

The NYAS STEM Program: Mentoring Future Scientists

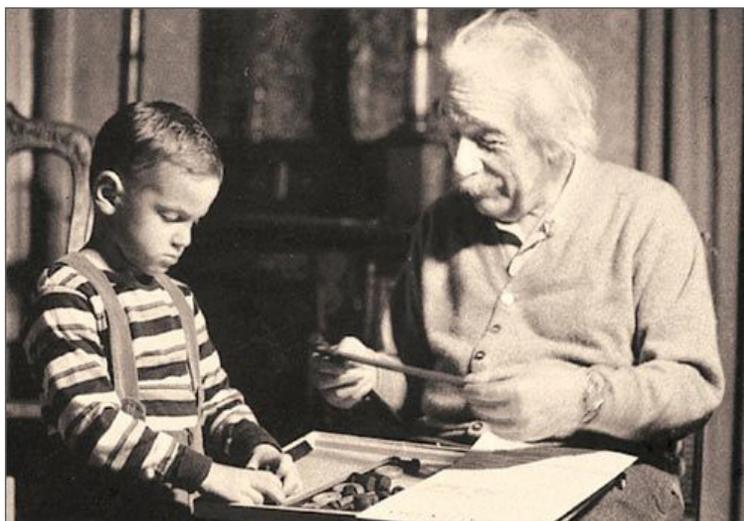
By Danielle Nagelberg

For many of us, science became a real career option only after meeting an actual, real-life scientist. That's why many mentors with the New York Academy of Sciences (NYAS) Afterschool STEM Mentoring Program begin their first lesson by asking their students to draw a scientist. When students draw old white men in lab coats with glasses and Einstein-inspired hair, mentors are able to say, "Well, I'm a scientist, and I'm not an old white man with glasses." By the end of the program, after weeks spent extracting DNA, identifying fossils and mapping volcanic eruptions, students should be able, when asked to draw a scientist, to draw themselves.

As a student at a public school in Philadelphia, I attended a science enrichment program. Through this program, I met and worked with scientists, wading through wetlands, collecting samples, and discovering (1) that scientists are real people (strange people, but real, nonetheless) and (2) that I could do "science." While this may not have exactly made up for the ways in which my math

and science education was substandard, it taught me how much more there was to science than what little I had learned in school. NYAS afterschool mentoring provides similar benefits to New York City students.

At a site run by the Educational Alliance in Alphabet City, I worked with an ethnically diverse group of fifth graders.



In the past, the Educational Alliance program had been much larger, but due to budget cuts, it now consists of only about a dozen kids per grade level. (This budgetary struggle is, unfortunately, part of a larger trend; Meghan Groome, Director

of K-12 Education at NYAS, cites budget cuts in partner afterschool programs as one of the main challenges to the NYAS program meeting its goals. And as programs struggle for funds, the number of families and kids in need of afterschool programming is steadily increasing. "We work with amazing organizations, and to watch them get starved of funding is incredibly difficult," said Groome.

Students met me in the library after eating dinner in the cafeteria, bursting

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through the doors, throwing their coats on the floor, full of food and the burdens, energy and drama of their days. Gradually, their individual talents and personalities unfolded. There was a girl who rarely said a word, until one day, she surprised everyone by announcing, “Hey, this rock sticks to the magnet! I think it’s magnetite!” Another girl started out sarcastic and reluctant to participate, but turned out to be the science nerd of the bunch. I wanted to give my students greater confidence and awareness surrounding science, whether or not they would ever consider science as a career, and with this limited goal, I think I was successful.

The NYAS program is somewhat unique among science mentorship programs, both because of its size and because of its dedication to supporting its mentors. It recruits graduate students and post-docs, trains them in youth development, uses partnerships with organizations such as Cold Spring Harbor Laboratory and Lego to help provide lesson plan guidance, and then places them in afterschool programs all over the city. Mentors meet fellow graduate student and post-doc mentors from institutions throughout the city, and are provided with opportunities to meet and support each other in developing their lesson plans.

The program’s focus on teacher training may explain why, at the 2011 What Can You be With a PhD? Symposium’s panel on K-12 Education, panelists strongly recommended the NYAS program for students considering a career in K-12 teaching. One panelist, Stephanie Kadison, volunteered with the NYAS STEM

program while working as a post-doc at Weill Cornell, and cited Groome as helping her find her current position as a teacher with Bard High School Early College.

Of course, not all mentors decide to become teachers. “Some mentors find out that they don’t like teaching and working with kids; we’re just as pleased to hear this helped them make that decision as someone who says that this experience made them want to go into teaching,” said Groome.

Hopefully, even mentors who feel overwhelmed—with managing classrooms, developing lesson plans and balancing all this with research—still enjoy the simple benefits of serving as a mentor. “A number of our mentors have reported that the kids cheer when they come into the room. That must feel pretty amazing after a hard day in the lab,” said Groome.

Potential applicants should be aware that there is a considerable time commitment—programs average about eight weeks, and, in addition to classroom time, you will also spend time preparing lesson plans and commuting to the site. You will also have to navigate communications with your host afterschool site coordinators, something that sometimes gave me trouble. All in all, for me, these difficulties were more than

If you’re interested in applying to the NYAS Afterschool STEM Mentoring Program, go to <http://www.nyas.org/landing/afterschool.aspx>

worth it.

