Project Details

Lead District: East Baton Rouge Parish School System  
Higher Education Partner: Louisiana State University (LSU)  
Federal Funds Received: $505,000 (Three years)  

Changing the Way Teachers Perceive Science and Mathematics

“When I first entered the project, I hated science and believed no one could change my mind. At school I would have never volunteered to teach science, but after this project I have been teaching science and love it!” The preceding statement came from a Project xCELL teacher. For many in this MSP Project, the experience was career changing, as evidenced by another teacher who remarked, “Because of this project, I’ve become excited again about teaching math and science, and my excitement has rubbed off on my students.” As a result of Project xCELL, not only did teachers evolve in their own views on mathematics and science, but their students also responded to the interest and excitement of their teachers.

Improving Teacher Content Knowledge and Pedagogical Skills

Interactive, competitive games made all the difference in turning both teachers and students on to mathematics. Content lessons incorporated Math 24 for Algebra, Fractions and Decimals, and Probability and Statistics. These mathematics-based games encouraged the participants to delve more deeply into the content and learn through an engaging medium. In addition, lessons from the National Council of Teachers of Mathematics (NCTM) elementary publications, Navigating through Algebra and Probability and Statistics, were valuable resources.

“I struggled with science a lot the first year of the project. This MSP project has really made a big difference in my content knowledge and instructional strategies in my classroom. Because of this, my confidence in teaching science has increased and the end result has been my students’ confidence in science has soared.” This testimony of the impact of the program clearly illustrates how engaging activities presented in science made a marked difference in the way teachers thought about science and presented scientific information. Much of the excitement generated for science was due to cultivating and raising organisms, such as butterflies, and learning inquiry methods of presenting the content to pique participants’ and ultimately their students’ curiosities to learn more about science.
Opening the Doors to Learning Outside the Classroom

A highlight of this project throughout its implementation was leveraging the resources found across Louisiana to augment the instruction in the classroom. For example, participants were exposed to authentic research during excursions to the Laser Interferometer Gravitational Wave Observatory (LIGO) and the NASA John C. Stennis Space Center.

LIGO’s unique research laboratory offered teachers a wealth of information about behind-the-scenes research relative to the measurement of gravitational waves and the development and construction of the facility. Its teacher education department is exemplary, and provided hands-on activities that illustrated scientific principles to the participants. In addition, LIGO includes a visitor center with participatory exhibits that illustrated scientific phenomena through engaging activities focused in the physical sciences.

Visiting the Space Center provided resources across the fields of earth and space science to meet all of the participants’ needs in those areas, as well as an opportunity to work with well informed NASA education staff and scientists. The LSU River Model trip was an event in itself! Participants were again provided insights from the research being conducted by practicing scientists and learned more about the dynamics of the Mississippi River, one of the nation’s greatest resources.

A field trip to New Orleans rejuvenated participant enthusiasm for learning and capped off the third and final year of the project. The participants conducted a scavenger hunt at the Audubon Aquarium of the Americas and toured the world class Audubon Insectarium, where they learned more about native and non-native species in life sciences. These two culminating experiences, along with those from previous years, provided xCELL participants with a new perspective on research and resources that are available to them and their students. Each field trip also had another impact—that of motivating both the teachers and their students to learn more about the various topics they studied!