



## Harvard study says our students need SKILLS

A recent groundbreaking publication from the Harvard Graduate School of Education has confirmed what career and technical educators have been saying all along: the “college for all” philosophy of education is not working. Students need hard skills to earn a living wage, and most of them will not gain those skills in college. In fact, only 30% of students will earn a degree beyond high school.

The Harvard report is titled *Pathways to Prosperity, Meeting the Challenge of Preparing Young Americans for the 21st Century*. The study compares U.S. educational and career outcomes with our European counterparts. It concludes, “...for the millions of young Americans entering adulthood lacking access to marketable skills, the American Dream may be just an illusion, unlikely ever to come within their grasp.”

Upon release of the study, U.S. Education Secretary Arne Duncan’s comments hit home: *Career and technical education (CTE) has been “the neglected stepchild of education reform,”* he said. *“That neglect has to stop.”*

Robert Schwartz, academic dean and professor at Harvard University’s Graduate School of Education, who heads the Pathways to Prosperity Project said, *“We are the only developed nation that depends so exclusively on its higher education system as the sole institutional*

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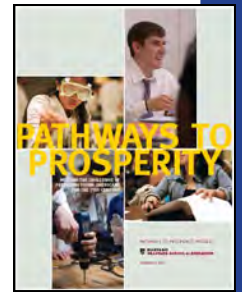
Our students need skills to reach the “American Dream.”

Career and industry skills are the difference between unemployment and a living wage.

Our mission is to prepare students for success. The key is work-based learning opportunities.

Where can we get the best results for our investment in education? The answer lies in Career and Technical Education.

*The Harvard Graduate School of Education Pathways to Prosperity study takes a hard look at U.S. education and the role of career-based learning in schools.*



*vehicle to help young people transition from secondary school to careers, and from adolescence to adulthood.”*

For many, many students, gaining work readiness skills and industry certifications in high school means the difference between employability or dire and persistent unemployment. For many more, gaining skills in an occupational technical center offers an affordable, achievable pathway to earning a living wage.

Our mission as educators is to prepare students for success. The key to helping students achieve career success is to create more work-based learning opportunities such as those offered by our high school career academies and CTE courses. If the Harvard study is accurate—and it is a highly credible source—then we MUST channel our limited resources into the educational programs that have the most impact on our future workforce and our economy as a nation.

Where can we get the best results for our investment in education? **The answer lies in career and technical education.**

**Inside: our CTE students have SKILLS!**

## Our students have proven employability skills: career academy successes

**L**esa Morgan, Escambia County School District Workforce Education Director, sent in a few facts about the success of high school career academies in Escambia County. These facts are just a sampling of the hundreds of similar workforce successes around the State.

- Since 2004, Cox Communications has hired 55 West Florida High School Cox Telecommunications students as interns in the field and customer services areas. Of these 55 students, 26 have been hired as full-time employees after graduation.
- Pre-engineering Career Academy students were asked by their employer, The Institute for Human and Machine Cognition, to help with the testing of the Institute's exoskeleton robotic equipment with paraplegic participants. The Institute felt that this would be a great learning experience and a unique opportunity for the students. The students are our future engineers.
- Gulf Power has allowed 126 seniors in the Gulf Power Academy to intern in various



departments. In addition, students are assigned a Gulf Power employee as a mentor. Mentors meet with the students at least once a month to discuss the intern experience, school work, and extracurricular activities. Gulf Power has hired 37 students as regular employees since 2005.

Escambia County, like many of its counterparts around Florida, offers a wealth of career academy options for middle and high school students. Students can choose from Agriscience, Culinary Arts, Early Childhood Education, E-commerce/Marketing, Health Sciences, Veterinary Science, Web Design, Engineering, Aerospace, Biotechnical Engineering, Sports Medicine, Sports Marketing, Game Simulation & Animation, Multimedia/Communications (including the Cox Telecommunications Academy), Construction Design (including a separate Green Construction Trades Academy and the electrical-based Gulf Power Academy); Graphic Arts, Computer Aided Design (CAD) & Architecture, and Law/Public Service/Criminal Justice. Again, Escambia is just one of 67 counties offering career academies that better prepare students for the world of work.



*Top: teachers gain certifications in a summer program. Bottom: freshman business students hang their Microsoft certifications on display.*

## Our students have certifiable skills: industry certifications

**C**areer and technical educators across the State are opening doors of opportunity for their students by obtaining industry certifications, those benchmarks established by industry professionals that prove expertise in a skilled career area. Thousands of students are following their footsteps, and with certifications in hand, head for college or careers with a stronger resume that helps them gain employment.

Just a few examples of certifications earned across Florida include Manufacturing Skills Standards Council Production Technician; ADDA Drafter Certification; Certified Welder; Autodesk Associate; Solidworks Associate; Microsoft Office Word, Excel, PowerPoint, and Access; Adobe Flash and Dreamweaver; First Responder and Firefighter; Certified Nursing Assistant; Certified Horticulture Professional; Child Development Associate; NCCER Construction Technology and OSHA; Certified Food Handler; and many more.

# Our students have SKILLS!

## Our students have master software skills: sophomore expert

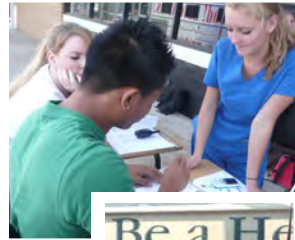
At only 16 years old, Manatee County sophomore Bill Tillett recently earned the Microsoft Office Specialist Master certification, having successfully passed stringent Microsoft exams in PowerPoint, Word, Excel, Outlook and Access. Bill is one of the youngest students in the state to achieve the Master level. This exceptional student is gaining leadership skills through active participation in JROTC, FBLA, FFA, 4-H, and one day wants to pursue a career in forensics and law enforcement. His skills will come in handy when writing criminal arrest reports and compiling forensics data.



Sophomore Bill Tillett is honored at a school board meeting for his Microsoft Master accomplishments.

## Our students have health care skills: a record-setting drive

It wasn't a vampire convention at Orange Park High School—it was a record-setting Academy of Health Science and Health Occupations Students of America blood drive! Academy students wore scrubs and held the large health care event including screening, taking vital signs, and transporting students back to class. 117 students donated blood, resulting in 105 useable units. The students were praised by a Blood Alliance representative on how professionally they handled every aspect of the blood drive. Students gained health care practitioner experience and answered many questions from other students about health care classes and careers.



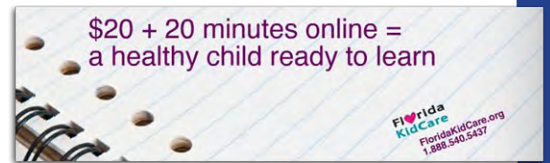
Academy of Health Science students took vital signs and escorted blood donors back to class after giving blood.

## Our students have marketing skills: billboards and public service announcements

After reviewing more than 400 entries from middle and high school career and technical students across the state, Florida Healthy Kids Corporation Executive Director Rich Robleto named the 2010-2011 grand prize statewide and regional winners for their third annual creative contest. The contest challenged students to create television public service announcements (PSA) or billboard ads promoting Florida KidCare, a state and federally supported health insurance program for children.

The contest was created to reach Florida children who are the least likely to have health insurance. Career and technical educators across the State encouraged their television production, graphic design, and health care students to participate, and many of the winners were students from these career and technical programs.

Right: student Hailey Baker's Region 4 winning billboard.



Dr. John Long Middle School teacher Karen Perry, Judge's Choice billboard winner Hailey Baker, Florida Department of Education Bureau Chief Joe Davis, and Florida Healthy Kids Executive Director Rich Robleto at the Florida KidCare Act-Out for Health Statewide Awards Ceremony. [Photo Credit: Jennifer Pensity, Salter>Mitchell]

## Our students have business and tech skills: partnerships and global issues

Students from the Academy of Information Technology and Robotics at Spruce Creek High School are dabbling in business, economics, engineering, the environment, construction, mathematics, and international relations while figuring out the best way to bring purified water where it's needed most. The students created fictional water purification businesses and working models as part of a module furnished through the Ford Motor Company's Partnership of Advanced Studies.

Students studied the feasibility of expanding into a developing country. It was mostly an economics lesson, but students relied on skills in geography, political science, math, history, English, chemistry, biology, and engineering. Students developed a working prototype and wrote detailed analyses of their findings.

The Academy of Information Technology and Robotics is a small school-within-a-school, with tight-knit relationships and industry involvement. In addition to Ford, the

academy has partnerships with Embry-Riddle Aeronautical University, Halifax Health, and International Speedway Corp.

*Students Christian Ilie (left) and Ryan Kandezke passed dirty water through a PVC filter to obtain clean water. They dressed in business attire to present their findings.*



## Our youngest students have skills: elementary engineering

The Science, Technology, Engineering, and Math (STEM) career pathway starts in elementary school for many students around Florida. For example, the STEMOLGY program at Chestnut Elementary School for Science and Engineering introduces applied science

and mathematics to grades K-5. As these students gain hands-on interest in technology and engineering, they'll continue on to Discovery Intermediate School and learn about engineering, aerospace, and biotechnology, then on to Poinciana High School for studies in Engineering or Health Occupations.



*STEMOLGY garden lab students plant in soil and in a hydroponic planter to survey similarities and differences in growth. Charlie Drouin, Maintenance Lead Carpenter, took time out to teach students how to plant the plants.*

## Our girls have skills: Liberty Elementary girls get tech-savvy

*Excerpted: article and photo by JEN WULF, STAFF WRITER, Charlotte SUN. Used with permission.*

When Carole Maggio first organized her GEMS (Girls in Engineering Math and Science) club this year, she was hoping for six, maybe seven girls to join. She got 47. She had so many more applicants than she expected, Maggio had to split the girls into two groups. Maggio is the STEM (Science Tech-

nology Math and Engineering) lab teacher at Liberty Elementary School,

For their chemistry and business lesson, the girls made lip balm and learned to market it. For their mechanics lesson, they made a carousel and attached colored paper horses.

Maggio said few of her students have worked with motors, and many who are shy during co-ed classes become more involved with just girls.



# Our students have SKILLS!

## Our ladies have tech skills, too: Women in Science and Engineering (WISE)

**B**ayshore High School's (BHS) Pre-Engineering Academy teacher Martha Proulx collaborates with representatives from the State College of Florida (SCF) in a new Women in Science and Engineering (WISE) program. WISE increases awareness of technology careers and postsecondary opportunities for female students in science, technology, engineering, and math (STEM).

Over 80 students, faculty, and staff members attended a recent WISE program. WISE members also participate in career panels, field trips to industries and colleges, and leadership and networking events. WISE activities include "DIVA Day" where students meet with community business women who work in medicine, marine science, engineering, and radio/television technology. WISE recently received a grant from the American Association of University Women to fund participation in the Technology Student Association leadership conference and competitive events.



*WISE students experience the science side of Universal Orlando.*

## Our students have veterinary skills: pet rescue and health care

**S**tudents in the Veterinary Assisting Program at Harmony High School's Academy of Agriscience Technology in Osceola County are helping to rescue animals while gaining real-world, on-the-job experience. They are working in partnership with veterinarians Dr. Robert Lee Godwin and Dr. Matt Walter along with the Pawsitive Action Foundation to provide medical care to rescued dogs and cats. Pawsitive Action Foundation facilitates essential medical care such as spaying and neutering, and places rescued animals in adoptive homes. The veterinarians provide pro-bono services for the rescued animals using the Veterinary Assisting operating room at the school. Students serve as assistants during the operations, while additional students observe the procedures from pre-op check up to post-op recovery through an observation

window. Observing students can watch and listen to commentary from the doctors during the procedures.

This unique partnership brings the veterinary office into the classroom and provides unprecedented access to veterinary careers for students. It also helps the community by rescuing and caring for unwanted animals.



*Pets get a second chance at Harmony High School's Academy of Agriscience Technology veterinary clinic.*

## Our students have academic skills: CTE's bridge to scholarships and beyond

Career and technical education and the hands-on skills gained through active membership in career and technical student organizations have paved the way for exceptional postsecondary opportunities for many Florida students. Here are just a few examples:

- Student Maya Meredith recently received a full scholarship to Columbia University's prestigious journalism program. Maya won numerous TSA medals throughout her high school career for technology essay writing and for projects she contributed to in technical writing. Maya's written contributions ranged from projects in agriculture, biotechnology, medical technology, design, engineering, and architecture. Her contributions were invaluable in her TSA chapter's national award-winning successes.



- Student Mark Nanney was awarded numerous scholarships and is studying mechanical engineering at the Florida Institute of Technology. Mark was one of the key team members on the F1 in Schools racing team, earning an incredible first place at the international competition in Singapore last year. Mark has contributed to first place state and national wins for several TSA projects including his work on a robotic, radio controlled car which won back-to-back national championships.
- Students Andres Romero and Brandon Miranda were both accepted into the M.I.T. engineering programs. Andres graduated from high school in 2010 and Brandon will graduate in 2011 and has already been accepted. Both students leveraged their award-winning technology projects to help them gain acceptance to this renowned engineering school.

*Students from top: Maya Meredith, Mark Nanney, Andres Romero, and Brandon Miranda.*

## Our students have international skills: agriscience in Argentina



*Nicole Liles on an Argentinean cattle ranch.*

In January, Florida FFA Area V Vice President and agriscience student Nicole Liles participated in an International Leadership Seminar in Argentina along with FFA leaders from across Florida and the nation. The seminar was designed to give students first-hand knowledge of Argentina's agricultural industries, including a large port terminal and various livestock, corn, soybean, wheat, and poultry operations.

"I have a passion for agriculture, government and politics, so you can imagine my excitement when the group visited Bosch Palace, the residence of United States Ambassador to Argentina Vilma Martinez, to meet with the United States Department of Agriculture Foreign Agricultural Service staff," Nicole shared. "The FAS staff explained the healthy, competitive relationship between the U.S. and Argentina and taught us facts about the Argentine agriculture industry as a whole. While at Bosch Palace, we also met with officers of the "Rural Society of Argentina," an organization for 18-30 year olds comparable to the Farm Bureau's Young Farmers and Ranchers. Since their organization is still relatively small, they wanted to ask us questions about the FFA and how our organization is run."

# Our students have SKILLS!

## Our students have teaching skills: students teaching students

**E**arly Childhood Education (ECE) and Directed Studies teacher Nancy Acton has been helping high school students explore childcare and teaching career pathways for many years. “Early Childhood Education is a series of hands-on activities,” Nancy said. “First-year students assist with Kiddie Kollege, our own Voluntary Pre-Kindergarten (VPK), by the second or third week of school. Second-year students learn how to write and implement lesson plans. Third and fourth-year students intern at two local elementary schools, and for those interested in careers in the areas of special needs, we offer the opportunity to intern with the Pre-K through fifth grade classes.”



*High school ECE students practice teaching skills.*

## Our students have culinary skills: fast-tracked through “2+2+2”

**D**iana Flores turned creativity in the kitchen into a career after years of learning cake baking and decorating from her mom. As a senior, her days alternated between high school where she was earning a high school diploma, and the local technical center where she was enrolled in the Culinary Arts program earning college credits. This every-other-day dual enrollment program allowed Diana to graduate from high school while earning college credits. Her credits transferred to the local community college towards an associate’s in Industrial Arts.

Upon completion of her associate’s degree, Diana plans to attend the University of South Florida where she will invest two years and earn a bachelor’s degree in Hotel and Restaurant Management. Fast tracking in this 2+2+2 program was a sweet success for Diana!



*Culinary students and their banquet masterpiece.*

## Our students have construction skills: certifiably!

**O**ver 60 students from two counties and multiple schools showed up ready for work at the inaugural United States Construction Challenge (USCC) event at Palmetto High School (PHS) recently. The daylong event was designed by construction technology teachers with support from the local Home Builder’s Association and area contractors. Competitions challenged students in both written and hands-on topics such as OSHA Safety, Construction Math, Blueprint Reading, Accurate Measurement, Hand Tool and Fastener Identification, Cutting Stock to Length with a Handsaw, Driving and Pulling Nails, Constructing a Corner, Hole Placement and Drilling, Identification of Framing Components, Power Tools, and Materials, Fasteners, and Adhesives. After a successful day, organizers determined to make it an annual event.

Many student participants have already earned their National Center for Construction Education and Research (NCCER) certifications. NCCER is a nationally recognized credential for industry-driven, standardized training, and earning this certification becomes a valuable asset for employability.



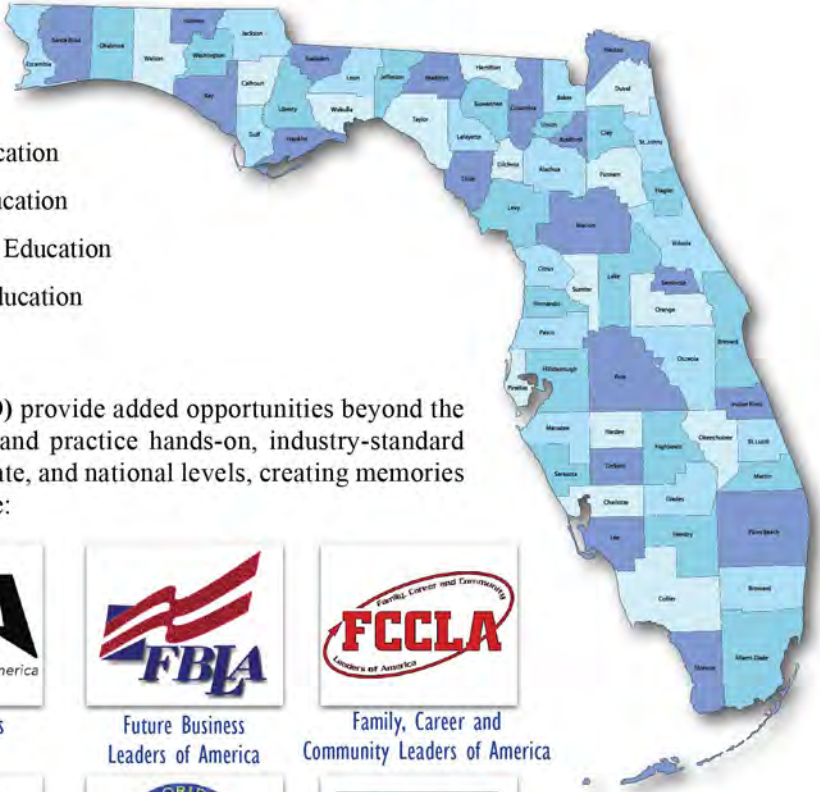
*High school construction technology students.*



## Secondary Career & Technical Education

**Career and Technical Education (CTE)** is offered in all 67 counties in Florida high schools and career academies. CTE encompasses specialized career instruction within these broad categories:

- ★ Agriscience
- ★ Business Technology Education
- ★ Diversified Education
- ★ Family and Consumer Science
- ★ Health Science Education
- ★ Industrial Education
- ★ Marketing Education
- ★ Public Service Education
- ★ Technology Education



**Career and Technical Student Organizations (CTSO)** provide added opportunities beyond the classroom for students to gain leadership experience and practice hands-on, industry-standard skills. Members compete against peers at the district, state, and national levels, creating memories and friendships that may last a lifetime. CTOS include:



SkillsUSA



Distributive Education Clubs of America



Future Builders of America



Future Business Leaders of America



Family, Career and Community Leaders of America



National FFA



Florida Public Service Association



Health Occupations Students of America



Career Education Clubs of Florida



Technology Student Association



**Florida Department of Education**

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