Be a Scientist!

Engage **underserved families** living in low-income communities

Increase **parent involvement** in student learning

Provide mentorship via **access to engineering students**

Here's how:

Our aim was to serve 1,700 unique partcipants.

We exceeded our goals:

8 schools, **2** museums, **259** Family Science sessions and **2,173** unique participants over **5 years.**

From this we developed a scalable, sustainable method to support long-term learning among underserved families. Specifically, to help families develop deeper content knowledge in science and engineering:

CURIOSITY MACHINE irdescent
curiositymachine.org

Project Overview

Be a Scientist connected families from 8 schools in underserved communities with mentoring engineering students.

Over 5 years, we engaged 2,173 parents & chilren. 16% of these participated for at least 2 years.

Participant Demographics

55% girls

< *After our programs, 95% of participating girls enjoyed hands-on learning.*

We mainly served families from two school districts:

Los Angeles Unified Schools

89% receive free or reduced lunch

88% Latino

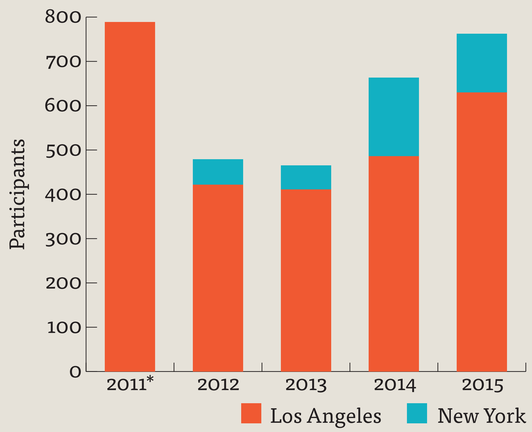
New York Department of Education

69% receive free or reduced lunch

49% Latino

Participant Attendance

We increased attendance over 5 years:



*In our first year we engaged a high number of unique participants, but did not retain many participants for future programming. This was remedied in subsequent years.

Additional Impact

Fostered scientific thinking skills in children

Increased STEM activities done at home

Promoted dialogue between scientists & engineers and families

Inspired students toward STEM careers

Engaged school staff in STEM activities to encourage them to transfer content to classrooms

Brought engineering students in contact with communities and experiences not typically reached in engineering programs

A Parent's Story

From a 5th-year Be a Scientist parent

"Seeing them try, and whenever they get something wrong, they don't cry or they don't put on a face, that sad face. They're like, "Oh, lets try it again, let's do it again. We have to do this.""

A Child's Story

After participating in Be a Scientist for 5 years, one young girl decided she wants to become a scientist

"...because building stuff is awesome and you could try to use it and try to build something new in the world."

A Mentor's Story

From a mentoring engineering student

"I realized the importance of these design challenges and how the science taught through them stays with the Kids in the future."

After Our Programs:

Children

79% are more engaged in practices in scientific thinking such as persistence (89%) and questioning (79%).

85% believe they would be a good scientist or engineer one day.

Parents

94% would engage in more science-related activities at home.

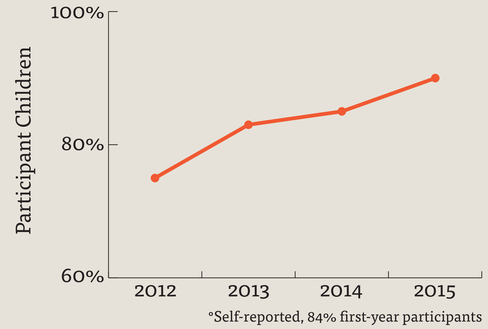
91% would encourage their child to pursue an education or career in science or engineering.

Student Engineers

75% improved public speaking and communicating complex science ideas to non-scientific audiences through mentoring

Program Improvement Over Time

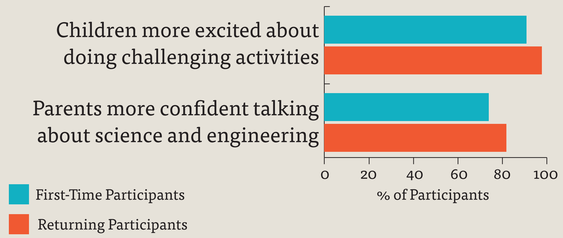
Children understand science and engineering better°:



°Self-reported, 84% first-year participants

Long-Term Learning Gains

Returning families built on previous learning gains:



Conclusion (EDC)

"This program provides something that is often absent in the lives of young children who live in communities that are at the lower end of the economic spectrum: access to a wide range of adult professionals working in the fields of science and engineering... for children and their families who participated during the projects 5 years, the difference is noted by all participants."

External review by

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