

Using Music in Your Gifted Classroom

Harry T. Roman Environmental and Technology Engineer

Background

Reach gifted and talented children through music. Explore the technology behind those wonderful sounds they enjoy coming through their radios, iPods, and computers.

All art forms are influenced by technology. Our creation and manufacture of new materials often leads the way. For instance, with the advent of oil paints came artists who worked in oils. With metals and welding came metallic sculptures. We use computers to make computer generated art and animation.

Our art forms mirror and take shape from technology.....and in return.....our art gives us inspiration for engineering and design. There are complex societal and feedback loops at work here that hold poignant lessons for your gifted children. Explore the links with music.

Guitars as an Example

Start with something universally recognizable to all students like the guitar. Trace its roots back to early times and investigate how this instrument came into being. What methods of construction were used in the manufacture of guitars? Move forward in time and show how it was used in musical ensembles and how different cultures gave it a heightened or diminished role in their music.

How did this affect the use and manufacture of guitars? Did new methods develop from an increased awareness of the instrument? What different types of guitars are there?.....6 string, 12 string,.....What other instruments are related to it – banjo, mandolin,...etc.?

Challenge your gifted students to learn what accounts for the mass popularity of guitars in bands. Is music more amenable to guitars or is the instrument inherently easier to play than other instruments? Compare the music of today with say “Swing Era” music of the late 1930s and 1940s. Are there similarities and did the guitar emerge to bridge the gap between Swing and Rock and Roll?

Invite professional musicians into the classroom to demonstrate the use of guitars and their contribution to different musical areas. Listen to music in your G&T class and identify how guitars contribute to the mood, style, and tone of various musical pieces.

Probably no other era better defines the emergence of the guitar than the early Rock and Roll days (1950s/60s) when every band seemed to have a guitar section of base, melody, and rhythm guitars. Examine how the traditional acoustical guitar made of wood was re-fitted with a microphone pick-up to electrify it, with amplifiers then used to augment the sound.

Guitar Inventions

Next, have your gifted and talented pupils follow how the actual guitar itself was made into the ubiquitous electric guitar so common today. How was the guitar made differently to accommodate the extensive use of electronics? How about the way amplifiers also changed to bring a wider array of sound interpretations to the amplified signals?

It is worth studying one of music’s greatest inventors – Les Paul. He is responsible for inventing the modern electric guitar as well as being one of the greatest guitarists of all time. Les also invented sound mixing, and the original 8-track cassette tape deck which was the forerunner to modern day cassettes.

Have your gifted children research the work of this man, understanding how and why he modified guitars to make them into the electronic marvels they are today. Listen to his music and compare it to non-electrified guitars of that period, and learn how he used technology to develop another form of musical expression. Modern Rock and Roll owes a huge debt to Les Paul. He pointed the way to modern music with his inventions and changed the music industry.

Les Paul built a number of crude guitar models that he experimented with when he was developing his prototype electric guitar. So why can’t gifted students try and make a simple guitar as a class project – experimenting with different bodies, and neck designs to see how they affect the tone of the instrument? Why not use a large metal can as a body and couple this with a wooden neck to see what sort of sound is produced? Don’t be afraid to experiment.

In the Caribbean Islands, the steel drums that often characterize their music came originally from oil drums. Now that's an interesting pathway of technology development and a musical connection for G&T students to explore! How did such a technology develop? Were instruments too expensive for the island folks to afford so they made their own; or did they want to create a unique sound; or did they just have a lot of empty steel oil drums?

Learning from Each Other

Perhaps your gifted students can learn from each other. Maybe there are some musicians in class who can give the other students a lesson in how technology has affected the instruments they play. They could give the class a concert and demonstrate the range of capability of their instruments as well as how different technologies are blended together in a band to make the harmonious sounds we call music.

And don't forget to tap into fellow teachers whose teaching specialty is music. Give them a chance to join you and your gifted class for a little "jam" session, as the musicians say. Do some joint teaching with the music department. Bring them into the technology discussion. You might be very surprised at what develops, and how much they know about the history and technology of musical instruments.

Students could try and make music with their own unique inventions and attempt to create a whole new field of music. Let them have fun creating unusual instruments and then try and explain how their technology works. Man made music long before he understood and formalized the rules for it. Let the students re-discover music on their own. You might just hear something you can dance to!

Here are some additional music-technology activities to think about using in your gifted classroom:

Examine the different ways that music has been recorded and stored starting with the wax cylinders invented by Thomas Edison to the CDs/DVDs of today. What promoted these technology changes? How did Edison's invention of recorded sound change the way that people heard and listened to music?

What is the economic value of the recorded sound industry today? Investigate how much revenue this industry generates and the jobs it provides.

Identify and discuss the many places where music enters our lives today....i.e., commercials, telephone waiting, movies...etc.

What is the link between poetry and prose, and music lyrics? Challenge your G&T children to explore some well-known lyrics to examine them as poetry.

Identify songs and music that have been used to inspire people the world over.... and why has that music become so popular?

Survey your G&T class to discover their favorite songs. What makes them favorites in their minds...such as....emotional impact, lyrics, beat, association with a time and place....etc. Examine and discuss the emotional link humans have with music.

Explore the connections between math and music. Can this help gifted children better appreciate fractions and musical beats and note timing?

Books on American History

Signing Their Lives Away: The Fame and Misfortune of the Men Who Signed The Declaration of Independence (2009) by Denise Kiernan and Joseph D'Agnes. Quirk Books, Philadelphia. This is the inspiring story of the fifty-six men who signed the Declaration of Independence in the summer of 1776. They risked their lives and fortunes in doing this heroic act. Among the individuals discussed are Matthew Thornton who led 'The Nation of New Hampshire,' John Adams who everyone loved to hate, John Hancock who signed first, Francis Lewis whose wife was imprisoned, Abraham Clark whose sons were imprisoned, Benjamin Franklin known throughout the world, and Thomas Jefferson who wrote the Declaration. Every gifted student should study this book.

John Adams: The Voice Heard 'Round the World (2010) by Marian R. Carlson. Schoolmaster Press, Cambridge, MA. This wonderful book is a companion to the CD by the same title which was performed by the Boston Landmarks Orchestra. The book contains beautiful pictures and documents that provide the background leading up to the signing of the Declaration of Independence. John Quincy Adams, the oldest son of Abigail and John, tells this story including his description of the Battle of Bunker Hill, George Washington and Thomas Jefferson. Elementary level gifted students will find this book to be an exciting study of early American history.