Over the next 12 years, Louisiana and the nation will see a surge in the number of job opportunities available in the fields of Science, Technology, Engineering, and Mathematics, also known as STEM. ACT's 2018 Louisiana State of STEM report showed that 51 percent of Louisiana students indicated having an interest in STEM majors and/or careers, but only 10 percent met the STEM benchmark demonstrating their readiness for math and science coursework in college. In order to better meet workforce demands, the Louisiana Department of Education, the Louisiana Board of Regents, the LaSTEM Council and the Governor's office have teamed up to ensure Louisiana's students have exposure to STEM courses and credentials starting in elementary school and continued through college. This month's blog spotlights an educator who is helping that effort by introducing her students to STEM at an early age.

Awareness is key. Lonnie Kennair, a third grade teacher at Leo Kerner Jr. Elementary School in Jefferson Parish, understands this and has already begun to expose elementary students at her school to STEM education. She uses a cross-curricular approach to introduce STEM into daily lessons, and she launched an after-school STEM Enrichment Program that has garnered an overwhelmingly positive response.

As Louisiana and the nation grow increasingly reliant on STEM careers, cross-curricular lessons and programs such as Kennair's are critical. Kennair believes students with a knowledge of STEM education at an early age are more prepared and more inclined to take on careers in the STEM field.

"This work shouldn't just start when kids get to high school," Kennair said. "We have to start early. At the elementary level, their minds are ready and willing to grasp on to any concept you want to teach them."

Kennair believes STEM can be introduced into every classroom, regardless of the content or grade level.

"Just because someone teaches [English language arts] doesn't mean that they can't integrate STEM into their lessons. Choosing a STEM excerpt is an excellent way to introduce STEM while strengthening students' reading skills," Kennair said. "Similarly, a social studies teacher can have students research the importance of STEM on Louisiana's economy. It is all connected. We can use real life experiences."

Kennair's interest in bringing STEM to her classroom was piqued during an ExxonMobil teacher academy in 2015. As part of a teacher group, she was given a task to complete without any directions; it was up to them as adults to figure out how to complete the task. She realized she could introduce similar activities to her 3rd grade classroom. She soon began assigning students STEM tasks with an end goal and allowing them to figure out the best way to work toward that goal. She quickly realized her students were not only successful in completing their goal but were surpassing academic expectations.
“As teachers, we want to show them exactly what we are going to do. We tend to say, ‘This is what we are going to learn, and this is how we are going to learn it,’” Kennair said. “However, students will surprise you. From an early age, they are capable of coming up with creative ways to complete assignments. As I was seeing this in my classroom, I said to myself, ‘Let’s gear this towards STEM.’”

As her students’ passion for STEM grew, she saw a need to expand these classroom activities into an after-school program. With the support of her principal, and using knowledge from her volunteer efforts with the Louisiana Department of Wildlife and Fisheries, Barataria Terrebonne Estuary Program, and Audubon Nature Institute, Kennair creates lessons for the STEM Enrichment Program, providing students with project-based learning activities that build students’ awareness of STEM-based issues in their own community such as coastal preservation and recycling.

“Starting the conversation...makes all the difference. I am finding that many of my students are going to STEM-related events on their own in their personal time. They come to me with ideas for lessons, and I think this is phenomenal. The interest that I am seeing is genuine, and that is truly motivating.”

The response Kennair received to the after-school STEM Enrichment Program was overwhelming. Currently, the program enrolls 30 students, and three teachers lead lessons.

Kennair is already seeing a positive impact in her own community.

“This year during our beach cleanup, we had less to clean up, and this is due to having greater awareness now than we did five years ago about pollution,” she said. “Having background information on environmental education is paying off and will continue to pay off. There is evidence of this that is seen even in just cleaning up the beach. This awareness, just a little spark, can start a fire.”

How can you build awareness of STEM education at your school? Kennair shared with us these helpful tips:

- **Reach out to fellow educators.**
  Teachers are an amazing resource and can provide an incredible amount of support. Working with a group of educators that also share an interest in STEM will help start you off on the right foot.

- **Use professional development opportunities to learn outside of your content area.**
  Instead of going to professional development within your content area, venture outside of the box and attend a STEM session to learn how you can incorporate STEM into your lessons, regardless of grade level or content area.

- **Use the internet.**
  Go online! There are STEM resources everywhere.

- **Find a STEM fest or event near you.**
  There are many STEM festivals and events available throughout the state all year round. Attending a STEM-related event opens the door of opportunity and allows for networking.