

# WORLD CLASS ACADEMIC ACHIEVEMENT REQUIRES THE DEVELOPMENTAL STUDY OF MUSIC

—excerpts from an article by James R. Ponter, *Voice magazine*, October 2001.

In most American public schools, music is treated as an “activity” on the periphery of the curriculum, taking a back seat to the “serious” subjects required to educate our youth. Music should be considered as fundamental to the curriculum as reading and mathematics. **Nations whose students consistently outperform American students in tests assessing science and mathematics achievement are the same countries where music is treated as a serious academic requirement.**

Test results cited in the 1983 report, *A Nation at Risk*, showed the United States losing out badly to other countries in mathematics and science (*A Nation at Risk*). A 1988 test of the International Association for the Evaluation of Educational Achievement showed us ranking 14th among 17 countries on an instrument testing the performance of eighth and ninth grade students in science achievement. Our students’ scores were similar to 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 (IAEEA).

This report was one of the catalysts for many reform efforts of the '80s and '90s. In New Jersey, these reforms included the Governor’s State Wide 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 certifications. Similar measures along with controversial high-stakes testing protocols have been adopted or are being considered by most states.

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. The top performing students on the 1988 IAEEA test were the eighth and ninth graders from Hungary followed by those from the Netherlands and Japan.

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 countries whose students consistently demonstrate higher achievement than American students in math and science.

Although we do not expect all of our students to become novelists, poets, or screenwriters, we assume that, sans organic brain dysfunction, all of our students will learn to read and compute given the proper instruction. High achieving nations assume that, while not everyone will become a gifted composer or virtuoso, everyone can become a proficient community orchestra player or chorale singer given the proper developmental music education. Students from these countries also accrue the cognitive and cultural benefits of music study.

## **Making the right choices**

We are constantly advising our children to make good choices. What we do as leaders in our schools must be directly related to the practice of teaching and learning. Decisions we make and policies we implement must take into account what the cognitive sciences have learned within the

last five to 10 years about the brain and how we learn. Many of these studies deal directly with the relationship between music and cognition.

If our goal as policy makers is to maximize human potential, the brain research offers help in making very practical decisions. For example, in a time of fiscal restraint, would students and their tax-paying parents be best served by a \$2000 computer requiring specialized facilities, expensive maintenance, and be obsolete within five years, or a \$300 student grade violin usable anywhere and based upon technology essentially unchanged in 400 years?

### **Food for thought**

Albert Einstein had great difficulty learning within a traditional academic environment. He was also an avid amateur violinist always traveling with his fiddle and contacting musicians wherever he might be speaking, spending many of his happiest times basking in the musical companionship of many of the worlds greatest musician. Cited in conversation with Shinichi Suzuki, a friend and developer of the world renowned Suzuki Method for violin instruction, discussing the development of Special Relativity, Einstein said, "It occurred to me by intuition and music was the driving force behind that intuition. My discovery was the result of musical perception (Fryer, 1989)."

*James R. Ponter is Supervisor for Sciences and Music for the Gateway High School District, Woodbury Heights, NJ. He holds master's degrees in school administration and secondary science teaching, and a bachelor's degree in biological sciences. He also plays cello in the Philharmonic of Southern New Jersey.*