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News - Friday, July 30, 2010

Teachers 're-energize' in the real-world
High tech summer jobs give teachers a chance to learn skills, revamp lesson plans

by Nick Veronin

Next year, when Marisa DaSilva's students ask her, in exasperation, how they will *ever* use the things she is teaching them in the real world, she'll have an answer. Her explanation will be informed by the experience she gains this summer in a fellowship program that pairs educators with local industry in an effort to boost math, science and technology learning in California schools.

DaSilva, who has been teaching seventh- and eighth-graders at Crittenden Middle School for five years, plans to have her language arts students establish goals for the school year, track their progress using spreadsheets, and give an end-of-the-year slideshow presentation on their progress, just like they might do at an office job.

Her lesson plan is not exactly standard practice at Crittenden. In fact, she might not have had the idea at all, if it weren't for her participation in the Industry Initiatives for Science and Math Education Summer Fellowship Program, which gives teachers a chance to earn money and grants working for Silicon Valley companies. It's an exchange that organizers say benefits industry, educators and students alike.

The Santa Clara-based IISME was founded in 1985 by a consortium of Bay Area companies in association with the Lawrence Hall of Science at U.C. Berkeley. That consortium is now 43-strong and includes IBM, Cisco, Hewlett-Packard, Lockheed Martin and SRI International.

According to Jennifer Bruckner, executive director of IISME, the U.S. consistently ranks near the bottom of the top 20 industrialized nations in the world in math and science education. Bruckner says IISME companies are willing to pay teachers like DaSilva to come work for them over the summer because "their future competitiveness is very dependent on having a highly skilled workforce."

Teachers work full time for approximately eight weeks, earning \$900 per week.

This year, DaSilva, who has been an IISME fellow twice before, is at Hewlett-Packard, where she is conducting research for the marketing department — analyzing information collected from various websites and plugging data into Excel spreadsheets.

DaSilva says that IISME has always given her ideas for ways to improve her teaching and that this year is no different. Starting in September, she will give all of her students a Google Apps account, where they will have access to cloud-based applications similar to the Microsoft Office suite of programs. By getting her students to draw up plans, track their goals, and give a slideshow presentation about the strides they made in achieving their goals, she figures they will have a better chance of hitting those targets. And, they will fulfill their public speaking requirement and learn to use programs and tools vital to the world of business along the way.

She says she is empowering her students by "taking the skills you need for the corporate world and putting them into the classroom."

To ensure that DaSilva follows through, IISME will provide mentoring and support to help her build an Educational Transfer Plan, or ETP.

Bruckner says that the plan is perhaps the most vital component of the fellowship.

"We want to provide teachers not only with the opportunity to work with scientists and engineers," Bruckner says. "We also want to provide them with the support they need to transfer what they learn into curriculum that's going to inspire their kids."

To meet that goal, IISME fellows spend about 10 percent of their time during the program working with mentors who help the teachers build new lesson plans. Companies also provide \$1,000 grants to fellows who successfully complete the program and demonstrate that they have executed their transfer plans.

Teachers receive \$500 upon completion of the program and \$500 once they submit a final report on their educational transfer plans, which details how they used the skills they gained in the fellowship to enhance their curriculum. This serves as an incentive for teachers to apply their new skills. However, Bruckner says, teachers are usually eager to get back in the classroom after their fellowships.

The program helps pump up teachers, she says, encouraging them to discover skills they may not have even realized they had.

"When we first ask teachers about what they have to offer, they're not sure," Bruckner says.

However, teachers are strong communicators and great at breaking down complex ideas into teachable bits, she said. IISME is meant to help teachers "realize that they do have all these skills and are an asset in an industry setting."

Companies, Bruckner says, certainly realize what an asset teachers can be. Teachers are "creative, industrious and very independent." End-of-summer evaluations find that 95 percent of companies say that having teachers onboard is a real asset, according to Bruckner, who says the program is a win-win-win for students, teachers and the participating companies. If the program weren't a success, she reasons, it would have failed long ago.

DaSilva, for one, believes she has benefited greatly from the program. "I've learned so much," she says. "I'm a completely different teacher because of IISME."

That sentiment is typical, according to Bruckner, who says a longitudinal study conducted by her organization found that teachers who have been in the IISME summer fellowship stay in teaching longer than those who have not participated. Bruckner acknowledges that the teachers who enroll are usually "go-getters" to begin with, but she maintains that teachers who had considered leaving education reported that after IISME they "felt more passionate about the work they were doing, more competent and valued."

Bruckner says teachers often complain that teaching to standardized tests, as they are often instructed to do, is boring — both for students and for educators. Unfortunately, Bruckner says, the typical career path for teachers never strays from the confines of academia, which often does little to encourage teachers to break with the status quo.

"Teachers need to get re-energized," Bruckner says.

If they can say they worked at NASA on the Mars rover or at Lockheed Martin on satellites, the kids will have a greater interest, and "it makes it more exciting and relevant for the teachers, too," she says.

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