

# A little science goes a long way: Math and language scores improve with 10 hours of instruction

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A Washington State University researcher has found that engaging elementary school students in science for as little as 10 hours a year can lead to improved test scores in math and language arts.

Samantha Gizerian, a clinical assistant professor in WSU's Department of Veterinary and Comparative Anatomy, Pharmacology and Physiology, saw improved test scores among fourth-grade students in South Los Angeles after students from the Charles R. Drew University of Medicine and [Science](#) gave 10 one-hour presentations on science.

"A lot of students say things like, 'I didn't know science was fun,'" says Gizerian, who helped with the classes while on the Drew faculty. "And because they think it's fun, all of a sudden it's not work anymore. It's not homework. It's not something extra that they have to do."

The fourth-graders in turn took home nonfiction books and showed a greater willingness to practice reading and math, says Gizerian.

Test scores bear that out.

According to a poster Gizerian presented at the recent annual meeting of the Society for Neuroscience, the students' average percentile rank in math on a standardized test increased from 53.2 in the third grade to 63.4 in the fourth grade. The language arts percentile improved even

more dramatically, rising from 42.8 in the third grade to 60.3.

The study was part of a science-education initiative in which students from Drew acted as science mentors and gave science lessons. The program, funded by a National Center for Research Resources Science Education Partnership Award, improved the Drew students' ability to describe difficult scientific concepts, says Gizerian, "under the premise that, if you can teach a fourth grader a complex science concept, then you can teach anybody."

The Drew [students](#), most of whom are ethnic minorities, served as [role models](#) for the pupils, who come from predominantly low-income, minority neighborhoods. The pupil's prevailing attitude, says Gizerian, is, "in our culture, science isn't something we do. Science is for 'them.' To have kids in their classroom whose faces are the same colors, and for them to say, 'science is for me,' that's a big thing that we do."

In some cases, a lesson could be as simple and eye-opening as a microscope slide and the tiny life forms visible on it.

"It's really amazing when you hand them a piece of glass that's a microscope slide and you tell them, 'This is a real microscope slide—I use these in my lab,'" says Gizerian. "All of a sudden there's just complete reverence. They're just completely blown away by the idea that they're doing real science." Gizerian's study concludes that the science lessons, while effective in themselves, also serve "as a spark to ignite a child's interest in lifelong learning in all areas."

Provided by Washington State University

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