

# Music and the brain: How does music play us?

*"Music expresses that which cannot be said and on which it is impossible to be silent." – Victor Hugo*

How does music play us? As science and technology become intertwined with every aspect of our lives, we are learning more each day about the mysteries of our brain. Music is a particularly fascinating window into the human brain because it is non-verbal, separate from written and oral language, and yet a language itself. In fact, music presents a kaleidoscope of possibilities for us to come to new understandings about how we think. Music is both art and science: we experience it differently if we listen to it; perform it; improvise it; compose it. Each task within music is distinct and yet they are each a petal unfolding



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from the same flower.

This idea came to life last week when I visited the closing day recital of the Young Composers workshop held at the Nashua Community Music School, a gem in the heart of the downtown mill district of Nashua. This year's theme was devoted to Electronic Dance Music combining musical composition with technology.

I found the seven compositions all very enjoy-

able, and more sophisticated and complex than I expected. One student combined two traditions in his "Techno-Waltz. Another student composed a sound painting of a river. "Overdrive" featured robotics sounds; "Outer Space" was a collage of endings. Another student began with the "Blue Danube" melody and then took it apart.

What is happening in the minds of these young composers, in real time, as they improvise, enter their new melodies into the computer and then play it back to shape new sounds?

These are questions central to the research of University of New Hampshire professor Donald Robin, professor and chair of the communications sciences and disorders department. Robin came to New Hampshire from the University of Texas at San Antonio. His brain-music

research involved scanning the brains of Grammy-Award-winning jazz musicians to determine what parts of the brain "light up" during improvisation, what regions of the brain communicate to each other and what regions are silent. Robin's recent research focused on how music illuminates learning with kindergarteners at the Seacoast Charter School in Dover.

Sarah Will, UNH '18, a communication sciences and disorders major, helped organize the program. In an article in UNH Magazine, Willis stated: "We focused on what the kids could learn about their brain in terms of how it helps them function in their everyday life. We taught them the different job that each lobe does – the frontal lobe helps us think, the occipital lobe is how we see, the temporal lobe is for hearing and the

parietal lobe for touch."

Children were given a Styrofoam head and told where each lobe was located. Children drew pictures on the foam heads to express what they thought their brain was doing as music was being performed. Robin, a jazz musician and professional flutist and composer Anne Drummond performed for students. Then, children were asked to describe how they felt and which lobe was responsible for those feelings and colors they had seen during the music.

Robin: "It's putting language in music" unearthing how musical improvisation, which is actually musical composition, and the brain work together simultaneously to enhance learning, language and motor control, as well as influence creativity and stimulate the imagination.

