Scientists for Tomorrow

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Project Overview:
Columbia College Chicago (CCC) is an undergraduate and graduate institution providing a comprehensive opportunity in the arts, communications, and public information within the context of a strong liberal arts education. The CCC Science Institute in the Department of Science and Mathematics is committed to providing quality science and technology educational programming for CCC's non- science major students and Chicago's teachers and youth. Scientists for Tomorrow developed by CCC, is a program providing urban youth in Chicago with information and skills related to science, technology, engineering, and math (STEM) careers and positive attitudes toward science and technology information.

Goals

The goal of the Scientists for Tomorrow (SfT) program is to address the opportunities articulated by the Informal Science Education as well as to promote urban youth in Chicago to be aware of, engaged in, and to develop skills related to STEM fields and careers in science and technology.

Objectives

Youth: The youth will increase their motivation to pursue STEM education and careers (change in attitude).

Youth and their Parents: The youth and parents will increase their awareness, knowledge, engagement and understanding of STEM topics, when reinforcing their sense of competence and interest in science and technology.

Youth, their Parents, Community Center Leaders and Pre-Service Teachers:
Everyone involved will increase their participation in STEM activities and promote communication of STEM information among individuals, incorporate the module content knowledge into their lifestyle (change in behavior), and participate at Family Science Days throughout the year at one of the informal education venues located in Chicago.

Summary of Participants

Year One: *NSF Funded 14 Sites*
Instructors 10; Participants 545

Year Two: *NSF Funded 14 Sites*
Self Sustained 21 sites; Instructors 34; Participants 767

Year Three: *NSF Partially Funded 7 sites*
Self Sustained 32 sites; Instructors 33; Participants 958

Sustainability

The project was funded for two years.
We are finishing the third year – No-Cost Extension. It is expected that the members of this partnership will make concrete efforts to continue this program after the period of grant funding. During the Second year of the program, the SfT team developed a "Self-sustained" approach to facilitate the implementation of the program after the period of the grant. In the Third year - no cost extension, SfT is implementing the program in 32 sites.

www.scientistsfortomorrow.org

Methodology

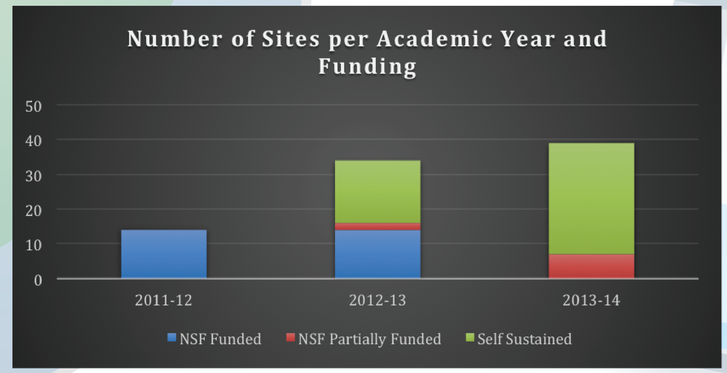
In the communities, the academic year is divided into 3 sessions of 10 weeks: Fall (October-December); Winter (January- March) and Spring (April – June). Each session explores a different module such as Alternative Energies, Physics of Sound and Mathematics of Music, People and Plants, Robotics or Astronomy. Before the session starts, SfT provides more than 15 hours of professional development for all of the instructors involved in the program. The session includes 10 meetings (once per week) of 90 minutes with an end of the module showcase. At the end of each module, all of the sites participate in a Family Science Day in one of the ISE venues partners: Museum of Science and Industry (December), Field Museum (March), and Garfield Conservatory (June).

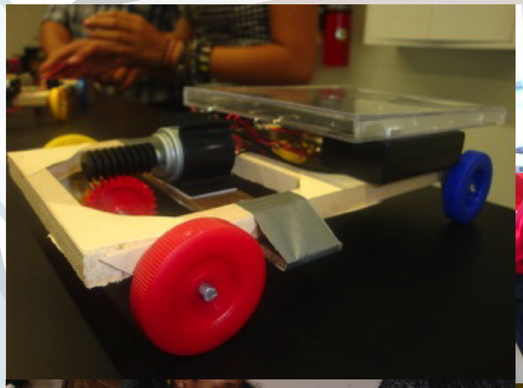
Evaluation

Participants are given a pre and post attitude test for each module per session, in order to determine their knowledge and awareness towards STEM. These tests are scored through an external evaluator and provide quality information for how to modify curriculum in the future. Additionally, all instructors are required to fill out Activity Journal Logs after each of their class sessions. These internal evaluations allow instructors to reflect on their formative assessment techniques, as well as find where they needed more support.
Leadership within the program reads the logs daily and reacts accordingly, providing all necessary resources. Finally, the Community Site Director, Coordinators and Volunteers are given a survey to evaluate the program as a whole, at the end of each module. These are later externally analyzed for the program's role in providing a more effective partnership and effective afterschool program.

Challenges Encountered

The collaboration with the CCC Department of Education proved to be very valuable. With their input, we are currently refining the model in order to increase the number of pre- service teachers engaged in ISE activities, as part of their training to become formal educators.





Next Steps

During the project, and after the success of the implementation of SfT in San Jose, California, we started conversations with representatives from Hofstra STEM Center, Buffalo State University, and Jay Pinson STEM Education Center to form the Scientists for Tomorrow National Alliance.
After preliminary talks, we had our first two day conference from May 10-11, 2014 in Chicago. The discussion focused on the application of an AISL Scale Up grant on November 2014. We identified the logistical steps to run a pilot of SfT implementation to a limited number of community centers in each Alliance location in fall (September-November).