State secretary praises Marlborough’s STEM program

By Calvin Hennick

Globe Correspondent / September 18, 2012

The state’s secretary of education, Paul Reville, praised Marlborough’s STEM Early College High School program on a visit to the school this week, saying he was “thrilled” about the program.

“It’s good for the young people,” Reville said Tuesday. “It’s good for the economy.”

The Marlborough High academy, which started last year and groups participating students in classes with a focus on science, technology, engineering, and math (or STEM), is one of six such programs in the state. The academies are part of a growing emphasis on math and technical fields in education, particularly in Massachusetts, where there are a disproportionate number of tech jobs.

Reville began a tour of the local district’s STEM program with a stop in a technical drawing class, where teacher Paul Duplessis showed students how to create three-dimensional shapes using a computer software program. Students sat at computers, surrounded by posters depicting bicycle designs and roof prototypes.

In a physics class taught by Scott Brown, students used laptops to make a chart illustrating sprinter Usain Bolt’s acceleration in his world-record 100-meter run.

Victor Bernal, a 15-year-old freshman in Brown’s class, said the STEM academy classes are more challenging than regular courses.

“It’s more complex,” Bernal said. “I do more work.”

In Heather Kohn’s math class, students worked to figure out which way arrows should point, given a pattern that had been established.

“No, to the right,” said a student, then argued with himself. “No, to the left.”

“It’s OK to be wrong,” Kohn told the class.

“It’s refreshing to see students excited,” Reville said after visiting the classes.

According to school district surveys, 61 percent of students in the academy say they spend more time on schoolwork, 91 percent see the connections between classes, and 80 percent feel that their interactions with teachers have increased.

Marlborough’s school district hasn’t yet analyzed testing data to see whether students in the academy are outperforming their peers, but they do have better attendance numbers than students in regular classes. Also, last year 49 percent of freshmen in the program participated in the school’s science fair, compared with 7 percent of other freshmen. School officials say the socioeconomic and ethnic diversity in the program mirrors the district’s as a whole.

The academy is funded in part by federal funds. Last year, classes started for sixth- and ninth-graders, and this year the academy has grown to include seventh- and 10th-graders as well. Nearly 400 students are enrolled across the four grades. Eventually, 11th- and 12th-graders in the program will be able to take classes for college credit at Framingham State University.

Advocates of additional emphasis on math and science say those content areas are critical to preparing students for the workforce.

In Newton, a group called NewtonSTEM was established last year to help develop students’ interest in the fields, and Boston University engineering students started coming into Newton classrooms this year to help students understand the real-world applications of the content they’re learning.
“If we don’t really ramp up the number of students who end up in STEM careers, the US is going to get walloped,” said Newton School Committee member Geoffrey Epstein, who has long pushed for more STEM programs in the district. “There’s a huge crisis. We cannot hire enough engineers to fill the positions.”

Plainville sent elementary students, as well as teachers and community members, to a regional STEM expo last spring. This year, said Superintendent David Raiche, the schools will hold their own STEM expos.

“What our teachers are finding is, through the use of small robots and programming, students are better able to understand some of the abstract math concepts that they struggled with before,” Raiche said.

“You can’t just start working on that when kids enter college.”

© Copyright 2012 Globe Newspaper Company.