

# Jazz icon pushes to integrate ABCs with ‘1, 2, 1-2-3-4’

Apps offer teachers ways to add music to math, science



Herbie Hancock plays Sunday at the New Orleans Jazz Fest in New Orleans. (DAVID GRUNFELD/NOLA.com)

By Moriah Balingit, The Washington Post

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As a child, before he started playing jazz, composer and musical icon Herbie Hancock was fond of taking things apart and putting them back together. He was perpetually inquisitive and analytical, his tinkering with clocks and watches as a child carrying over to his first explorations of jazz as a teen.

“I would always try to figure out how things work,” Hancock said. “It was that same instinct that I have that made me learn jazz more

quickly. ... It wasn't a talent for music. It was a talent for being able to analyze things and figure out the details."

Hancock later studied electrical engineering at Grinnell College before starting his jazz career full time. He says there is an intrinsic link between playing music and building things, one that he thinks should be exploited in classrooms across the country, where there has been a renewed emphasis on science, technology, engineering and math education.

Hancock joined a group of educators and researchers Tuesday at the U.S. Education Department's headquarters to discuss how music can be better integrated into lessons on math, engineering and even computer science, ahead of International Jazz Day this weekend. Education Secretary John B. King Jr. said the emphasis on math and reading — along with standardized testing — has had the unfortunate side effect of squeezing arts education out of the nation's classrooms, a trend he thinks is misguided.

"English and math are necessary but not sufficient for students' long-term success," King said, noting that under the Every Student Succeeds Act, the new federal education law, schools have new flexibility to use federal funding for arts education.

Hancock is the chairman of the Thelonious Monk Institute of Jazz, which has developed MathScienceMusic.org, a website that offers teachers resources and apps to use music as a vehicle to teach other academic lessons.

One app, Groove Pizza, allows users to draw lines and shapes onto a circle. The circle then rotates and each shape and line generates its own distinct sound. It's a discrete way for children to learn about rhythm and proportions. With enough shapes and lines, children can create elaborate beats on the app, all in the context of a "pizza" — another way to make learning math and music palatable to kids. Another app — Scratch Jazz — allows children to use the basic coding platform Scratch to create their own music.

"A lot of what we focus on is lowering the barriers to creative expression," said Alex Ruthmann, a professor of music education at New York University who helped develop the Groove Pizza app. Other researchers discussed their experiments with music and rhythm to teach fractions and proportionality, a challenging concept

for young students to grasp when it is taught in the abstract. Susan Courey, a professor of special education at San Francisco State University, developed a fractions lesson that has students tap out a beat.

“It goes across language barriers, cultures and achievement barriers and offers the opportunity to engage a very diverse set of students,” Courey said. In a small study, students who received the music lesson scored 50 percent higher on a fraction test than those who learned with the standard curriculum. “They should be taught together.” “If a student can clap out a beat based on a time signature, why aren’t they adding and subtracting fractions based on music notation?” Courey said. “We have to think differently.”

Hancock thinks that the arts may offer a better vehicle to teach math and science to some students. But he also sees value in touching students’ hearts through music — teaching them empathy, creative expression and the value of working together and keeping an open mind.

“Learning about and adopting the ethics inherent in jazz can make positive changes in our world, a world that now more than ever needs more creativity and innovation and less anger and hostility to help solve the challenges that we have to help deal with every single day,” Hancock said.

## **New York University's Music Experience Design Lab Teams Up with Soundtrap Online Music Recording Studio**

***First Collaboration, Groove Pizza to Be Included in Thelonious Monk Institute of Jazz' and UNESCO's mathsciencemusic.org Website and at International Jazz Day***

April 26, 2016 07:00 AM Eastern Daylight Time

NEW YORK--(BUSINESS WIRE)--New York University's Music Experience Design Lab - MusEDLab ([www.musedlab.org](http://www.musedlab.org)) has teamed up with online music recording studio Soundtrap ([www.soundtrap.com/edu](http://www.soundtrap.com/edu)) to create "Groove Pizza," a playful online app for creating and exploring rhythms and grooves that brings mathematical and scientific concepts and the world of music together. The solution makes it possible for students to "export" a groove made on the Groove Pizza into Soundtrap ([www.soundtrap.com](http://www.soundtrap.com)) and continue to compose across any platform whether laptop or mobile, in the classroom or at home.

Speaking about the collaboration, Alex Ruthmann, Associate Professor of Music Education and Music Technology at NYU Steinhardt said, "Soundtrap is ideal for the education market. Traditional music technologies are often very complex and only made simpler when they are being marketed to schools. Soundtrap goes in the other direction - it starts with a very simple, clean interface with preloaded beats and examples that students can use to take music and audio with them wherever they go. It has really captured the attention and inspiration of students and opens up a world of possibilities for Groove Pizza users."

"Working with NYU MusEDLab brings us closer to fulfilling our goal of integrating the disciplines of science, technology, engineering, arts and math (STEAM) within K-12 schools in the US," said Per Emanuelson, CEO, Soundtrap. "We are especially honored to work

together with NYU in contributing to the Thelonious Monk Institute and UNESCO's Math Science Music initiative and website."

### **About MathScienceMusic.org**

"Math Science Music" <http://mathsciencemusic.org> is a project initiated by music legend Herbie Hancock and the Thelonious Monk Institute and backed by UNESCO. Groove Pizza with links to Soundtrap will be integrated into the Math Science Music website which will be officially launched at the US Department of Education on April 26. At this event will be US Secretary of Education John B. King, Jr., Herbie Hancock, UNESCO, Alex Ruthmann (NYU Steinhardt) as well as other dignitaries. To read more about this event or about Soundtrap visit: <http://journal.soundtrap.com/news/>

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