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Business leaders want to deepen STEM focus in local schools

By Dana Olsen

Many college graduates are having a hard time finding jobs in the aftermath of the Great Recession, but those with degrees in science, math, engineering and technology are in demand. To pursue those degrees and land the high-tech and often high-paying jobs that come with them, it helps to start as early as elementary school.

That was the focus of the Central Coast STEM Collaborative's annual forum, co-hosted by UC Santa Barbara's Gevirtz Graduate School of Education. The event, held Oct. 12 at UCSB's Corwin Pavilion, explored the state of STEM education in Santa Barbara and San Luis Obispo counties and encouraged teachers to reach students at a young age.

"Somehow we've got to make science and being really smart cool," Jeff Henley, the chairman of Oracle Corp. and a UCSB graduate, said during his keynote address at the event. "You get into companies that do engineering? And these are big, big, complicated problems, and you're collaborating with people. It is a fun career. The more we can do to change the perception, the better off we'll be. I'm going to start working on my grandkids."

Jane Close Coneley, a dean and professor for the Gevirtz Graduate School of Education, told the audience that Henley's passion for education reflects the goals of the forum and STEM programs as a whole.

"Jeff illustrates the power of education," Coneley said. "Not everyone we educate will become a scientist? or an engineer or a biologist? but we hope that our children will become thoughtful, intelligent people who demand evidence."

With that in mind, elementary and secondary schools along the Central and South coasts are taking steps to develop a workforce fit for the 21st century. Hollister Elementary School in Goleta, for example, runs "Cool Inventors Association," which is part of an international robotics program for 9- to 16-year-olds that teaches science and technology through team competitions.

At the high school level, Dos Pueblos in Goleta, Pioneer Valley in Santa Maria, San Marcos in Santa Barbara and Santa Ynez Valley Union each have a curriculum designed to help students pursue STEM careers.

Dos Pueblos Engineering Academy, a project that's run by the high school in collaboration with UCSB and Santa Barbara City College, opened in 2002 thanks in part to a four-year grant from the California Department of Education. The Santa Barbara County Education Office has also

contributed funding to the program, which supports a high-level robotics team that competes internationally. New York Times bestselling author Neal Bascomb wrote a book last year in which he followed the team and the robot it built to the final round of the FIRST (For Inspiration and Recognition of Science and Technology) Championship. Appropriately, Bascomb's book is called "The New Cool."

Amir Abo-Shaeer, the director of the engineering academy, told the Business Times the department adds to regular high school curriculum by exposing students to the world of engineering and technology.

"It's about authentic, real-world education. A lot of companies really are working in these fields. I think a huge portion of the economy is going to trend toward this," Abo-Shaeer said. He went on to give an example of a light sculpture assignment a group of students created last year, which he said is unique for a high school project because it takes students from conceptual design to presentation. "The sculpture is meant to be viewed and displayed in public, but it does a light show and it's programmed. When we present this to students, we don't say 'we're going to learn physics,' we say, 'you're going to create this project.'"

By the time students reach college, they have a foundation in STEM studies that may encourage them to pursue degrees, and eventually careers, in those areas, though Abo-Shaeer said creating engineers isn't the only goal of Dos Pueblos' engineering academy. He said it's valuable for all students to be exposed to more than basic math and science classes, regardless of their eventual career choice.

Universities in the area, such as UCSB and Cal Poly San Luis Obispo, are doing their part to keep the momentum going. UCSB's College of Engineering, one of the top-ranked engineering schools in the world, has more than 1,500 undergraduate students and more than 600 graduate students, and its home to dozens of research centers and institutes. One of those, the Institute for Energy Efficiency, shared a \$50 million donation from Henley and his wife with the College of Engineering earlier this year.

The private sector is also involved in the push toward STEM education. Henley said Oracle, based in Redwood City, has an active volunteer program, where engineers visit schools. "You're not going to find businesses beating down the doors at schools asking how they can help, but I think you'd be surprised to see how many are willing," Henley said at the forum. "The best thing I can suggest is getting schools to reach out [to local businesses]."