

Inquiring Minds

Medical Students bring the scientific method to a local elementary school by sponsoring a science fair.

By Asalim Thabet '09

As health care professionals, we are highly admired by our community. We are expected to provide care and services for those individuals in the community who need it. This year a group of Upstate graduate and medical students decided to start giving back to young individuals in the community by enriching their lives through science.

As members of the science community, it is obvious and intuitive to us that in order to prove something we must experiment and conclude based on results from our work. The scientific method has become engrained into our minds to the point where we no longer realize we are implementing its principles into our lives. It's simply the way we think.

Unfortunately, this is not the case for many young students, as was discovered through the partnership between Upstate

medical students and the Dr. Martin Luther King, Jr. Elementary School in Syracuse, our "Adopt-A-School."

The Adopt-A-School program has been in place since 1999, giving medical students a break from the immersion of medical school and a way to contribute to the outside community. The ongoing projects include a reading program, this year coordinated by Adam DeTora '09, which pairs up one medical student with one elementary student to encourage and strengthen their reading skills, and a nutrition program, run by Erin Nozetz '09, to help educate students on the proper foods to eat to ensure a healthy diet.

The idea for having a science fair started as a partnership between the Adopt-A-School program and another student group, the Internal Medicine Club. DeTora, a co-coordinator for the Science Fair, is also president of the Adopt-A-School program. Dodji Modjinou '09, another co-coordinator for the science fair, is vice-president of the Internal Medicine Club, which is a club that has always been interested in hosting a science fair with the Dr. Martin Luther King, Jr. students. I love kids and wanted to participate in Adopt-A-School, but had a class conflict on the regular Wednesday time when the group meets. Adam knew I was anxious to get involved so he approached me about this new project. That's how Adam, Dodji, and I came to put the science fair together to help the fifth graders at the Dr. Martin Luther King, Jr., Elementary School to see the importance of science and experimentation.

In late January, under the guidance and support of Sara Grethlein, MD,

associate dean of graduate medical education, and Susan Stearns PhD, associate professor of cell and molecular biology and director of student outreach, we met with the principal and fifth grade teachers at the Dr. King School to start putting the program together that would bring the scientific method to these fifth graders and prepare for the school's first-ever science fair. We also had to recruit medical students who wanted to participate. As it happened, the students who volunteered were a diverse cultural group, illustrating that science can be appealing to many different people.

Ultimately, we had 70 fifth-graders and 34 Upstate students participate in the 10-week program. Upstate graduate and medical students were paired up with two or three fifth graders to work on a science project of their choice. The medical students met with their groups once a week for the duration of the program.

The fifth grade students were excited to see us, welcomed us, and showed great interest in the projects. The students' minds were filled with great ideas and different approaches on how to do the experiments. The students' different capabilities were most evident by the variation in scientific topics. John Fischer '09 worked with students who studied the benefit of protective islands in areas endemic with volcanic eruptions, while Syed Ahmad '09 assisted students examining properties of bacterial growth on bread left in the dark, light, and the cold. Quynh Hoang '10 and her group compared the similar appearances of medication to candy, a project meant to show the students that often the medication that elders may get can

resemble candy, yet should not be taken as candy.

Other projects included topics of generating electricity, volcanoes, effects of sugar on blood pressure, aerodynamics, gravity, earthquakes, practicing a skill to perfect it, and what kind of paper boats can withstand the most weight.

Adam, Dodji, and I thought the science fair would be an excellent opportunity for students to showcase their achievements while providing a vital assessment tool for their teachers. We wanted to provide this opportunity of exploring the field of science to these students because it grants the students the opportunity to investigate issues related to science and technology in the world outside of reading it in a textbook. Although this is fundamental and important, it also reinforces the students' ability to work as a team and solve real

problems. Just as important, science fairs can help students develop the essential attitudes and values that are needed for meaningful work in science.

Although science fairs are usually judged and awards are given, in our attempt to not foster a competitive environment, we decided not to judge the projects at the science fair. Instead, we applauded all the students on their hard work and participation by presenting each of them with a certificate of participation.

Most medical students participated in science fairs as young students and remember the fun we had and the knowledge we gained. We wanted to provide this same experience to these fifth grade students and feel we were successful by the attendance on science fair night, which exceeded the normal attendance previously recorded at any fifth grade

event. Best of all, the fifth graders brought their family and friends and had the opportunity to present their work to their loved ones.

Science is something you do and think about, not simply facts dictated in a textbook. Real science learning comes when unexpected discoveries are made—or when students begin to see the implications and usefulness of their work. This science fair program served to encourage, enrich, and engage the minds of these fifth grade students so that they have the advantage of experimenting and exploring the field of science.

The Upstate students also benefited immensely from this experience. We enjoyed working with such wonderful young minds and were amazed at their creativity and enthusiasm. SUNY Upstate prides itself on engaging excellence and reaching out to the community. The success we had this year encouraged us to continue this tradition. Therefore, we have already selected four students who will run the program next year: Karen Lee '10, Lauren Knecht '10, Arlin Chin '10, and Julie Rombaut '10. It is our ongoing hope that this science fair program enables the elementary school students to see that science and technology are not just subjects in school, but fields of knowledge that affect their lives, their communities, and the world. We also hope they recognize both the applications of the most current science and the limitations that still exist. Instead of focusing on their own discoveries, they can then look at the bigger question: What's left to discover?

Asalim Thabet is a 2001 graduate of Henninger High School in Syracuse. Her first scientific experience was through an elementary school science fair.



Fifth-grade student Phillip explains his project to Dodji Modjinou '09, vice president of the Internal Medicine Club.



Rajitha Devadoss '09, president of the Internal Medicine Club, listens while her fifth-grade partner explains the project to her family.