

# Creating a Community Partnership Through a Science Center School in Los Angeles

By Ron Rohovit

Despite living in an oceanside city, many elementary school children from South Los Angeles neighborhoods have had little or no exposure to wilderness areas, including the California coast. The Dr. Theodore T. Alexander Jr. Science Center School is working to change that by providing dual language (English and Spanish) instruction with an integrated curriculum focusing on science, technology, engineering, and math (STEM) to expand students' horizons ([californiasciencecenter.org/about/science-center-school](http://californiasciencecenter.org/about/science-center-school)).

## OPERATING AS A PARTNERSHIP

This neighborhood elementary school (transitional kindergarten through 5th grade) operates as a partnership between the California Science Center and the Los Angeles Unified School District (LAUSD).

With accessibility and inclusiveness as core values, the California Science Center strives to engage parents and children and foster a sense of ownership within the neighborhoods. The Science Center School serves as a community hub for science learning and is one component of the California Science Center's 25-year master plan developed in the 1990s.

A lease and joint participation agreement define the roles of each partner. The science center brings unique STEM resources (such as the Space Shuttle *Endeavour* and a 188,000-gallon (711,580-liter) Kelp Forest aquarium) and expertise in co-developing the school's curriculum and providing professional learning opportunities for teachers and parents. In collaboration with the science center, the LAUSD

provides additional leadership, educational expertise, and administrative infrastructure.

## INCREASING LEARNING OPPORTUNITIES

Located in Exposition Park, South Los Angeles, the school aims to provide an educational program of the highest quality for students residing in the neighborhood. Since it opened in September 2004, the school has had an average annual enrollment of more than 650 students, 80% of whom are drawn from underresourced communities surrounding the science center. Eighty-two percent of attending students qualify for federal aid, including free and reduced lunch programs.

Our first goal is to increase learning opportunities for all students, with an emphasis on enriched and expanded experiences that integrate the resources of the California Science Center for students who are identified as academically low achieving or at risk because of economic circumstances.

Students from the Science Center School build roller coaster pathways to investigate acceleration and velocity at the California Science Center. Photo courtesy California Science Center





Science Center School students snorkel at Marine Biology Camp on Catalina Island. Photo courtesy California Science Center

The learning opportunities are rooted in students' needs, which have been determined through school tests, the teachers' and science center's knowledge of the students and their families, and science center evaluations and community needs assessments.

A second goal is to create replicable professional learning opportunities for administrators, teachers, and parents that can serve as a model for improving professional practices in other schools and districts. Science center education staff works closely with the school's principal and teachers to determine areas to be addressed by professional learning opportunities. One recent opportunity for teachers was co-delivered by science center and school staff and focused on student note booking, which is an important skill for teachers to command for implementing the Next Generation Science Standards (NGSS) with their students. There is a heavy emphasis at this time on the implementation of the NGSS ([www.nextgenscience.org](http://www.nextgenscience.org)) and the Common Core State Standards ([www.corestandards.org](http://www.corestandards.org)).

### VISITING THE OCEAN

Students in 5th grade, their final year at the school, participate in a Marine Biology Camp, which serves as a culminating experience and outdoor program to provide students with opportunities to take their science education into the natural world. The experience is designed to enhance students' classroom ecology lessons, build self-confidence, and develop personal connections with nature that will inspire them to become better stewards of our environment.

To prepare students for the trip, the science center's curator of ecology programs teaches them from January to April about the ecology of Catalina Island. Teachers integrate additional science techniques into daily classroom lessons, and students visit the California Science Center's Kelp Forest exhibit in the *Ecosystems* gallery to augment their learning.

During the four-day trip in May, students participate in hands-on science labs and learn about plastics, pollution, and human impacts on marine mammals and sea turtles. They also take a natural

Students' most memorable learning points include sharing their fears with their peers around a campfire and later facing them during an activity. One of the most common fears is of the water, since many inner-city students haven't had the opportunity to visit the ocean . . . Ultimately, most are able to address their fears and immerse their heads to begin snorkeling.

history walk in the local hills, learn astronomy at night, and participate in various self-confidence and team-building activities. In addition to participating in STEM activities, students can snorkel and kayak in Emerald Bay and hike the beaches and hills. The camp is on Catalina Island, a one-hour boat ride away, and for most students, this is their first trip away from home.

Students' most memorable learning points include sharing their fears with their peers around a campfire and later facing them during an activity. One of the most common fears is of the water, since many inner-city students haven't had the opportunity to visit the ocean and learn what is underwater. When students go snorkeling, it is a slow process: first they sit in shallow water, then stand in knee-deep water, and progressively go into deeper water as they feel more comfortable. Ultimately, most are able to address their fears and immerse their heads to begin snorkeling.

Dissecting squid, trawling for plankton, jumping off the pier, swimming in the ocean, and stargazing have been among some of the "firsts" that students experience and enthusiastically recount in their written reports and drawings.

### EVALUATING SUCCESS

The California Science Center hired an external company in 2011 to evaluate the school's progress toward achieving the goals in its charter. The two-year evaluation was longitudinal and provided a plan and framework for future evaluations to logically build off the outcomes, strategies, and evaluation tools.

When comparing Science Center School students

with those from public schools in similar areas, and after statistically controlling for key demographic variables, the following statistically significant results surfaced. Science Center School students

- Possessed higher-level science inquiry skills. For example, they were more likely than other students to propose the use of tools or representational objects to manipulate or set up conditions for investigation.
- Were more likely to craft experimental designs that aligned with their hypotheses, accurately use scientific terminology, propose elaborate experimental procedures, incorporate experimental controls, and outline data collection procedures.
- Scored higher in curiosity about STEM topics.
- Scored higher on California State Testing (CST) for science, math, and English language arts at the elementary (5th grade), middle school (8th), and high school (10th) levels, even after controlling for demographic factors. In addition, students who attended the Science Center School for longer durations experienced greater gains in CST scores as they progressed from 5th to 8th to 10th grades.

We have learned much about what it takes to create a unique learning environment for a culturally diverse population that integrates both formal and informal learning, builds on the interconnection between classroom experiences and students' view of the world, and inspires children and families of South Los Angeles to educational and career success. ■

.....  
**Ron Rohovit** ([rrhovit@cscmail.org](mailto:rrhovit@cscmail.org)) is deputy director of education at the California Science Center, Los Angeles.