



MUSIC, RICE BOWLS, AND THE SCIENTIFIC METHOD

DA CAMERA OF HOUSTON

PRESENTATION: Arts-integrated Science Workshop

MUSIC USED: Lou Harrison, *Varied Trio*

LEVEL: Third Grade

LEARNING VENUE: Classroom

This elegant lesson, which teaches scientific measurement through a piece of new music, was designed by cellist Evan Leslie, the education director of Da Camera of Houston. It is only one of many arts-learning activities the presenter offers in collaboration with the teachers at Lovett Elementary School, a long-time community partner. “We spend a lot of advance time with the classroom teachers,” says Leslie, “to find out what they are planning for a particular week or project. And we train our teaching artists how to curate and present a good lesson.”

Central to this workshop was Lou Harrison’s “Bowl Bells,” arranged by teaching artist/percussionist Craig Hauschildt, who adapted it for the classroom from a movement of the composer’s *Varied Trio*, originally scored for violin, cello, and percussion. The percussion part calls for eight empty rice bowls, each with a specified pitch (but the pitches do not constitute a pentatonic or an octatonic scale). The composer’s requirement sent Hauschildt on a shopping trip to Houston’s Chinese district and involved testing hundreds of rice bowls of all sizes and weights.

The classroom teacher, Annemarie Cruz, along with Leslie and Hauschildt, briefly introduced the students to what they were about to experience. The percussionist told the story of his search for the bowls and explained how special and delicate they were. “Just telling the kids this,” he says, “was reinforcing the idea that in science experiments, you have to be very precise and



Percussionist Craig Hauschildt plays Lou Harrison for a class of third graders.

patient, and take care of the materials.” Hauschildt demonstrated the unique sound of each bowl by hitting it with bamboo chopstick.

Four adults—Cruz, Leslie, Hauschildt, and Chris Cascio, Da Camera’s outreach associate—then divided the class of 24 into 8 groups for a session of hands-on science. The bowls were passed out: one per group.

The students measured their assigned bowl’s circumference, diameter, weight, and volume and recorded their findings on specially prepared data sheets mounted on clipboards. Circumference, says Hauschildt, was the hardest for the children to coordinate consistently, since tape measures have to be held steady and always at the same distance from the lip of the bowl. But such problems were mere grist for the scientific mill; the kids were asked to repeat each measurement—with the grownups stressing the crucial idea of accuracy and repeatability in experimental science.

Most important was the overarching concept of the scientific method: that an experiment tests a hypothesis. The adults helped the children figure out whether weight and size correlated with musical pitch. The hypothesis was that the bigger and heavier the bowl, the lower the pitch—but two of the heaviest, “bass” bowls turned out to be higher in pitch than one of the lighter ones. That, explains Hauschildt, vividly demonstrated that testing may reveal that one’s hypothesis is NOT correct.

The class came back together to collaborate in arranging the bowls in order of ascending pitch, so that Hauschildt could perform his mini-concert.

The Harrison selection he had arranged was so virtuosic and lively, reports Leslie, that the kids asked for an encore.

One of the things I really love,” he adds, “is that we can use all kinds of music. We even based one lesson for a fourth-grade class on a solo clarinet piece by Elliott Carter!”