New STEM ECHS program

Opens door to expanded opportunities for students

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Panther Pride
Special Report

As Marlborough Public Schools looked at a broad spectrum of ways to expand instructional options for all district students, one of the strategies that became available — with funding to help support it — was the Early College High School (ECHS) concept.

The ECHS model was developed by Jobs for the Future, a publicly/privately supported organization that identifies, develops and promotes education and workforce strategies to expand opportunity and improve pathways for youth and adults to succeed in college and careers. It is the lead coordinator, manager and policy advocate for the ECHS initiative, having established more than 230 early college high schools across the country, 60 of which are science, technology, engineering and math (STEM) focused.

Marlborough adopted the early college model with a STEM focus because of statewide declining student interest in STEM-related careers. While the Marlborough STEM Early College High School embraces a well-rounded education, the focus will encourage students to take on the challenges and rewards of a STEM-related higher education degree and career.

Essentially, Marlborough adopted the ECHS model and tailored it to foster project-based learning within an interdisciplinary learning environment. Students will be engaged in career pathways, dual enrollment, personalized portfolio assessment, community involvement and internships in STEM fields to encourage STEM-related academic interest and achievement.

When Marlborough sought a higher education institution as a partner, the district’s longstanding relationship with Framingham State University (FSU) naturally rose to the top of the list. Framingham State University has established a strong reputation for STEM education in hosting the Metrowest STEM Education Network (MSEN) and McAuliffe Challenger Space Center, as pioneers of a STEM Master’s Program in Education and a STEM Certificate for teachers. The school has been awarded a multi-million dollar grant to build new state-of-the-art laboratories.

Marlborough’s STEM ECHS opened this fall with 6th and 9th grade cohorts, and will add two grades each year until full enrollment in 2014-16. The program begins in 6th grade because numerous studies have shown that middle school is a critical transition time in which students’ career interests are formed. Students will graduate with both a high school diploma and a college transcript from Framingham State University, with the opportunity to take undergraduate courses and receive up to 16 credits in their junior and senior years.
In its first year of opening, all Marlborough students who applied were accepted. The early college model, by accelerating student learning toward a college degree while still in high school, has shown tremendous success nationally, especially for first-generation college-bound students who may have traditionally lacked access to a college pathway. The ECHS strategy combats the stereotype that low-income kids are poor achievers. The applicant pool was comprised of a mixture of students from all cultural, socioeconomic and academic proficiency levels. Instructional Leadership Director Ronit Carter commented, “We are delighted that our STEM ECHS student population reflects the diversity of our community. Marlborough’s STEM ECHS program is committed to ensuring dedicated support for Special Education and English Language Learners to help them succeed in the program.”

Students who are not participating in Marlborough’s STEM ECHS program will benefit as well. As a “school within a school” model, even though the program is separate from other middle and high school classes, staff members will be able to share best practices and instructional techniques. Additionally, the program is fostering schoolwide conversations among students, parents and teachers about college readiness, career exploration and preparation, and collaboration, creativity, and other 21st Century skills – all topics that directly support districtwide goals for increasing achievement among all students.

The Marlborough Public Schools district is privileged to be one of only six school districts in Massachusetts to have been awarded Race to the Top funding to implement this innovative STEM ECHS model. The other recipients were Boston, Worcester, Quaboag, Randolph and the statewide Vocational Association. Additionally, Jobs for the Future, partially, funded by a variety of sources including the Bill and Melinda Gates Foundation, is providing program assistance and implementation support to the six grantees.

Another feature of Marlborough’s STEM ECHS initiative is the one-to-one technology with wireless access at both the high school and middle school. Each STEM ECHS student will be provided with a small laptop computer to use for research, lessons, online collaboration and more. The technology component provides students access to global information and further reinforces the concept of the STEM program by reinforcing the use of technology as a catalyst to advance student learning.

For more information about Marlborough’s STEM ECHS program, visit the district’s Web site at www.mps-edu.org and see the STEM Early College High School tab along the left side. For more information about Jobs for the Future and Framingham State University, visit www.jff.org or www.framingham.edu.

Shown above (l-r) is the Marlborough High STEM ECHS team, Ken Hanson, Scott Brown, Joanne D’Agostino, Bill Rigney, Heather Kohn, Shawna Stea, Doug Tocio and Paul Duplessis.

Shown below (l-r) is the Whitcomb School STEM ECHS team, Katie Lubkert, Joanne Mahoney, Ann Valerio, and Jeanne Gutowski in front, with Bill White, Jeff Gay, Angel Davis, Angel Davis, and Bill Rigney in back.