

# The Inquirer Features

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# Closing in on proof of arts' value to kids

*PETER DOBRIN, INQUIRER CLASSICAL MUSIC CRITIC*

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ALEJANDRO A. ALVAREZ / Staff Photographer

Martha Zook with her pupils at Settlement Music School's Kaleidoscope Head Start program, in South Philadelphia. High levels of cortisol, a hormone linked to stress, affect learning. Arts seem to lower levels.

For four years, Ellie D. Brown has been trying to determine whether an early education in the arts enhances children's ability to learn overall, and again and again she has turned to an unlikely tool of inquiry: a small swab of sponge.

More than 24,000 times, the West Chester University associate professor of psychology and her colleagues have reached into the mouths of 500 children at Settlement Music School's Kaleidoscope Head Start program and a nearby control school to measure cortisol, the hormone associated with stress levels.

Brown has several more months to go on her research, but she believes she is onto something. Preliminary analyses "give us good reason to believe that arts classes are associated with decreases in cortisol for young children," she says.

The findings could have important implications - for children, and for the field of arts education, which must continually justify its existence amid cuts to arts staff and curriculum. Two past studies by Brown strongly suggest that teaching concepts of reading and math through the arts increases school readiness, and found that compared with peers, children attending the Kaleidoscope program had three times the gains in vocabulary.

Chronic elevations of cortisol impair cognitive and emotional functioning, as well as physical health. Cortisol is closely related to the hippocampus, the part of the brain involved in learning and memory, and scientists believe that higher cortisol interferes with both. Showing that early arts education develops other cognitive skills - in science, math, and reading - potentially gives the arts a new argument for funding and restoration of programs. Previous studies by numerous researchers show a connection between stress associated with poverty and chronically elevated cortisol levels in young children.

"Arts research has been plagued by a lack of objective indicators of arts impact," Brown says.

New York University developmental psychologist Clancy Blair suggests it is novel to compare an arts-intensive Head Start program with a non-arts Head Start program. "I don't know of one exactly like this," he said.

The project - funded by a \$25,000 grant from the National Endowment for the Arts and a number of smaller grants from West Chester University and a - builds on Brown's two earlier Kaleidoscope studies, which make a strong case for specific benefits of early, intensive arts education.

Settlement's Kaleidoscope Preschool Arts Enrichment Program was started at the South Philadelphia branch in 1990 in response to needs at the nearby (now largely demolished) Southwark high-rise projects. About 100 students total are enrolled in the program there and at the school's Germantown branch.

Robert Capanna, who led the school until his 2009 retirement, said: "It took many years to engage the academic community in doing real, hard research around the effect of the program on participants, and we were thrilled when Ellie Brown made it the focus of her research in this important field."

It appears to serve a neighborhood need, in both South Philadelphia at the Mary Louise

Curtis branch and in Germantown. Dulce Lozano, whose son, Isaac Sanchez, 5, attends the South Philadelphia program, says Isaac routinely brings home ideas about music and art. The arts-enriched sampling in question lists dance, music, and papier mâché as his favorites.

"Everything in this school I like," he said. "They have nice teachers, and I come to school every day. I'll be so sad when I go to kindergarten, because I will miss my teachers."

Brown's earlier research compared Settlement's Kaleidoscope - a Head Start program in partnership with the School District of Philadelphia - with a nearby program of a similar demographic but without an integrated arts component. It did not involve collecting cortisol samples.

What her studies have not been able to do is compare two sampling groups in which students were assigned randomly, so they fall somewhat short of the "gold standard" in research.

Experts say that nearly any preschool program with strong teachers and curriculum is beneficial. The question is: Does an art-rich curriculum contribute to early development in a uniquely effective way?

In fact, the arts may prepare youngsters for math, reading, and science better than a pure math, science, and reading curriculum would, says George Mason University psychology professor Adam Winsler.

"These days, people are trying to do reading, science, and math a lot earlier, and a lot of developmentally inappropriate things are happening," says Winsler, who edits *Early Childhood Research Quarterly*, which published Brown's earlier two studies. "Young kids are supposed to be integrating sounds and materials and touching. They need this. It turns out these kinds of actions are good for self-regulation or executive functioning."

The Kaleidoscope program mixes math, science, and reading into the arts - counting through dance, for instance.

Says Settlement executive director Helen S. Eaton: "If you look at classes [music teacher] Martha Zook is doing, it's about understanding the A-B-A pattern, which is something significant in music. But the children are able to sing it back, they march around the room to that pattern and fully integrate it into their bodies and can integrate that into math or science or reading. The fact that children are using all of their senses leaves them understanding it in a much more significant way."

"If you think about what music and dance do," says Winsler, "it's having your body control a system. These motor-control games - high, low, slow, fast, legato, staccato, quiet, loud - give kids a chance to regulate their behavior with music and language."

Winsler says it is important to distinguish between the benefits of an art-integrated curriculum, and fads like the so-called Mozart effect - the supposed beneficial effect of simply playing classical music around children.

"There is no positive effect to that stuff," he says. "But there are positive effects to doing arts in an integrated, systematic way." He says arts programs do a better job than pure academics of making learning interesting and meaningful for children.

"Not to mention fun."

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