# THE KEY TO CREATIVITY: THINK LIKE A KID!

*By MICHAEL COLGRASS*

As a professional composer I have recently been visiting schools and working with children on music projects. We composers rarely go into the schools, leaving music education to the teachers. But I have been noticing with concern that schools have fewer and fewer music teachers these days. Music programs are being cut as budget-minded towns are saving money by gradually eliminating the "frills" in education. Math, science, language, civics and history are state-mandated courses-they can't be cut because they are considered vital to a child's education. But many education committees see music as entertainment-it's a nice activity but not basic to educating a child.

Well, then, what is the best way to educate a child? This question has been debated for centuries, but one thing few would argue with: children are motivated to learn when they can be creative, because creativity is the most natural state of mind for a child. When Buckminster Fuller was asked at Harvard the secret to being creative he shocked his academic audience by jumping up and down three times, flapping his arms like a bird, and saying, "Think like a kid! Think like a kid! Think like a kid!"

I'd like to talk for a moment about helping children develop their creativity in music, and relate this to the idea of music as a school subject that might be basic to a child's education.

As a composer I have found that the best way to teach children to understand music is to have them create it themselves. When they see from firsthand experience how music is made, then they understand how to analyze it and perform it. They also learn something about the creative process, which they can then transfer to learning other subjects.

Isn't it interesting that creating music is the one thing we don't do with children in music classes? In art class children draw and paint, in language class they write, but in music class they sing or play other people's music.

Why? Is it because music is harder to create than a painting or a poem? Some people may think so, because musical notation looks strange and they assume those written notes and rhythms are music. They're not. Those markings are only a language for writing music down on paper. Music itself is a collection of sounds, and anybody can make up sounds. Some do it more imaginatively than others and we call them composers.

So how can you teach creativity in music? Children are most creative when they can make a game out of what they are learning. Let me tell you about my experience going into the schools and working with kids, what I have learned and what some of the long-range implications of this learning are.

I have a shorthand method I use to teach children to create music. I simply ask them to think up a sound and then go to the blackboard, one by one, and draw abstract marks on the board that represent the sound they are hearing. When their collective sound creation is finished, I ask them to sing it as a group.

For instance, let's say you hear a sound like "oooo-wahhHHH" that goes from the bottom to the top of your voice, and wanted to notate that sound in a logical way. You might represent that sound by drawing a thick line that arcs from the bottom to the top of the blackboard, just like it sounds. A group of dots might sound like "deet-deet-deet-deet" on random pitches. Wavy lines would be long tones that make wavy sounds, sliding higher and lower in pitch. A


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finished composition in graphic notation, which usually takes about 30 minutes to create, looks like a collection of lines and dots and shapes that make an interesting abstract design.

When the children agree their "soundscape" is finished I ask them to perform it. They look puzzled and ask," How do we do that?" Continuing the game, I tell them to just think up a way to get everybody to sing the piece as a group. After a few moments of thought one of them will usually have an idea and start to describe what s/he would do. I say, don't tell us what you would do, do it! After a self-conscious moment, and with much urging from me, the child will go to the blackboard and say something like, "Okay, I'm going to move my hand slowly across the board and I want each person who wrote a sound to sing their sound when my hand gets to it." And they perform it that way.

Then I ask if there might be a different way to perform it.

This suggestion opens yet another door as they begin to realize there is more than one way interpret their composition. Urging them on, another student will go to the board and divide the group by gender perhaps, asking the girls to sing the upper sounds and the boys to sing the lower sounds, and they perform it again, now hearing it differently. One by one I encourage others to stand before the group and guide it through yet another way of performing their piece. Meanwhile, I stay in the back not saying a word.

Once they've performed it I ask them to comment on the structure of the piece. Would they change anything? Should it be longer, shorter, have more activity or less? As they make suggestions some of them go to the board and erase or add ideas to improve it.

They have fun with all this, laughing, ribbing each other, having a good time. Their piece might sound like anything from the beautiful sounds of nature to cats crying on the back fence at midnight. Then I go to the board and say, "This is how I make my living," which draws more laughter. "The only difference between what you did here and what I do is that I specify exactly how high or low each of these sounds is, how loud and soft, how slow and how fast, etc. And for that I use musical notation, which is simply a set of measurements. Otherwise, the judgments you made just now are basically the same as those that I make when I'm composing at home. You start with a sound you like, then you write another sound, then another, etc. then you examine it and re-write it, until you're satisfied that it's finally finished. All that matters is that the overall result sounds interesting, or moving, or humorous, or mysterious to others. And the more soundscapes you write the better you get at it. That's what the art of composing music is all about.

Then I proceed to draw music staves and clefs over their graphics and write in pitches and rhythms over the shapes they had written. And suddenly it looks like music! This is the "Ah-ha" moment. Now they realize that their lines and dots and squiggles were actually music in raw form. With musical notation outlining the marks they had made, their soundscape suddenly looks like music they're used to seeing. But it was music before the musical notation appeared over it. Musical notation is simply a language for making the details of sound specific. As I tell the children, "Anybody can learn the language of music notation, but not everybody can put together a really interesting combination of sounds that people want to hear over and over again. Those who can are composers!"

By going through this creativity-and-performance process firsthand the children teach themselves what music is. Thereafter when they see others' music they can more easily understand the composer's intent and better interpret it. The great Italian educator, Maria Montessori, says children learn best when they feel ownership of the knowledge, as if they had invented it, and this feeling of ownership gives them confidence.


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So why don't we educate children that way in music? First, we would have to educate teachers that way. I think teachers would prefer to teach music creatively instead of by rote, but they need an organized method by which to do it, not just a good idea. I recall one teacher's response after I demonstrated my graphic notation idea at a Music Educators National Conference in Chicago some time ago: "Your approach to teaching creativity to children is fine, when you're there to do it. But what do we do when you leave?"

That question gave me the idea to devise a way to teach teachers how to teach children to compose. Since the graphic approach to creating music is so simple, my approach is to have the teachers create a graphic piece to see how it feels to do it, then watch me teach children to do it. Then I leave them to work with the children for a period of time without me present. After repeated sessions with the children writing piece after piece, both teachers and students get very good at it.

I recently carried out this teacher-training idea at a high school in Longmeadow, Massachusetts, and within 3 months a band and orchestra director there named Michael Mucci cultivated four student composers who not only wrote graphic pieces for string orchestra and wind ensemble, they conducted the pieces themselves in performance on a public concert.

The result astonished the audience who responded heartily with long applause for the young composers. Granted, those present were family and friends, but nevertheless they realized that the children had accomplished something very special and had learned something entirely new. The composing of music is thought of as a mystery that only a few can understand, yet here was a handful of teenagers who, within a few short months, had not only composed works for large groups but had taught the works to the ensembles and directed their own performances. As one audience member commented, "If they could learn to do this, imagine what else they could do that they never realized was possible."

Consider for a moment what this one teacher enabled these youngsters to pull off with this music creativity project. The children created their own music, performed that music publicly under pressure, helped performers coordinate their eye, ear and fingers to play with a group, reading the music, watching a conductor and balancing their sound with others. And they exhibited leadership and management skills by communicating their wishes to a group clearly within limited rehearsal time. They performed a highly technical skill under pressure and under public observation, and they expressed emotion, both on paper and in gesture, and coached others to express theirs.

Then came the shock. After this successful creative venture, I hear that the town of Longmeadow wants to cut down on its music classes and make orchestra an after school activity! And this problem of cutbacks in the arts is endemic to American primary and secondary schools today, in spite of the hundreds of studies and scientific findings published in the past 20 years affirming the value of music to a child's overall education.

Here is a mere smattering of these:

- In an analysis of U.S Department of Education data on more than 25,000 secondary school students, researchers found that students with consistently high levels of participation in instrumental music over the middle and high school years show significantly higher levels of mathematical proficiency by grade 12, regardless of socio-economic status. Catterall, James. S., Richard Chapleau, and John Iwanaga. "Involvement in the Arts and Human Development: General Involvement and Intensive Involvement in Music and Theater Arts." Los Angeles, CA: The Imagination Project at UCLA Graduate School of Education and Information Studies, 1999


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- Statistics compiled by the U.S. National Data Resource Center, show that 12.14 % of students in the total school population can be classified as disruptive in the classroom (skipping classes, in-school suspensions, arrests, drop-outs). In contrast, only 8.08% of students involved in music classes meet the same criteria as "disruptive." Based on data from the NELS:88 (National Education Longitudinal Study), second follow-up, 1992.
- Physician and biologist Lewis Thomas found that 66% of those with a music major as undergraduates were admitted to medical school, the highest percentage of any group. 44% of biochemistry majors were admitted. As reported in "The Case for Music in the Schools," Phi Delta Kappan, February 1994.
- A Study of 811 high school minority students showed that 36% described music teachers as their role models, as opposed to 28% English teachers, 11% elementary teachers, 7% physical education teachers, 1% principals. D.L. Hamann and L.M. Walker, "Music teachers as role Models for African-American Students." Journal of Research in Music Education, 41, 1993.
- Kindergarten students in the school district of Kettle Moraine, Wisconsin, given music instruction scored 48% higher in spatial-temporal skill tests than those who had received no music training. Rauscher, F.H., and Zupan, M.A. (1999). Classroom keyboard instruction improves kindergarten children's spatial-temporal performance: A field study. Manuscript in press, Early Childhood Research Quarterly.

Even corporate CEOS and army generals agree to the value of music education. Quoting Business Week, October 1996, from an article titled, "The Changing Workplace is Changing our view of Education: "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." And retired U.S. Army General H. Norman Schwarzkopf said: "During the Gulf War, the few opportunities I had for relaxation I have always listened to music, and it brought to me great peace of mind. I have shared my love of music with people throughout the 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 the 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."

Some have questioned the idea that music actually makes people smarter, saying that maybe smart people are simply attracted to music. Then I would say that's all the more reason to make music a required course of study. If music appeals to intelligent people, there must a reason for it. Why not imitate the behavior of smart people? That's a basic tenet of education after all, to model our learning on what works. At the very least, experience with music broadens our scope as human beings helping us achieve success in life and work, not to mention increasing our enjoyment of living.

If we do value our children, and if music can in fact help build the whole human being, then I think perhaps it may be time to ask a larger question: Why is music not mandated at the state or provincial level as a required course immune from cutbacks, like math, science and language? Who decides what should and should not be required learning for our children? And what are their criteria? What would it take to communicate with these decision-making authorities and direct their minds to the tremendous multi-level benefits music can have on the development of the brain, the emotions and overall learning, as numerous scientists, doctors and researchers have been telling us for almost two decades.

It seems to me that basic training in the creation and performance of music would benefit anyone preparing for any profession. Music is not just an entertainment, though entertaining it is. It's not just a recreational activity, though it has all the benefits of recreation. It is a fundamental need for the full development of a human being, as we know from early Greeks' use of the arts as the basis of their education.

But since the Industrial Revolution of the late 19th century, education has been designed to train people primarily for jobs in industry, not for living and growing, and today's mega corporate world has amplified this pragmatism to the point where we are slowly but surely cutting music and the arts out of our childrens' general education, relegating them to extracurricular activities.

The age of industry, technology, and even information, is past. This is the age of the creative entrepreneur, and it requires new criteria for educating our children. As Richard Florida has told us in his ground-breaking book, The Rise of the Creative Class, we are in a new age where the most important element in our development is creativity, where ideas and original approaches to problems in all professions is the key to success. It's time for our education system to shake the dust off and play catch-up.

The arts play a central role in the education needed for this new age, because they are all about creativity. Being a performance art, music teaches children how to cooperate within a larger system, which orchestra, band and choral training require. The earlier we start children in music and the more we integrate music into the overall fabric of our schools, the better we will prepare our young for a successful and satisfying life. And we will all benefit, regardless of age, because we will be creating a richer, and safer, society.

Art is a metaphor for human creativity, and building a human being is the biggest creation of all. That's what our education system should be all about.

*This article first appeared in the October 2004 edition of the Italian magazine ADULTITA (No. 20).*

For more information on the graphic notation process, contact the composer at: michael@colgrass.com.

His works for middle school and high school band are:
*Old Churches (Hal Leonard)*
*Gotta Make Noise*
*Apache Lullaby*
*The Beethoven Machine (Carl Fischer)*


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