **When the arts standards cannot be fully implemented** immediately, encourage the development of an incremental plan for implementing the standards in each of the arts as completely and as rapidly as possible.
- **Whenever a newspaper columnist** or editorial writer suggests that the arts are not a high priority or that we can get along without arts programs in our schools, write a well-reasoned but firm letter opposing that viewpoint. Let no negative opinion pass unchallenged, regardless of where you live.
- **Encourage business leaders** to support arts programs in the schools. Apart from the value of the arts for their own sake to all Americans, major corporations recognize the importance of education in the arts for their employees and research shows that the economic impact of the arts at the state and local levels is enormous.
- **Lobby for the appointment** of a supervisor or coordinator in each of

the arts if these positions do not already exist in your school district. The positions are necessary to provide leadership for each program and to ensure coordination, articulation, and balance in the curriculum.

- **Do not be satisfied with a program** in the elementary schools in which the arts, especially music and the visual arts, are taught entirely by classroom teachers without the help of specialists. Very few classroom teachers can do an acceptable job alone. If classroom teachers are expected to play a major role, seek to ensure that the ability to teach at least two of the arts is a condition of employment.
- **Do not be satisfied with a program** that relies excessively on artists-in-residence or other enrichment activities. Exposure and enrichment are invaluable as supplements but are not a substitute for a balanced, comprehensive, and sequential program in each of the arts in the curriculum. Make sure parents and administration are aware of the differences.
- **Use your influence to ensure** that the state improvement plan being developed in your state guarantees a place for the arts.
- **Encourage others to support the arts** in the schools. If your friends and co-workers will recruit their friends on behalf of the arts, and they will recruit theirs, the number of supporters of arts education will eventually become overwhelming.
- **Help to organize in-service education** opportunities to help educators who may not be comfortable with some of the expectations of the standards.

- **Help to make education decision-makers** and the public aware of what students are learning in the arts programs in your community. After a band parents' open house, one parent said, "I didn't know the kids actually learned things in band. I thought they just played." The same comment is often made about the visual arts, theater, and dance. Don't let that happen in your community.
- **Work with the professional arts education associations** to monitor continuously everything that goes on in your state capitol with respect to education reform to ensure that the arts are treated fairly."

**Arts Education Assessment**  
In September of 1992 the Council of Chief State School Officers (CCSSO) convened a consortium of states interested in developing large-scale, state-level assessments in arts education. The State Collaborative on Assessments and Student Standards (SCASS) Arts Education Project developed and refined arts education assessment instruments (classroom, large-scale and portfolio) that address the voluntary National Standards for Arts Education. The consortium conducted a professional development survey in 15 member states and field tested the assessment exercise sets with 3,400 students in...76 schools.



# Focusing on the Classroom

## Know the Territory

### What You Should Know About The Music Programs In Your Area

Survey directors in surrounding school districts, and districts yours is compared with, to obtain the following information. The information will be helpful as you work to build your program's resources. Photocopy this sheet so you have a record of what each district's program "looks" like.

**District Surveyed:**

**Date:**

#### District Level

- Y/N Has a music coordinator
- Y/N Has written music curriculum
- Y/N Funds music program through district budget
- Y/N Updates books and equipment regularly
- Y/N Provides equal access for all students to music program

#### Elementary Level

- Y/N Has music certified instructor
- Y/N Offers band and orchestra programs
- Y/N Provides 100 minutes of music instruction weekly
- Y/N Teaches varied music types through varied activities
- Y/N Students create music

#### Middle/Junior High Level

- Y/N Offers band, orchestra, and choral programs
- Y/N Provides six or more periods in the school day
- Y/N Teaches varied music styles

#### High School Level

- Y/N Requires fine arts credit for graduation
- Y/N Offers band, orchestra, and choral programs during regular school day
- Y/N Offers credit for band, orchestra, and choral classes
- Y/N Includes the band, orchestra, and choral grades in students' overall GPA
- Y/N Offers non-performance music courses for credit during regular school day

*Adapted From MENC Teacher's Guide for Advocacy*



## Focus on the Classroom

### Recruiting and Retaining Students

● *Quality in a music program is dependent on a high rate of returning students and a reliable feeder network. With many courses competing for the same students, recruiting enough students to keep bands, orchestras, and choirs healthy is essential. It is the educators responsibility sell students and their parents on the value of signing up for an instrumental, or choral experience.*

#### Taking Action through Postive Experiences

● **Among the reasons offered by parents and youngsters for NOT participating in music** are a failure to be told about the nature and benefits of band, orchestra, and choir membership, lack of information about costs and available instrument rental plans, and concern over the amount of time that must be devoted to music.

● **Music educators are challenged to provide a program that can successfully compete with the many demands on student time both in and out of school.** Additionally, many administrators and school boards base their budget decisions on student numbers. A static or declining enrollment may doom music departments to static or declining budgets, staff reductions, and reduced course offerings. Recruiting and retaining as many students as possible is vital. Without recruiting, public school music could disappear. You play the crucial role in this ongoing process.

#### First Performance, ASAP

We can all remember the excitement of our first performance: the dress requirement; being the center of attention, but still with the group security;

the applause of the audience — these are all memories that last a lifetime. With beginners, you will never have a more enthusiastic group of performers and audience than these students and their parents and an initial concert early in their development can ensure a strong program.

● **The objectives of First Performances are fourfold:** to reduce your beginner drop out rate; to provide short term incentive goals; to encourage communications with parents; and to further strengthen administration support of your program. The first concert should be presented between the second and third month of the school year. On the first night of the rental program, announce the date. The concert should be approximately 20 minutes and informal.

● **The best “First Performances”** have parents actively participate. This is a time to help parents understand good practice habits such as practicing with a good chair and music stand; encourage regular practice with practice sheets; instrument maintenance and care; breathing and bowing techniques; demonstration of the first five notes. ● ● ● ●

● **To help organize the First Performance Concert**, an action kit is available from the Music Achievement Council. The kit contains all of the concert support materials you will need, including:

- **A sample letter** to parents
- **A sample letter** to administrators
- **A poster** to announce the performance
- **A program blank**
- **A complete 20 minute concert** which includes parts for all instruments (uses only 5 notes — concert Bb to F in whole, half & quarter notes & rests)

All you need to supply is:

- **Someone to serve** as an announcer
- **Programs to be handed out** as souvenir copies
- **Light refreshments** are optional

### District-wide Concerts

Most successful band, orchestra, and choir programs use a district-wide concert as a promotional activity to give their students, parents, administration, and community an enjoyable overview of the music program. The objectives of this “musical snapshot” are to:

- **Showcase student achievement**
- **Create interest** in music
- **Increase communications** with parents, administration, and the community
- **Strengthen** administrative support
- **Improve recruiting** and retention rates

This all-district concert is a great public relations tool because it displays the sequence of instruction, from elementary through high school, to the community. In ninety minutes, students and parents see firsthand how far they've come and where they are going. To help organize this all-district concert a Parade of Bands action kit is available from the Music Achievement Council.

- **To order your First Performance Concert Action Kit, and Parade of Band Action Kit** contact your local school music dealer.

### Informances

Every performance should have an informance component. While you are exciting youngsters about music, you are informing the parents as to the value of music. Written materials that talk about the value of music in improving student achievement and self-esteem should be shared with the audience. This can take the form of short statements or quotes, or full-page program inserts detailing the latest findings of reliable research. The selection introduced through the informance can be showcased at a future concert, thus giving insight into the “before” and “after” music education process. Consider including a rehearsal and/or sight reading as a part of your concert so the audience can gain a better understanding of the ensemble development process.

### Getting Them Into The Program

Fifth grade is typically the year during which students have their first opportunity to participate in public school instrumental programs. Creating a desire to participate in the programs begins with third and fourth grade students. To enhance the recruiting process instrumental teachers need to work in partnership with general music teachers and classroom teachers. Work with students with recorders; invite students to concerts; perform concerts at the elementary school; provide demonstrations for students in the lower grades.

### Keeping Them In The Program

It is important to recruit effectively, but it is even more important to keep students in the music program. The Gemeinhardt Report identifies the number one reason students leave a music program is the fear of failure. Recruiting assemblies, joint concerts, parent meetings, and activities to increase retention during the elementary-middle school and middle school-high school transitions are some of the ways to boost enrollment. Remember, “you can't push a rope. You can only pull it.” The best way to guarantee students will remain committed is to provide inspirational leadership in an exciting musical experience.



# *Tips for Success: The Business of School*



*Working with Administrators*



*Choosing A Music Dealer*



*Fiscal Procedures*



*Preparing An Instrument Replacement Plan*



*Maximizing Fiscal Opportunities*



*Additional Resources For Music Programs*



# The Business of School

## Working with Administrators

● *Instrumental teachers have a keen interest in professional development—studying conducting, instructional techniques, ensemble development, and literature. Despite this commitment to professional growth the thrill of having an outstanding ensemble eludes many directors. Some directors are so busy making music that they fail to tend to the essentials needed to develop an outstanding music program.*

### Music Administration

- **Music administration is a craft in which there is rarely only one right solution to a problem.** To develop a strategy that maximizes your efforts it is important to work within the system to obtain the staff, equipment, and help you need.
- **The relationship you establish with the school principal will help or hinder every aspect of your program.** Their decisions on staffing, scheduling, building procedures, and budgets set the priorities for the entire building. It is essential to understand what is important to individual administrators. Listen carefully!
- **Develop a supportive relationship** with the school custodians, bus drivers, cafeteria staff, maintenance personnel and tech support staff.
- **Just as teachers set goals for students,** it is important to discuss the expectations the principal has for the music program. These include discipline procedures, scheduling, budgets, relationships with parents, and the number of ensemble performances.
- **Each principal is guided by district goals.** Learn what these are and discuss how music fits into these district-wide goals.
- **Discuss what criteria the administration will use to evaluate the music department.** The best objectives are specific, measurable, and musically understood. Remember, it is important for administrators to observe rehearsals. This is when you are at your best, managing a large groups of students in a complex activity. The process of teaching music is the exciting part of the job. Be sure to get credit for it.
- **It is equally important to let administrators know what is important to you, students, and parents.** These expectations may include concert attendance, community service obligations, budgeting help, participation in awards ceremonies, letters to parents, and scheduling. Actively consult administrators when developing ensemble policies, not after passing them out to students.



- **An administrator's scarcest resource is time.** Value that time by being organized when you meet. Whenever possible, bring solutions or suggestions, not just problems, to meetings. Be proactive—suggest opportunities that benefit the students and the school.
- **When making a proposal, include all the relevant information.** In most cases you will end up with what you negotiate.
- **Never miss an opportunity to improve how the students and the music program are perceived by others in the building and community.** Advocate for high standards and develop a reputation as a team player in your educational community. Keep the interest of students first.
- **Always follow through on commitments.**
- **Solve problems before they occur.**
- **Avoid the divide-and-conquer approach.**
- **Never point to another program except to recognize excellence.**
- **Above all, make time to visit with colleagues.**

#### A Short Checklist For Building Valuable Relationships

- Show interest in the activities of others.
- Include the principal and other faculty members as special guest soloists or narrators on concerts.
- Help your principal prepare congratulatory letters to students selected for special honors. Everyone enjoys participating in a winning activity.
- If the band missed a day of school to attend a competition, thank the faculty for their support and accommodation.
- Keep faculty informed of department activities and concerts.
- Send every member of the faculty a copy of the music department calendar.
- Organize the music students, regardless of age, to send personal concert invitations to the administration, faculty, and school board.
- Sign up to chaperone a dance, cover a math or science class, attend a basketball game, and serve on committees.
- Share success!



# The Business of School

## Choosing A Music Dealer

● *Instrumental music directors and parents should know that one of the strongest supporters of school music programs has been and continues to be the local full-service, school-oriented music dealer. Direct mail retailers trade on price and do not offer community service or the in-depth concern for the local school programs.*

*A working “partnership” with a full service dealer can benefit your program and save time in a variety of ways. Numerous services are not offered by the out-of-state telephone or Internet retailer, but are almost always offered by the local dealer.*

### You Should Expect:

- **The music dealer** to have an established reputation of honest, fair, and successful dealings with the school music programs. This reputation will have been established by the services and support previously provided to the school.
- **The dealer representatives** to understand the needs of the your students and your music program.
- **The dealer representatives**, in dealing with the faculty, administration, students, and parents to conduct themselves in a professional manner.
- **Regular personal service calls**, scheduled on a regular basis by their professional educational representatives.
- **A complete in-house repair shop** with highly trained technicians to care for all student and school-owned instruments including double reeds. All work should be fully guaranteed, and completed with minimum interruption to your program.
- **Competitive prices** for school bids.
- **Lease programs** for new instrument purchases.
- **Specially priced** folders, activity calendars, and instrument name tags.
- **A comprehensive student recruiting program** supported by the dealer personnel, in cooperation with the school staff and administration.



## The Music Dealer Should:

- Be an **authorized selling agent** for a wide variety of instrument brands.
- **Provide loaner instruments** for repair needs.
- **Make available a broad selection** of method books, and ensemble and solo literature.
- **Provide advocacy materials** and educational research reports for your use.

## And Remember...

- **Your local dealer maintains a substantial inventory** of instruments, accessories, and printed music in anticipation of your classroom, school band and orchestra needs. And when you need services on instruments and equipment found in your band and orchestra rooms your local school music dealer is there for you.
- Local dealers are often former band directors who **understand the school music program** and are committed to serving the needs and total health of your music program.
- These services are provided to help you be a successful music educator. **Support those who support you!**

### A Sound Recruiting Program:

- Written music aptitude tests given to all eligible classes to appraise natural ability.
- Provide and show a music motivation and recruiting film.
- Pre-test all interested students to assure physical capability on the instrument of their choice and/or help guide them in making their choice.

### Your Music Dealer Can Help!

- Provide—free of charge—high quality instruments for the purposes of testing the students.
- Provide band recruiting posters for in-school use.
- Convenient in-school availability of rental instruments, books, and music stands.
- Trained music personnel to talk with parents and to give guidance if requested.
- Pre-checking each instrument that is rented or leased to ensure it is in top playing condition.
- Equip each instrument that is rented or leased with the necessary accessories for the beginner to get started, such as reeds, cork grease, oils and swabs.



# The Business of School

## Fiscal Procedures

● *Each school district has **specific procedures** directors are to follow in order to conduct business. The best time to **check on these procedures** is during your job interview. **Review these procedures** with your administration once you have started your new job.*

***Know what your administrators expect and follow their directions to **minimize errors** that can cost your district time and money as well as a delayed payment to your vendor.***

### Working With Your Business Office

- **Recognize the importance** of the functions performed by your district's business office: the recording and reporting of the financial information of the school district in accordance with district policies and procedures and state and federal laws and regulations.
- 1. **Know the law regarding purchasing for public entities such as a school district.**
  - In some locales, **purchases of items in excess** of a certain amount are required to be bid. **Bidding** usually requires additional time—drawing up specifications that are best suited to your program's needs, to request, receive, tabulate, and award bids.
  - Find out **how many bids** must be received.
  - **Be specific** with the item descriptions given to the companies from which you are requesting bids. Mention brands, models, delivery time, etc.
  - **Confirm** the company is a franchised dealer for the items you need.
  - **Reconfirm** the company can and will provide service after the purchase if warranty work is needed.
  - Keep in mind that school bids are usually done with a **minimal profit margin**. Most music dealers prepare school bids as a **service to their customers**. Paying less for an item only to have service problems later is probably not worth the savings gained. Cheaper is not always less expensive.
  - **Consider keeping your business locally** to assure instruments are properly serviced and maintained in a timely and cost-effective manner. Remember, purchasing locally means the money and taxes stay in the local economy, and there are no shipping costs.
  - **Leasing may be another option to extend the buying power** of a district in the short term by expanding the number of instruments, and extending the payment for those instruments over a number of years.
  - **Budgets may not be overspent.**



2. Each district has specific policies and timeframe regarding issuing requisitions and paying invoices.

Learn how bills get paid in your district.

- Generally, a requisition is submitted to your principal, district coordinator, or the superintendent. After receiving administrative approval a purchase order is issued. The vendor will submit an invoice to you which you will submit in turn to the school secretary or the secretary of the school board. Once the invoice is submitted, approval for payment will be put on the school board agenda as an action item. Some boards handle approvals at each board meeting, some only once a month. Ask how your district works. After the school board has authorized payment the school district will pay the vendor. Knowing the process, and handling purchases in a professional and timely manner will assure a good relationship with your vendors.

- Make sure you have the correct coding and approvals on requisitions.

- Follow your district's established procedures when collecting revenues and expending funds. Any time money is being handled you can't take enough care. It is always best to keep your involvement with the handling of money at an absolute minimum. Utilize the school staff to facilitate the collection of funds as much as possible. Consider establishing a resale account for incidentals that are needed by students on an on-going basis.

- Reimbursement for meals and other professional expenses generally may not exceed a specific dollar amount. For some districts this is a specific amount per meal, for others it is a per diem. Reimbursements must be pre-approved.

3. Don't try to skirt the rules and regulations.

- Don't wait until the last minute.

- Don't submit partially completed documents and then expect the business office to complete them.

## Student Resale Accounts

Student resale items can include reeds, oils, straps, music books, etc. You will **have to provide** of some of these items if your community doesn't have a local music store.

All too often, teachers run resale accounts in the red. This need not happen. Don't forget to charge a student for an item they may need at the last minute.

One successful way to run a resale account is to use a **punch card system**. At the beginning of school, students purchase a punch card and they use the card to purchase the resale items. Try to **avoid handling money directly**. If your school has a school store inquire if they will handle the resale items.

Purchasing your resale items from the music representative calling on your school is convenient.

## In An Emergency

If you need something right away, the **good working relationship** you have developed with your school music representative can be helpful. He or she will most likely try to assist you.

### Sample Purchasing Steps

- ❑ Fill out a requisition for requested purchases.
- ❑ Your principal, business office, or superintendent act upon this request.
- ❑ If approved, a purchase order with a specific number will be issued and sent to the specific store or vendor, or given to you to initiate the purchase.
- ❑ Merchandise is delivered. The purchase order number should appear on the store or vendor invoice.
- ❑ Process the invoice by first checking what was received is what was ordered on your original purchase order. Then immediately forward the invoice to the school business office for payment,
- ❑ Payment to the store or vendor may take 2 to 4 weeks.



# The Business of School

## Preparing An Instrument Replacement Plan

● *Consider yourself lucky if you walk into a new job as a director and find adequate equipment in good shape. You were chosen to direct music education in this school. Most superintendents and school boards do not know the importance of **balanced instrumentation**. It is up to you to draw up a clear, simple picture of the organization you want to build for your students, and the approximate cost. Most school boards are composed of people who want **programs built and organized on a sound foundation**.*

### 4 Steps To Preparing A Proposal For Your Principal, Superintendent, and Board of Education For Equipment Purchases or Lease

● **Step 1** Begin by evaluating all of your instruments for **condition and value**. Using the *Inventory Record sheet (Exhibit 1)*, prepare a list of school-owned equipment. List the instruments' make, condition, approximate age, repairs needed, estimate its new cost and its present value. If it should be replaced, this value is the trade-in value on new equipment. Don't be discouraged by all this. Your school music dealer representative can help.

● **Step 2** From the *Inventory Record* that you have prepared, **make a list of the instruments that should be replaced within the next five years**. Also, add instruments

the personnel will require in future years. Keep in mind the probable growth of your department in estimating cost of repairs, music supplies and equipment. Use the attached sheet showing suggested instrumentation of various sizes of bands to help choose the proper instruments to buy (*Exhibit 2*).

● **Step 3** Write up a **complete five year plan in a clear, concise manner**. The first sheet should be an explanation. Do this in your own words. Present this to your music coordinator, or principal. You may be asked to present the plan to the superintendent, or to the school board. Have a copy for each member of the board. Refer to the sample *Explanation Sheet (Exhibit 3)* and make changes to fit your five year plan (*Exhibits 4 and 5*).

**Step 4** On the included *Depreciation Chart (Exhibit 6)* add all new instruments to be purchased in the future. Each year enter the amount of depreciation. Refer to the *Expected Life and Depreciation Estimates for Band Instruments (Exhibit 7)* to determine the expected life of the instrument. Depreciation for each instrument will be figured using the *Expected Life Chart*, taking the percentage from the depreciation chart times the remaining value of that instrument and subtracting that from the current cost of the instrument.

Exhibit 1  
Inventory Record Template Guide

Instrument	Inventory Number	Make	Serial Number	New Value	Date Purchased	Present Value	Present Condition	Remaining Life

Exhibit 2  
Typical Instrumentation For Bands of Various Sizes

Instrument	Size of Band				
	35-40	40-50	50-60	60-75	75-90
Flute	4 (d)	6 (d)	7 (d)	10 (d)	12 (d)
Oboe	1	1	2	2 (e)	3 (e)
Bassoon	1	1	2	2	2
Bb Clarinet	8	10	12	16	20
Alto Clarinet	0	1	1	1	1
Bass Clarinet	1	1	2	2	2
Contra Bass Clarinet				1	1
Alto Saxophone	3	5	6	8	9
Tenor Saxophone	1	1	1	2	2
Baritone Saxophone	1	1	1	1	1
Bass Saxophone					
Cornet-Trumpet	6	8	8	8	10
French Horn	4	4	4	5	6
Trombone	3	4	4	6	7
Bass Trombone			1	1	1
Baritone Horn (Euphonium)	2	2	3	3	4
Sousaphone					
Tuba	2	2	2	2	3
String Bass					
Percussion (including timpani)	3	4	4	5	6
<b>Total</b>	<b>40</b>	<b>50</b>	<b>60</b>	<b>75</b>	<b>90</b>

(d) One doubling Piccolo (more for marching bands)  
(e) One doubling English Horn

Exhibit 3  
Sample Explanation Sheet

On the following pages you will find a Five Year Plan for the Instrumental Music Department in our school. This plan resulted from an effort to determine the following:

1. What most likely will be the growth of the band and orchestra in the next five years?
2. What additions must be made to inventory to satisfy the demand for instruments that will result from this growth?
3. What instruments on the present inventory will need to be replaced?
4. What other materials will be needed in order to provide the students with a quality, sequential music education program?

I believe that at the end of the five year period we will have a band of 60 to 65 instruments. To have a balanced instrumentation and to offer maximum contribution to school and community activities, this plan would permit the addition of the following instruments to the inventory:

- 1 Piccolo      2 Double French Horns      1 Euphonium
- 1 Oboe          1 Baritone Saxophone      1 Bassoon
- 2 Mellophones

This plan would also permit the replacement of the following instruments now on the inventory:

- 1 Double French Horn      1 Tuba
- 1 Bass Clarinet      1 Tenor Saxophone      1 Euphonium

The cost for the first three years is above average for the five year plan because we have an immediate need for several instruments. The last two years show a decline in requests which brings about a per year average which I sincerely hope the school board finds possible within their budget planning.

Sincerely,

John or Jane Doe  
Band Director





Exhibit 4  
Working Paper Template

Schedule A	1st Year	2nd Year	3rd Year	4th Year	5th Year
Piccolo					
Oboe					
Alto Clarinet					
<b>Other Instruments</b>					
Schedule A Total					
Schedule B					
Misc/Repairs					
Overhauls					
Supplies					
Music					
Schedule B Total					

Exhibit 5  
Estimated Annual Budget  
For High School Music Department

Schedule A	1st Year	2nd Year	3rd Year	4th Year	5th Year
<b>Instrument</b>					
<b>C Piccolo</b>	Gemeinhardt Plastic 4P \$465				
<b>Oboe</b>	Yamaha Plastic YOB-41 O \$1,900				
<b>Alto Clarinet</b>					
<b>Bass Clarinet</b>	TI Mueller on Vito Plastic \$1,225				
<b>Bassoon</b>	Fox IV \$3,600				
<b>Tenor Saxophone</b>	TI Gretch on Yamaha YTS-52 \$1,800				
<b>Baritone Saxophone</b>	Yamaha YBS-52 \$3,800				
<b>French Horn</b>	Conn 6D \$1,950	Conn 6D \$1,950	TI PanAmer on Conn 6D \$1,850		
<b>Euphonium</b>	TI Olds on Bach \$1,700		Bach \$1,800		
<b>Tuba</b>	TI King on Yamaha YBB-321WC \$4,225				
<b>Marching Mellophone</b>	Deg \$ 625	Deg \$ 625			
Total	\$6,540	\$4,475	\$7,875	\$5,025	\$3,600
Schedule B					
<b>Misc/Repairs</b>	\$ 500	\$ 500	\$ 500	\$ 550	\$ 600
<b>Overhauls</b>	\$ 500	\$ 550	\$ 550	\$ 600	\$ 600
<b>Supplies</b>	\$ 350	\$ 375	\$ 400	\$ 425	\$ 450
<b>Music</b>	\$ 425	\$ 450	\$ 475	\$ 500	\$ 525
Total	\$1,775	\$1,875	\$1,925	\$2,075	\$2,175

Exhibit 6  
Depreciation Schedule Template

Instrument	Inventory Number	Value Now	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Exhibit 7  
Expected Life & Depreciation  
Estimates For Band Instruments

Expected Life & Depreciation Estimate			Depreciation Chart		
Instrument	Should Have A Complete Overhaul Every	Should Have An Average Life Of	Year	Estimated Life Of 10 Years	Estimated Life Of 15 Years
Flute	4 years	15 years	1	20%	20%
Oboe & Bassoon	5 years	15 years	2	15%	15%
Clarinet	4 years	10 years	3	12%	10%
Alto & Bass Clarinet	5 years	15 years	4	10%	8%
Saxophone	5 years	15 years	5	10%	7%
Cornet & Trumpet	5 years	15 years	6	8%	6%
French Horn	10 years	10 years	7	8%	6%
Trombone	10 years	10 years	8	6%	5%
Baritone	10 years	15 years	9	6%	5%
Tuba & Sousaphone	10 years	15 years	10	5%	4%
Drums	10 years	10 years	11		4%
			12		3%
			13		3%
			14		2%
			15		2%

- 1. Longevity depends greatly upon the quality of the instruments when new. The better made (and more expensive) instruments will stand up and last over a longer period of time than the lower priced instruments.
- 2. The amount of use and care students give the instruments will have a bearing on its length of usability.
- 3. Keeping the instrument in good condition through continual minor repairs and periodic overhauls will add to its life.

# The Business of School

## Maximizing Fiscal Opportunities

● *Whether you are a supervisor or a one person music program, money is the fuel that keeps the program going. Try incorporating these strategies and procedures to maximize your fiscal resources.*

### Tips For Community Fund-Raising

- **Make sure the community is well informed of the need.** A preview article in the local newspaper documenting the need for additional funds for your program is very valuable. If the funds are for a specific purpose (uniforms, travel, instruments, etc.) it is important that the community knows exactly how the money will be spent and that the need is well substantiated. An article with a picture is great to draw the reader's attention.
- **Make provisions for recognizing donors.** Donors can be recognized with inserts to concert programs, or ads in the newspapers. Be creative. Donations can be made "in memory" or "in honor" of someone. Thank you notes (if feasible) sent to donors are a great idea. People are more likely to contribute again if they are thanked the first time.
- **Try to find a unique fund-raising idea.** Lots of groups sell fruit, candy, wrapping paper, etc. If that works for you great, but don't be afraid to be creative. One high school instrumental program held a raffle in which a \$1,000 cash prize was awarded at the beginning of each halftime show. It was a great way to start each performance and the publicity was great.
- **Ask a good cross-section of parents to help.** You cannot do this alone. Make sure all segments of the community are included in the process. Everyone needs to feel included.
- **Do not conflict with other fund drives in the community.** Communication is the key. You do not want to cause bad feelings by "stepping on toes". Do not duplicate an idea already used by other organizations. Everyone will gain by working together.
- **Don't forget.** Your booster group should do more than fund-raising. Booster group members can hand out music education information to other community members, give a presentation before a civic group, or help in organizing the activities mentioned in the advocacy materials. Information kept to yourself doesn't help anyone—including your students.

## Grants

- **Make sure you are getting the full story** as to who can apply for a grant opportunity, or the grant dollars received by your district. A grant to improve reading, or for interdisciplinary instruction, may be able to be used by music. You must know how your content area fits into the bigger academic picture, or how it can support other academic areas. Be especially cognizant of technology funding opportunities.
- **Read the specifications carefully** to see what you can and can not use funds for.
- **Answer the grant questions concisely, and specifically.** Do what you're asked!
- **If your district doesn't have a grant writer** and the task falls to you, be selective in the grants you go after. Focus! If you choose to take on the challenge, be sure to read the instructions carefully, answer specifically and succinctly. Proofread. Never take on this responsibility alone! Work with a colleague who has been successful—a grant mentor! that information to organize to your advantage. Develop monthly “to do” financial folders.

### Important Program Practices

- Maintain a detailed, accurate and up to date inventory of instruments, uniforms, and your music library.
- Have a written instrument and equipment maintenance and replacement program. This is best accomplished by having a 3–5 year plan which includes annual amounts for repair budgets, identifying instruments that need to be replaced due to age or condition, new instruments that need to be added due to growth or changes in emphasis of your program. The plan should be based on the educational needs and priorities for the music department. Identifying real needs will not only facilitate expenditure of public funds for the program, but you will be ready to address your program needs when private funds may be available.
- Consolidate resources and share within the district or across districts. Partnering with others can make sure you all have the equipment you need. Many grant opportunities require such partnerships or cooperative efforts.



# The Business of School

## Additional Resources For Music Programs

### Parental and Community Support

These are invaluable resources.

- **Don't take this support for granted.** Thank people for their support, including their contributions of time. Always work to get more people involved. Otherwise the same few will do all the work and burnout will set in. Don't forget to ask persons who no longer have students in the program to continue to support your current students' efforts.
- **Think long term.** Build relationships, don't burn bridges. You never know what you will need when, and from whom.

### Working with Your School Music Dealer

- **The goal of a committed school music dealer is to help music educators build strong music programs.** Collaboration between the music dealer and music educator can enhance the quality, size, and importance of a music program, thereby leading to success.
- **View your school music dealer as a resource.** Some services school music dealers often provide to music educators and music programs include volume discounts, music folders, quality and timely repair service, emergency loaners, advocacy materials, regular visits, and insight into the "ins and outs" of the workings of the school district.

### More Opportunities To Access

- **School District Initiatives**  
As an example, link into your district's technology program.
- **Booster Group or Parent Group**  
Remember, these groups are much more than fund-raising groups.
- **Concert Revenue**
- **Paid Performances**
- **Sale of Tapes and Videos**
- **Curriculum Consultation for Other Districts**
- **Sale of Equipment**
- **Donations: Parents and Community**
- **Fine Arts Foundation**
- **Barter for Equipment or Services**
- **Local Businesses**
- **Grants**  
ESEA (Elementary and Secondary Education Act)  
Local or State Arts Council  
Local Arts Groups and Local Colleges  
Corporate and Foundation  
State Department of Education
- **Special District Fund for Special Needs and Opportunities**
- **Connect To Your Parents' Networks**

### Using What You Get

- **Use every resource to its full potential.**
- **Value every penny.**
- **Develop monthly "to do" financial folders.**
- **Establish trust and credibility.**
- **Total Quality Management**  
End the practice of doing business on price only.

# *TIPPS for Success: Telling the Story*



*Communicating With Your Community*



*Great Ways To Get Your Message Out*



*Advocating For Music*



*Music Impacts Learning*

# Telling the Story

## Communicating With Your Community

● *To better inform the community about the purpose, structure and achievements of the school's music program, **develop** an annual written report to distribute throughout your community.*

### Steps To Success In Communicating Goals and Accomplishments The Content.

- **The report should include** information about the music program, special performances, appearances by guest artists, and pertinent statistics about the music program. Take credit for all your good work.
- **Detail every positive contribution** in the school or community, no matter how small, by individuals or groups, students and staff.

### The Process.

- **Start an annual report file** at the beginning of each school year and add material to it on a daily basis. It is much easier to eliminate excess information than to create it just before the deadline.
- **Sort the entries by useful categories**, such as ensemble types or grade levels. Review each event from the standpoint of whether it is a selling point for the program or an interesting detail for an administrator.

### The Format.

- **Consider what appearance the finished report should have.** Think about how many photographs and charts to include and what size the report should be. One standard size is 8 1/2 x 11 inches, which prints on an 11 x 17 sheet that yields four

pages. Deal in multiples of four pages. It is impossible to have an odd number of pages unless one page is blank.

- **Consider the texture and quality of paper you will use.** Visit with a local printer, your visual arts colleague, or your school's media specialist. Once you know the specifications—the number of pages, paper, number of photos, ink, and quantity of reports—the printer can provide you with an estimate of the cost. It would be great if you are able to note in small print that the entire cost of the report was paid for by a booster club or a parents' association, not tax money.

### Graphically Appealing.

- **Leave enough white space** so components don't look crammed together
- **Think about size of the text** (11 point works well); the space between lines of text (consider leading of at least a 1/2 point larger than type size)
- **Kind of type style used**—serif versus sans serif—the printer can show you examples. Studies have shown reading speed and comprehension are 30% better with a serif typeface. Avoid using too many different sizes and type styles
- **Pictures and graphs are appealing.** A small ● ● ● ●

number of photos showing only a few people is better than too many tiny photos or large ones of an entire ensemble. Position photos so the dominant subject looks into the page, not off into space.

- **Pay attention to page balance.**

### Organize.

- **Before you start writing, organize.**
- **Include all pertinent information.**
- **Prioritize information.**
- **Determine which information can be further illustrated** with charts or graphs or enhanced by other visuals such as photos.
- **Remember to include information** about the importance of music education to student success.
- **Consider including quotes** from parents and students about the music program.

### Use The "Write Stuff".

- **Attractive graphics will interest readers, but the core** of any publication is its editorial substance.
- **Write the way citizens speak.** Read the copy aloud and determine if it sounds conversational. If so, you are on the right track. As you consider what to write ask yourself, "how would I tell the story of the music program to my neighbor or a parent?"
- **Write in simple, direct language** to convey information of significance and interest, but with a meaningful message.
- **Outline first.**
- **Use strong, dynamic verbs.**
- **Use short sentences and paragraphs.**

- **Use the active voice.**
- **Keep people in mind.**
- **Don't use education jargon.** Use quotes when possible. Be concise; avoid wordy descriptions.
- **Select familiar words rather than the unfamiliar.**
- **Simplify and then simplify again.**
- **Check your grammar and spelling** and then have someone else check it again.
- **Write headlines that say something.** Headlines need to communicate so those who scan your report can also learn something. Choose titles and headlines that will give a snapshot of the feeling you want to create.
- **Once you have designed an annual report that seems complete,** ask for comments from a variety of others, including an English teacher, a parent, and an administrator, before sending the report to a printer. They may not only find typographical errors, but may suggest something basic you have overlooked.

### Distribution.

- **The final step is to distribute the report;** the school board, administrators, parents, the local paper and local politicians are obvious choices.
- **Consider expanding your distribution to include local service groups,** especially when you are asking them for financial support; each visitor to the music department, including student teachers and guest artists; give copies to realtors, who may well have clients who are looking for a community that has a strong music program; use the report for background information when applying for grants; use the report as an internal tool to help the staff assess the program.

#### Project Reminders

- Have clear goals for what you want to accomplish by producing an annual report.
- Enlist the help from other faculty members and students in producing the report. Communicate your goals and what you are trying to accomplish. Talk with journalism and art faculty to create a team approach to producing the most dynamic, content-driven report.
- Work with a local printing company in understanding time and cost considerations. Ask for their input, based upon their experience and expertise. Get preliminary cost estimates, so you have some feel for the costs involved for the quantities you want to distribute.
- Talk with your booster or parents group to request funding to accomplish your goals in producing an annual report.
- Share the process with your students so they can learn the importance of telling others about the value of music.





# Telling the Story

## Great Ways To Get Your Message Out

● *Regularly scheduled arts events **open doors to community education**. Concert audiences **appreciate informative printed program notes or spoken notes**. Ask your music dealer for assistance with preparation and printing. How about sponsoring a **lecture-demonstration on certain pieces or styles of music prior to a performance**? A parents' rhythm band accompanying your school group on an appropriate piece during a concert provides an **engaging experience for all**. Why not ask an audience member to "conduct" a piece that the performers know and can execute quite well?*

### Ideas To Implement

- Put facts which support music education on marquees and community bulletin boards such as those at banks or grocery stores.
- Put mailers in monthly credit card statements from a local department store or insert with monthly utility bills.
- Provide tape recordings of school performance groups to be played when callers are on hold on the school telephone (obtain all required copyright permissions).
- Provide music statements on "table tents" for restaurants.
- Have students write letters inviting community persons to school music programs; program information can accompany the students' invitation.
- Stage a "music open house" in which community members are invited to attend regularly scheduled classes.

### Broadcast Your Act

*Performing Wonders: Kids and the Arts, A Broadcaster Guide to Teaching Children About the Arts* offers ideas to help radio or television stations give arts education visibility:

- **Special Report: Arts Education.** For a special news report or series, interview school officials and teachers to learn how schools use the arts as a learning tool.

- **On With The Show.** Follow a student music, dance or drama performance through casting and rehearsals to opening night.

● **Profile Student Artists.** Stations regularly produce “*Student Athlete of the Week*” features. Why not give the same kind of visibility to student artists?

### To Get The Creative Juices Flowing, Consider The Following:

● **An instrumental performance** where the person performing dresses like the composer of the piece and interjects stories of what they were thinking about when they wrote the piece. This will let the children realize that more goes into a score than just notes. And involves student research—an interdisciplinary approach!

● **Another performance to children and parents** could be an informal rehearsal of a quartet staged to demonstrate the collaborative process and exchange of ideas in bringing music to life. Building value for music means sharing the process, not just the product!

● **Give a presentation on the nature of sound and demonstrate the ways** in which the various instruments create their own unique voice. The activities could include allowing children and parents to “test” each of the instruments. A connection to science!

● **Beginner-of-the-Month Awards.** Music teachers identify one beginning music student each month who demonstrated significant effort, improvement, or collegiality. A traveling trophy goes to the student’s school for display. The newspaper runs the student’s photo, providing public recognition and increased community awareness. Initially the trophy could be sponsored by the school music dealer.

● **To assist in recruiting and to help the visual art and music teachers work together,** hold a poster contest for all fifth graders each fall and spring. Over a 2–3 week period students create posters around the theme “*Join Band!*” or “*Join Orchestra!*” or “*Join Choir!*” Teachers select a poster to be displayed in the school. The school music dealer could provide an ice cream party for that student’s class. Later display all the posters at a local bank. Local T.V. stations love covering this event!



# Telling the Story

## Advocating For Music

● *A majority of those outside the fields of music and arts do not understand the whys or the hows concerning the process of arts education. **Provided with a clear understanding** of those whys and hows and supported by quality arts education in practice, **people begin to realize the value of music and arts education.***

*If a district school board and its administrators are **adequately informed of the arts' unique benefit to children**, and if this information is supported by sound classroom practices, chances are the decisions regarding **music's and art's status** in the district will favor **strengthening the programs** rather than weakening or eliminating them.*

### Influencing the Realities in Arts Education

● **Shifting educational priorities and budgeting priorities** mean no music or arts educator can afford to consider his or her program immune to cutbacks. When arts educators fail to prepare for potential problems, or deny the potential threat to every music or art program of being seriously diminished or eliminated, the stage is set for disaster.

### Fifty Ways to Build the Music Program

Ignorance Isn't Bliss

- **Inform yourself**
- **Collect information**
- **Know what is happening** outside the classroom
- **Join an arts advocacy organization**

You Gotta Have Friends

- **Everyone in your community is a constituent**
- **Constituents** include students
- **Know how to reach** your friends
- **Make sure your constituents** know how to reach you ● ● ● ●

### Simon Says...

- **Be prepared**
- **Set up a phone tree and e-mail tree**
- **Inform your constituents**
- **Send them information** regularly
- **Initiate dialogue**
- **Establish a fine arts booster group**
- **Personally invite all constituents** to attend arts events, informances and performances
- **Thank constituents** for attending
- **Invite constituents** into the classroom
- **Provide opportunities to learn** about the process of making music

### Get Real!

- **Talk with students about the value** of arts education
- **Discuss with students** what you are teaching
- **Discuss with students** what they are learning
- **Discuss with students** how these skills relate to their real world of school, work, and life

### Birds Of A Feather

- **Treat your friends** as allies
- **Discuss issues** of mutual concern
- **United we stand, divided we fall**
- **Become a unit:** “the fine arts people”
- **Interdisciplinary links** are critical
- **Offer to collaborate**

### Rules Of The Game

- **Know the environment**
- **Get the arts** on your school board agenda
- **Know the budget process**
- **Get the school board agenda** several days before every meeting. Look to see what items may potentially impact your program

### Start With A Single Step

- **You can't assume** everyone agrees kids need what the arts teach
- **Advocacy is nothing** more than public relations
- **Advocacy is a positive endeavor**
- **Advocate daily**
- **Advocate daily** with students
- **“Partnerships” and “collaboration”** are more than educational jargon
- **Advocacy: everyone's responsibility** including students
- **Students can be a program's best advocates**

### Nothing Is Carved In Stone

- **Don't assume anything**—you never have all the information
- **Fatal Assumption #1:** those you assume are decision makers really are decision makers
- **Fatal Assumption #2:** the decision makers will never change their minds
- **Fatal Assumption #3:** the decision makers will always stay the same
- **Fatal Assumption #4:** the environment your program exists in will always be the same
- **Fatal Assumption #5:** the rationale you believe in has universal acceptance

### An Apple A Day

- **Identify your vulnerabilities**
- **Address those vulnerabilities**

### Just A Reminder

- **The real issues are about** power and the allocation of resources: that spells politics.

### Keep The Focus

- **Arts education advocacy is about kids.** It is not about adult issues like jobs. It's about whether kids have the arts programs they need and deserve.



# Telling the Story

## Music Impacts Learning

● *Champions of Change* indicates music study improved students' success in math.

*A new report compiling the results of seven major studies provides important new evidence of enhanced learning and achievement when the arts are an integral part of the educational experience, both in and out of America's K-12 schools.*

### Champions of Change

***Champions of Change: The Impact of the Arts on Learning*** provides qualitative and quantitative data on the learning and achievement of students involved in a variety of arts experiences. The report was edited by former *New York Times Education Editor Edward B. Fiske*, who is also the author of *Smart Schools, Smart Kids* and the bestselling *Fiske Guide to Colleges*. In an introduction by former U.S. Secretary of Education Richard Riley, the findings are referred to as “groundbreaking,” and are offered to “address ways that our nation’s educational goals may be realized through enhanced arts learning.” The *Champions of Change* research offers clear evidence of how the arts can improve academic performance, energize teachers and transform learning environments. Among the findings:

● **Students with high levels of arts participation outperform** “arts-poor” students on virtually every measure. Based on an analysis of the Department of Education’s data base of 25,000

students, UCLA Graduate School of Education & Information Studies Professor James S. Catterall found that sustained involvement in the arts correlates with success in other subjects, and in developing positive attitudes about community — both generally and also for children in poverty. The correlation is particularly strong between music and success in math.

● **Intensive involvement in a single discipline** should probably be thought to be even more important developmentally than high levels of more diverse involvement in the arts. A Columbia University study focuses on youngsters who exhibit very high levels of involvement within a single arts discipline over the secondary school years. Researchers report explorations of differences shown by students who were heavily involved in instrumental music. Students concentrating in instrumental music do substantially better in mathematics than those with no involvement in music. Also, low socioeconomic status students with high



involvement in music do better than the average student at attaining high levels of mathematics proficiency. Twice as many low socioeconomic status 8th graders in band and/or orchestra score at high levels in mathematics as did low socioeconomic status 8th graders with no reported involvement in instrumental music.

● **Arts experiences enhance “critical thinking” abilities and outcomes.** Students preparing for what Federal Reserve Chairman Alan Greenspan describes as America’s “economy of ideas” need an education that develops imaginative, flexible and tough-minded thinking. Researchers at the National Center for Gifted and Talented at the University of Connecticut found that students involved in the arts were motivated to learn not just for test results or other performance outcomes, but for the learning experience itself.

#### Additional Support For Music A 2000 Gallup Poll American Attitudes Toward Music showed the percentage of Americans who believe music education provides the following benefits to students:

- 91 percent agreed music teaches children to get along with others
- 95 percent agreed music is part of a well-rounded education
- 95 percent agreed learning about and participating in music provides a sense of accomplishment
- 52 percent agreed learning about and participating in music improves overall intellectual development
- 97 percent agreed music develops teamwork skills
- 89 percent agreed music helps children develop discipline and perseverance
- 96 percent agreed exposure to music in school makes children more tolerant of other cultures

□ One of the most important forms of assessment for American students is the SAT. Ninety-five percent of the students registering for the SAT voluntarily complete a personal profile.

The data derived from the 2000 profile of SAT-takers is illuminating. Students who took coursework in Music Performance scored 55 points higher on the verbal portion of the test and 38 points higher on the math portion than students with no coursework in the arts.



## *Outreach Letters*

### **For Parents**

- *Welcome Back to School*
- *Importance of Parental Support*
- *Recruiting Junior High School to High School*
- *Student Not Scheduled for Band*
- *Band Teachers Discipline*

### **For Administrators**

- *Welcome to new Academic Year*
- *Importance of Music*
- *The Value of Music Learning*

# WELCOME BACK TO SCHOOL

To the Parent/s of (name of student):

The new school year is launched and we are experiencing the joy of making music. Thank you for your support, and particularly for encouraging (name of student) to continue (his/her) study of music. The investment of time, effort, and energy will produce lifelong dividends.

Throughout the year you will be receiving communications from our Music Department concerning upcoming concerts and other pertinent information. I also will be sending you compelling research data about the importance of music study in the development of your child. The world of education is in a constant evolution and you, as a responsible and concerned parent, must be apprised of the latest information gleaned from research studies. This information will aid you in helping (name of student) make wise choices that are certain to benefit (his/her) future.

Evidence continues to focus on the arts (music) as a vital component in the positive growth of every child. For years we have pointed to the music students as those who have demonstrated a special talent. However, based on extended studies we now know it is the very process of learning music that develops the artistic mind and brings forth the creative potential in all young people. For this reason, continued membership in our musical family is strongly encouraged.

It is a privilege to have (name of student) as a valued musician in our organization. Thank you for your support of music education at (name of school). You play an important role in everything we do. Welcome to our new school year!

Sincerely,

Name of Director



# IMPORTANCE OF PARENTAL SUPPORT

To the Parent/s of (name of student):

Schedules and classes are now in place and we are focused on a solid curriculum certain to make a difference in the life of every student in our music program. I would like to share some ways that you can help support our program.

**Encouraging Parent.** Competence is the result of dedicated “time on task”. Music learning, music performance, and music appreciation are the outcomes of study, practice, and guided listening. With limited rehearsal time, it is imperative that students invest extra time in nurturing their talents and improving their skills. Please encourage a positive practice schedule. Remember that practice time must be framed as a benefit and not as a disciplinary penalty.

**Loyal, Appreciative Audience.** The best audience is always parents. You are faced with a full agenda in your personal and professional life, and you are challenged to adjust your schedule to accommodate every school function. However, your presence at our performances will mean more to (name of student) than words can describe. Music is a family affair. Don’t miss this opportunity to celebrate your child’s talent.

**Booster Member.** There are many ways to aid and participate in our parent support organization. Please join with other parents who realize the far-reaching potential of the arts and take advantage of the synergy created by sharing a common educational philosophy. This organization ensures the future of quality music education for (name of student) and (his/her) fellow artists.

The music program at (name of school) continues to flourish because of a substantive curriculum, a well-informed and supportive administration, and exemplary parental support. You make a difference!

I look forward to visiting with you in the near future.

In the interest of your child,

Name of Director

# RECRUITING JUNIOR HIGH TO HIGH SCHOOL

To the Parent/s of (name of student):

Entering high school is a giant step forward in every child's educational journey. (Name of student) is facing some important decisions that will have a long-term impact on (his/her) life. Often young people fear the added workload of the high school curriculum and assume they will not have time to participate in the music program. That is simply not true. Ironically, it is often the continuation of musical studies that serves as the transitional key to success. Being a member of a music ensemble ensures instant acceptance in a respected organization at the onset of freshman year. A group of supporting friends is already established with a firm sense of "belonging."

There is more to it. As a parent, you need to know that:

- Research shows that when music is included in a student's daily learning, reading, writing and math scores improve.
- There is a high correlation between positive self-perception, high cognitive competence scores, healthy self-esteem, total interest in school activities and the study of music.
- College admissions officers give special consideration to students who are part of their high school music programs.
- The longer an individual studies music, the higher his/her scores tend to be on both the verbal and math portions of the SAT exam.
- Employers often seek out students who are part of their high school music program because of the student's ability to solve problems and work well with all kinds of people.

Your child deserves the best as (he/she) enters the high school culture. Please contact our office if you have any questions concerning this vitally important decision. We join you in your commitment to the best education possible for (name of student).

Personal regards,

Name of Director

## STUDENT NOT SCHEDULED FOR BAND

To the Parent/s of (name of student):

This letter is written in support of (first name of student) and (his/her) future in the (name of school) High School Band. It is my understanding (he/she) has chosen **not** to be a part of next year's group, and while I respect every student's right to choose, I want to make sure **you** are certain this is the best option for (first name of student).

As the band director, I am always eager to retain our (band members/upperclassmen) because they offer a level of musical maturity needed for the new group's performance success; however, the welfare of the individual is of far greater importance. Therein lies the urgency of this letter. The ramifications of terminating membership in the band are far-reaching both in the development of the creative musician as well as the habit pattern of the student as it reflects on other personal commitments. Please help me persuade your (son/daughter) to reconsider (his/her) decision. Life does not offer a second chance to participate in the high school band.

We often see band as the musical flagship of the school. The public image of the organization can sometimes distort the educational value offered to the students. Developing musical talent is the catalyst in opening the mind to a greater interplay of the intellect, the emotions, and the senses. This *knowing* allows us to use a more discriminating level of perception for daily problem solving; in essence, it creates a higher order of thinking skills. The study of music awakens the imagination, improves memory and retention, increases self-confidence, and uplifts the individual to a new perception of wisdom. Of course, this new mental capacity is directly transferred to every academic subject, explaining why music students continue to produce the highest scores on achievement tests, demonstrate the best grades in our schools, and enjoy professional success in the work force. I join with you in wanting (first name of student) to have these advantages.

May we have a conference to discuss this important situation? We all have very full calendars, but I will make whatever arrangements necessary in my schedule to visit with you about your (son's/daughter's) future. If you would like, we can invite (first name of student) to join us so all considerations can be honestly and directly discussed. Our demonstration of commitment to (his/her) welfare will establish a healthy atmosphere for our meeting.

Please call me at your earliest convenience. It is imperative we move on this immediately, and I reiterate my desire to support whatever is best for all concerned.

In the interest of (first name of student), I remain,

Name of Director

## BAND TEACHES DISCIPLINE

To the Parent/s of (name of student):

Band is more than a series of performances developed through an ongoing rehearsal schedule. It may appear we are simply completing one event and immediately starting to prepare for the next. Although we do maintain a busy schedule, there is a higher learning taking place that will benefit your (son/daughter) in all of life – *discipline*.

We all know young people possess unlimited potential for learning, achievement, and personal success. Every individual's self-worth is based on turning potential into accomplishment, and that requires a healthy measure of *discipline*. Band is a metaphor of life because it is a training ground for developing a solid pattern of personal *discipline* habits. Band is a collection of artistic values clearly defined and ultimately achieved. This process unlocks the power of commitment, puts human will in action, develops a positive attitude, controls negative thinking, encourages success, and deters failure.

The study of music is a link between inspiration and value achievement; it is a bridge between thought and accomplishment, between ideas and results. This explains the impressive correlation between music study and academic achievement. Our band members are clearly experiencing the value of *discipline* driven by inspiration, enticed by desire, tempered by reason, and guided by intelligence. Band is grooming them for successful living.

(First name of student)'s participation in band is so much more than performance preparation; it reinforces the importance of self-*discipline* as the fundamental of healthy self-esteem, group pride, personal satisfaction, and aesthetic joy. Being in the band is teaching (him/her) how to master the circumstances of life by putting ambition and skill into action.

Thank you for your continued encouragement and support. Thank you for understanding music education is a groundwork strategy for the development of more capable minds. Thank you for demonstrating the value of persistence and *discipline* as we meet the challenges associated with our program's growth. Thank you for being an active parent in our band!

We will all enjoy seeing you at our next band parent meeting, (indicate time, date, place).

On behalf of our students,

Name of Director

*The art of music is so deep and profound that to approach it very seriously only is not enough. One must approach music with a serious rigor and, at the same time, with a great affectionate joy.*

*- Nadia Boulanger*

## WELCOME TO NEW ACADEMIC YEAR FOR ADMINISTRATORS

Dear (name of administrator):

At the beginning of this new academic year, I would like to share my enthusiasm with you concerning the 200( ) version of the (name of school) High School Band. We have a solid representation of returning upperclassmen and a group of first-year instrumentalists who show great promise. It is obvious the dedication and commitment of last year's seniors has positively affected the entire program for the future. (Name of administrator), you have been an integral part of our success, and we recognize what an important role you have played in our continued growth and development.

Although many people in the community know the band for its performances at the various school events, the focus of our program is on comprehensive musicianship – specifically, the development of *musical perception*, *aesthetic sensitivity*, and *technical mastery*. Certainly there are other social enrichment by-products and the development of priceless life skills learned by all of our band members, but these are in addition to the foundation of our band's number-one priority – *music education*.

Without your support we would not be able to bring these opportunities to our students, and your encouragement and guidance have been instrumental in helping our band evolve to this level of excellence. I look forward to this ongoing partnership with all of our administration. The real benefactors are the young musicians who bring their talents to the stage for our student body, our school parents, and the entire community.

Since our busy schedules do not afford us the time to visit at length, I wanted to take a moment to say *thank you* on behalf of everyone affiliated with our band. You have an open invitation to stop by a rehearsal and meet this year's group. The veterans would enjoy seeing you again, and I would like to introduce you to the new recruits. You will be justly impressed, as will they.

With appreciation,

Name of Director

# IMPORTANCE OF MUSIC FOR ADMINISTRATORS

Dear (name of administrator):

Although every profession has ups and downs, being the band director at (name of school) could well be the exception to this rule. We are enjoying a wonderful year of musical growth with all of the students in our program. Because of the support of our administration, the ongoing efforts of our parent organization, and most important, the commitment and dedication of the students, the band is discovering the value of *music* and the wisdom it brings to their lives.

Why do our band members seem to excel both socially and academically? If you look at the leaders of our school, you will quickly discover a high percentage of them are also members of the band. Is this just a mere coincidence? Rest assured, we are not the exception; this dynamic is true throughout our nation. Perhaps it is best explained with a quote from Mr. Lorin Hollander, a noted New York concert pianist, who quotes in an article from "The Educational Forum," Volume 55, No. 2 (Winter 1991):

*"The multidimensional thinking involved in grasping the harmonic and temporal concepts of music touch the most basic preconscious structures of the mind. The disciplines involved in the study of music demand mastery of the highest levels of intellect, memory, concentration, and emotion, as well as the finest tuning of coordination and sensory awareness. The study of music is where we may learn commitment to quality and excellence in our work and where we can explore the inseparable relationship to mind and body."*

There is a special kind of learning taking place in our band. It is far more than the colorful uniforms, the excitement created by the seasonal concerts, or even the daily exercises of scales and warm-up chorales. It is the investment we are making every day in the intellectual and emotional development of our band members. Ultimately, we want every student to become the best person he/she can possibly be, and music offers us a certain pathway to this educational destination.

Thank you for your continued encouragement, and for being a valuable member of the (name of school) high school band.

Appreciatively,

Name of Director

# THE VALUE OF MUSIC LEARNING FOR ADMINISTRATORS

Dear (name of administrator):

On behalf of the students, parents, and all those connected with our music program, thank you for your support of the ARTS in our school curriculum. Music is thriving at (name of school) and you play a vital role in our ongoing success.

Music develops the human mind and spirit; it allows us to express the inexpressible. As stated by the *Music Educators National Conference*, “No one can claim to be truly educated who lacks basic knowledge and skills in the arts.” In addition to the aesthetic experience for every musician, participation in music also helps the development of positive life-skills such as self-discipline, cooperation, communication, adaptation, and more.

On yet another front, recent research points to the *power of music* as it affects comprehensive test scores. For example:

*“A recent study of an expansive U.S. Department of Education database of over one thousand communities spanning the past decade showed that students who were involved in the music and arts education by the tenth grade performed significantly better on standardized tests, reading proficiency, and math proficiency.”<sup>1</sup>*

*“Music students out-perform non-music students on achievement tests in reading and math. Because of their study of music, their skills are better at reading, anticipating, memory, listening, forecasting, recall, and concentration.”<sup>2</sup>*

Every student at (name of school) deserves a comprehensive education. Music education should not be reserved for a few talented pupils, but must be made available to our entire student body. Everyone can and will benefit from the study of music.

We will continue to keep you apprised of the latest data about the impact of music learning. Thank you for making music a vital part of our school community.

Personal regards,

Name of Director

1. James S. Catterall, “Different Ways of Knowing, 1991-94: Final Report,” 1995. Based on data found in “NELS: 88, National Educational Longitudinal Study,” published by U.S. Department of Education.
2. B. Friedman, “An Evaluation of the Achievement of Reading and Arithmetic of Pupils in Elementary School Music Classes,” *Dissertation Abstracts International* 20(1959): 3662 – 3663.

## Arts Advocacy Web Sites

Scientific evidence supporting music and arts education is constantly evolving. Strategies used to support music and arts education must also evolve as the political, economic, and social climates change.

Stay up to date with the newest advocacy information by visiting these outstanding websites.

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[www.amc-music.org](http://www.amc-music.org) – American Music Conference

[www.artsusa.org](http://www.artsusa.org) – Americans for the Arts

[www.aaae.org](http://www.aaae.org) – The Association for the Advancement of Arts Education

[www.aep-arts.org](http://www.aep-arts.org) – The Arts Education Partnership

[www.pcah.gov](http://www.pcah.gov) – President’s Committee on the Arts and Humanities

[www.tmea.org](http://www.tmea.org) – Texas Music Educators Association

[www.giarts.org/Learning.pdf](http://www.giarts.org/Learning.pdf) – “Learning and the Arts: Crossing Boundaries” (a report of arts advocacy research)

[www.musica.uci.edu](http://www.musica.uci.edu) – Music and Science Information Archive

[www.cominguptaller.org](http://www.cominguptaller.org) – Arts and Humanities for At-Risk Children and Youth

[www.VH1.com](http://www.VH1.com) – VH-1 Save the Music (click on Save the Music icon)

[www.smartz.org](http://www.smartz.org) – Iowa Alliance for Arts Education