

DR. TODD FREEMAN: STEM an integral part of future for Sylacauga City Schools

By DR. TODD FREEMAN, Special to The Daily Home | Posted: Sunday, April 26, 2015
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I recently had the privilege of touring Southern Alloy on U.S. Highway 280. It quickly became evident how important science and math skills are to every facet of metal fabrication. More importantly, I saw how important it is for schools to make connections between what we teach and why it matters in the "real world."

Science, Technology, Engineering, and Math (STEM) careers are growing at a rapid pace. The Department of Commerce estimates that the number of STEM-related jobs will grow 17 percent by 2018 compared to 9.8 percent for all other fields. The Bureau of Labor Statistics has concluded that "STEM occupations are ... viewed as having some of the best opportunities for job growth in the future."

Our challenge is to ensure that what we teach matters, and motivates students. According to Vince Bertram, president and CEO of Project Lead the Way, "twenty-eight percent of high school freshmen declare an interest in STEM-related fields each year, but some fifty-seven percent of them will lose interest over the course of their high school careers."

Changing this mindset requires looking at brain development in a different way. Instead of "putting in" information, learning must be about "pulling out" the abilities, interests and skills within each student. In Sylacauga City Schools, we are determined to make this happen with engaging STEM opportunities.

Project Lead the Way (PLTW) is a nationally recognized STEM program focusing on project-based learning using real-world situations. This year, students in grades 6-8 could participate in PLTW and high school students could take pre-engineering courses. Next year, we will offer additional higher level pre-engineering classes at Sylacauga High School, and fifth-grade students will participate in PTLW.

Healthcare is one of the top employers and a targeted industry in our region. To be aligned with this workforce trend, last year we began a health sciences program at SHS. Next year, we will enhance our focus in healthcare by adding a biomedical sciences program, which will complement our Advanced Placement courses in biology and chemistry.

Despite its importance, the Brookings Institute says that one of the largest decreases in STEM career choices over the last decade was in computer and information sciences. Exposing students

to this career field is extremely important. SHS offers computer science classes that focus on programming, development of apps and computational thinking. They are also participating in a National Science Foundation project to design an Advanced Placement computer science course. This summer SHS will hold a camp that will focus on coding, website development, advanced HTML and introduction to computer science. Next year, we will expand our opportunities to learn coding to all Pinecrest students through a new enrichment program.

STEM learning opportunities are successful when paired with high-quality professional development, tools and resources for teachers. Next year, science teachers at Nichols-Lawson will begin implementation of the Alabama Math Science Technology Initiative. Several teachers will train on implementing Project Lead the Way. Math teachers will work together on developing innovative strategies to engage students. Teachers and administrators are participating in the Alabama Education Technology Association conference in Birmingham and the CORE conference at Jacksonville State University.

Our mission to prepare our students for college, career and community success is most achievable when we provide learning opportunities that best equip them. STEM; arts and humanities; and career and technical programs work together to fulfill that mission. Indeed, learning is most impactful when our students see its value upon entering the college and career world. Our measure of future success will be defined by the quality workforce ready to be employed by the many industries that depend on STEM-related skills.

Dr. Michael Todd Freeman is superintendent of Sylacauga City Schools.