E-STEM Completes First Year

“I have been able to teach my students differently because I have a deeper understanding of the content knowledge.”

- E-STEM Participant

E-STEM, in its initial year of operation, served as a catalyst for teacher-participants to gain more in-depth, conceptual understandings of important scientific and mathematical concepts through relevant Science, Technology, Engineering and Mathematics (STEM) content applications. Immersing the E-STEM teachers in an inquiry-based, knowledge-centered environment provided them with the experiences necessary to recognize that what they initially perceived as taking “too much time to learn” actually may translate to taking “less time to learn” in the long run. In other words, allowing students more time to discover concepts and generate their own understandings encouraged authentic learning experiences and better retention of concepts, as well as increased connectivity to already learned concepts. As a result of E-STEM teachers personally experiencing learning through discovery/inquiry methods, the teachers were able to determine the benefits they gained themselves. They revealed that their previous content scaffolding practices had been flawed, in that they were providing too many directions and too much information, and needed to allow their students more “thinking” time. Rigorous discovery learning strategies also set the stage for asking questions designed
to uncover misconceptions. These experiences had a profound impact on the teachers’ own misconceptions and helped them learn how to probe their students’ thinking processes and provide appropriate interventions. The E-STEM method of modelling exemplary learning strategies was also successful in the classroom implementation phase of the program, as noted in the following participant comment:

“The interactive training provided me with effective teaching strategies and activities that improved my ability to teach meaningful, challenging lessons.”

In addition, E-STEM participants shared the knowledge and strategies they learned in the program with their colleagues, which has greatly expanded the program’s impact. Participants reported providing copies of their activities, sharing their learning logs and presenting some of the strategies to their peers in a variety of venues. District personnel attest to this exchange of information, as well as finding evidence of impact in non-participating teachers’ classrooms in the parish.

E-STEM teachers have increased the performance of their students, as evidenced by the comparison of state test scores of students of participating teachers and non-participating teachers. E-STEM students outperformed the district in both mathematics and science on the LEAP and iLEAP in all three grade levels.

- Mathematics scores in Grade 3 were 8 percentage points above the district and 2 points above the state; Grade 4 scores were 1 point above the district; Grade 5 scores were 11 points above the district and 2 points above the state.

- Science scores in Grade 3 were 12 percentage points above the district; Grade 4 scores were 3 points above the district; Grade 5 scores were 9 points above the district.

Project Quotes

“I was able to gain a better understanding of everything that was taught throughout the project. I also was able to implement it in the classroom, as well.”

“My students’ iLEAP, peer evaluations, and observations are evidence showing how the MSP project has impacted my teaching skills.”

“I feel much more confident when teaching certain science concepts.”

“My measurement lessons were clearer and the kids’ scores were higher than in previous years.”

“The MSP project provided many hands-on, explorative experiences that aided in the understanding of important concepts.”

“Every day that I was involved in the MSP project, I was able to see high quality professional development.”

“Peer collaboration and a collegial atmosphere through many of our joint experiences resulted in a high quality experience.”

“This project creates a network of MANY teachers to collaborate with from not only your own school, but other schools in the parish.”

“My participation has expanded my interest in participating in professional organizations with a content focus.”

“I love math and love to learn as much as I can about it. I was kind of leery of teaching science, but this project gave me the tools and confidence I needed to teach this subject.”