

STEM Entrepreneurship fuels original thought

Administrator envisions new Pitsco program giving students more control

Dr. Greg Carlyle, Headmaster, Heritage Academy, Columbus, MS

Introduction: Heritage Academy opened its doors in 1964 with the aim of providing a great educational experience for students. Today, with an enrollment of 500 in Grades PreK-12, Heritage is among the top-performing institutions in the Southern Association of Independent Schools. Headmaster Dr. Greg Carlyle has been in education since 1990, working as a teacher and administrator in Costa Rica and Mississippi. A native of St. Catharines, Ontario, Canada, Dr. Carlyle is in his sixth year as headmaster at Heritage.

Why is Heritage Academy adding Pitsco STEM programs for Grades 3-12?

Heritage introduced a robotics program five years ago. A robotics club was formed based on student interest, which created a launching pad into the STEM. Our robotics club went to regional competitions four of the last five years and gained valuable experience. In developing our one-to-one iPad program, more application was needed; therefore, we used robotics as a segue into STEM.

How did you manage to work STEM in among the existing curriculum?

During the development of our science and math wing as a project of our recent capital campaign, we explored computer-based STEM options. However, Pitsco STEM encapsulated our vision for applied learning opportunities, the application of STEM to real-world problem-solving, the cultivation of innovation, and the collaboration component. It became apparent it could be weaved effectively into our curriculum. We have strong academics at Heritage, and STEM should provide the means for our students to take further ownership of their learning.

Why did you opt for the STEM Entrepreneurship Program specifically?

Pitsco offered a partnership opportunity with Mississippi State University and the University of Iowa that includes an entrepreneurship program. Our choice to pursue Pitsco STEM was reinforced during our visits to Lamar Academy in Meridian, Mississippi, and Jackson Academy in Jackson, Mississippi, as well as through the Pitsco seminar at the 2016 SAIS Annual Conference.

How did school leaders respond to the proposal to add STEM Entrepreneurship?

We have a board of trustees with 16 members. They were very supportive right from the beginning in terms of the science and math wing and creating hands-on learning experiences and real-world problem-solving opportunities for our students. . . . Some of the major donors to our capital campaign and other friends of the school met with the Pitsco representatives to discuss this. So, we just kept growing that conversation.

Did board members personally connect with the aims of the STEM Entrepreneurship Program?

Many of our board members manage or own companies, and STEM Entrepreneurship resonated with them. These members loved the idea of our students having a stress-free environment to develop their ideas. They saw an opportunity for our students to have entrepreneurship experiences as teenagers. It was mind-blowing because typically the process is you go to university if you have an interest, you start developing ideas for companies, and you have your hits and misses. You're in your late 20s, trying to start families and all those things; that's a stressful environment. This could be preempted by an entrepreneurship program.

How was the multipronged structure of STEM Entrepreneurship received?

One of the things that really spoke to us was the fact that there's a partnership with Mississippi State University as well as the University of Iowa and Startup Genius. Having this creates opportunities for the students to be apprenticed by graduate students from Mississippi State's entrepreneurship program and for our STEM teachers to be effectively supported. Our science and math teachers as well as other stakeholders recognized quickly that there was going to be meaningful learning for the students in the realm of entrepreneurship.

Why are you implementing the full STEM continuum at Heritage?

We are wanting to develop this entrepreneurship continuum to instill in our students and faculty at the elementary an understanding of the entrepreneurship focus within STEM. As a result, this should enable students to build a set of STEM skills from grade level to grade level that will ultimately culminate in exceptional entrepreneurship experiences in high school.

How are you growing your personal knowledge of entrepreneurship as this new program takes root at Heritage?

I am currently reading Adam Grant's *Originals*. Grant chronicles how to build nonconformity through deliberate creative expression and hands-on learning experiences. We seek to facilitate that direction through supporting students with mentorship. We have strong facilitator teachers who can help guide that process, not inhibiting growth but instead directing it.

What do original creators such as Steve Jobs and Thomas Edison have in common?

They were very calculated risk-takers. They took initiative in things, but they sought peer feedback. They were deliberate in the process that they used to develop and grow ideas. In reading *Originals*, I am more excited about entrepreneurship opportunities that will be provided at Heritage. Pitsco has done it right, cultivating students' experiences to help them be innovative and successful.