

**Partnerships Strengthen STEM Education in
Walker County, Alabama, through STEM22 Program**

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Pushing science, technology, engineering and mathematics (STEM) education outside of typical courses has been a focus in Alabama for a while, especially because of growing industries throughout the state. STEM education sparks curiosity and lays the foundation for future careers in fields driving innovation.

Sparking an interest in STEM for students at a young age is key to fostering the skills STEM activities teach such as problem-solving abilities, creativity, critical thinking and collaboration throughout K-12. STEM education serves as a bridge to more informed, empowered, and technologically proficient students, which is becoming increasingly necessary for student success and regional economic development.

Streamlining STEM education has been difficult in Alabama due to a lack of funding and resources, but some are working to bring STEM education to all students.

Amber Parsons is the assistant principal and STEM coordinator at Bankhead Middle School.

What started out as a hobby for one of her sons sparked the start of a robotics club that has impacted students across Walker County.

When Parsons attended a meeting about a free Best Robotics competition with her youngest son, a fifth grader at the time, he was instantly interested.

Parsons recruited several middle and high school students to compete in the competition. While the first competition did not go as hoped, Parsons sensed the potential that prompted her to form a competition robotics club at Bankhead Middle School.

“It was kind of a personal thing with my own children being involved, but then it became, this is good teaching, this is what we needed,” Parsons said.

Over time, the program has grown to include elementary, middle, and high school students. Last school year, they registered six teams at Bankhead Middle School, one team at Cordova Elementary and a team from Cordova High School.

Since that first competition, numerous teams have advanced to both state and even world competitions with VEX Robotics. Parsons has been coaching these teams for approximately twelve years in addition to her duties as an educator and administrator. One of the biggest

problems, Parsons pointed out about STEM extracurriculars, is that there previously has not been funding for educators who sponsor these programs.

Through numerous partnerships, one program is attempting to change the game for STEM education in Walker County, including providing stipends to STEM club sponsors.

STEM22 is a program for Jasper City Schools and Walker County Schools that was created to integrate a seamless pathway for students to learn about STEM topics outside of traditional math and sciences courses. This program launched during the 2022-2023 school year.

The pathway STEM22 hopes to create is necessary to engage students early on in their childhood in order to strengthen their knowledge and understanding of how STEM is applicable in different settings. The focus of continuously allowing students opportunities to engage with STEM programming is key to encouraging students to pursue STEM career paths upon graduation. STEM careers offer opportunities for individual success and provide skilled workers for economic development.

The program was started by Beville State Community College in a partnership with both Alabama Power and the Walker Area Community Foundation. The two organizations supported the startup of the program because of their interest in workforce development.

“The intent of this program is to provide kids with a career pathway and an opportunity to make a good living wage,” President of Bevill State Community College, Joel Hagood said. “That’s the key; all of us working together as a community to better enhance educational opportunities.”

Bevill State has supported robotics competitions at numerous schools in Walker County, aiding in the recognition of students' enthusiasm for cultivating careers linked to STEM fields. The STEM22 initiative aims to maintain the institution's endeavors in providing enriched educational experiences through more comprehensive learning opportunities.

“You can't learn things in isolated blocks of information. It needs to be a steady continuum,” Walker Area Community Foundation President, Paul Kennedy, said.

The program provides funding for organization sponsors, resources, equipment and fees for STEM activities. The program is focused on developing existing programming and starting new ones for both Jasper City Schools and Walker County Schools. The partnership between the two school systems and Bevill State has allowed for collaboration and expansion of programming.

The role of Bevill State Community College is to give students the opportunity to pursue STEM career paths after high school. While in high school, students are offered dual-enrollment course selections at Bevill State under their STEM career pathways. Those pathways include coding, robotics, engineering, and app development.

Bevill State has also begun to offer scholarships to Walker County students to enter their STEM programs upon graduation. Their hope is that by engaging students of all ages with STEM education, more students will want to pursue STEM career paths and will have already developed skills that STEM education fosters.

With the Toyota plant, NASA, and Redstone Arsenal in Huntsville, the Mercedes Benz plant and those of its suppliers in or near Tuscaloosa, and Hyundai and Honda plants in the greater Montgomery area, plus numerous STEM-based businesses across the state, preparing students in Walker County with STEM skills is essential to building the growing Alabama's workforce.

"We are trying to prepare students for jobs to come that we don't even know about yet," Vice President of Instructional and Student Services at Bevill State Community College, Leslie Hartley said.

Career technical education (CTE) is another element of STEM that STEM22 aims to support and develop programming for. CTE programs offer practical, hands-on training in various vocational skills, allowing students to develop expertise in areas like automation, healthcare, construction and more. Many of these vocational fields are deeply intertwined with STEM principles, as they often require a strong foundation in mathematics, scientific understanding, and technology.

Assistant principal and CTE Director at Jasper High School, Beth Kennedy, stressed the importance of providing quality CTE education for students in Walker County. She highlighted the ways in which STEM intertwines with CTE and how CTE is also valuable to developing the growing workforce.

“STEM22 is about us building a space where students will want to learn and think,” Ms. Kennedy said. “That's really what we do, we open doors and give students opportunities.”

Jasper High held a pep rally in support of its STEM programs where Kennedy was able to see the impact of STEM initiatives through students' eyes.

“It brought it down to the student's perspective,” Ms. Kennedy said. “You could see their excitement, you could see the ones that were seniors that are planning for their future, and that's why you continue.”

Each of these educators and community members is devoted to providing quality STEM education to students of all ages in Walker County.

Partnerships are what made the STEM22 program possible. In Walker County, you will find individuals and organizations working together to provide a better quality of education for their students that will in turn hopefully provide them with a better quality of life in the future.

STEM22 has broadened STEM education in Walker County, but the program has not yet accomplished all it hopes to. The main goal is to integrate STEM learning across all Jasper City and Walker County classrooms to equitably expose students to STEM-based learning opportunities. This progress can only continue with the proper funding, passionate educators, and a plan to grow STEM education opportunities for learners of all ages.

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