If We Grow Them, They WILL WORK

By Ashley Pinder

DEVELOPING A HIGH-TECH WORKFORCE IN CENTRAL FLORIDA STARTS BY TEACHING THE TEACHERS.

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Whether sending text messages with pictures, updating an iPod, or creating elaborate MySpace pages, today's kids are electronically oriented by nature. But what they don't know is that their abilities can put them in a good position when it's time to enter the workforce.

The question is: how do we get these kids — already so comfortable with technology — to appreciate the basics?

"Just tell them they are 'gaming' and you can get kids interested in learning algebra and geometry," says Phil Tillery, who teaches communications technology courses at Timber Creek High School.

To get tech-savvy kids to learn math and science, you have to show them how to do it in their own tech language, and to do that you have to inspire instructors to teach in new ways. Tillery uses a program called 3-D Studio Max to simulate the construction of real-life objects on the computer screen. Using Boolean algebraic intersections, he takes his beginning students through a lesson on building a virtual chess set. The students are able to view the objects from four dimensions, and animate and move the pieces while measuring the impact of the intersections and manipulating 3-D objects.

"I've worked with students who were having trouble in their math classes, but while having fun using this program all of a sudden they have an 'a-ha' moment and they finally get it," says Tillery.

Tillery learned new ways to engage his students when he and more than 150 other Central Florida educators attended one of the Florida High Tech Corridor Council's (FHTCC) techCAMPs last year. The signature program of FHTCC's techPATH educational initiative, techCAMPs are one- to two-day workshops that give middle- and high-school teachers a chance to learn the history of specific technology industries, talk to experts in the field and — most importantly — engage in hands-on, real world experiences that they can bring back to their classrooms.

Since 1998, FHTCC has presented 40 techCAMPs in the 23-county corridor, involving more than 1,600 math, science, technology and career teachers. These techCAMPs have been held with a focus on several corridor industries, including modeling, simulation and training; optics and photonics; and microelectronics.

"As teachers it is important to keep ourselves activated," says James Jones, an engineering teacher at Timber Creek High School. "We ourselves have to change with the ever-changing technology environment."

One benefit of techCAMPs is that they offer teachers novel approaches to math and science lessons. Instead of pointing to a graph in a textbook, teachers can

engage students by demonstrating with computers, using colorful graphics and simulations to problem-solve. These methods also provide tools for practicing critical thinking.

With a mission to cultivate tomorrow's workforce, techCAMPs also highlight the high-tech careers available in Central Florida by offering tours of local companies and meetings with industry experts. techCAMPs partner with local corporations to describe their day-to-day operations, and to keep teachers in the know about what's happening in the field.

Florida needs to fill a growing high-tech workforce. The AeA, a national technology trade association, ranks Florida as the second-fastest growing state in the total number of new high-tech jobs.

The November 2007 techCAMP on Modeling, Simulation and Training delivered a jump-start for teachers. Purdue University professor Dr. Chris Hoffman demonstrated a simulation of the planes colliding with the World Trade Center towers on 9-11. His presentation, along with hands-on activities, opened the eyes of many teachers who had never been trained to use real-life examples to teach math and science.

The teachers also learned to use new integrated software and toured the Interservice/Industry Training, Simulation and Education Conference (I/ITSEC) at the Orange County Convention Center.

"I/ITSEC is the simulation industry's most important meeting," says Jeff Bindell, Ph.D., director of techPATH Educational Consortium and lecturer in physics at the University of Central Florida. "Our educators saw first-hand the wide range of companies — and potential employers — in the industry. Now, they can communicate those opportunities to their students."

Thomas Tyler, a mathematics coach at Evans High School, says, "Just around the corner we are training soldiers and creating video games; those are the types of jobs that will keep students here to work."

The National Science Teachers Association (NSTA) strongly advocates hands-on preparation programs.

Teacher Phil Tillery works with junior Samara Sahler, while senior Jorge Reyes operates the Opti Track Calibration Wizard computer program.

"They're a critical part of effective teaching," says NSTA spokesperson Kate Meyer. "The Florida High Tech Corridor's techCAMP programs offer exactly the kind of meaningful lab and simulation activities that build better classroom experiences."

Paul Speitzer, who teaches Introduction to Technology at Discovery Middle School, adds, "Teachers need to be excited with what they're doing; I am constantly updating my curriculum since I went through techCAMP. Now I feel like I always have new things to share."