Practical Skills & High Academic Standards:

Career Technical Education

The United States is facing a number of major challenges in the 21st century. Globalization has led to a major restructuring of the American workforce. Low and semi-skilled jobs are increasingly being "outsourced" overseas, leaving Americans who used to fill these jobs facing an extraordinary employment gap. At the same time, we have fully entered the "Information Age." Almost every profession requires employees at all levels to be technologically literate. Even lower-level positions require technological sophistication: waiters use touch screen computer monitors to manage orders, paralegals use sophisticated software to prepare legal documents, receptionists must log calls into networked databases, and more.

American public education has responded to these major changes by making college preparation the major goal for the K through 12 systems. Under the No Child Left Behind Act, states have set academic standards benchmarked to college admission, and all public schools are assessed for their ability to prepare students to meet those standards. The entire system is aligned around college preparation as the goal for our children.

While this effort is on target, one of the by-products has been a divestment in what used to be termed "vocational technical education." This divestment is a direct result of the misperception that vocational technical education does not prepare students for college. This misperception comes out of the history of vocational technical education, which flourished in the post-World War II era by preparing a skilled workforce for the rapidly increasing consumer economy, housing boom and new technology industries. During this era and into the 1980s, vocational technical education served as an alternative track for students who did not plan to go to college.

Since that time, vocational technical education has changed dramatically and has become much more academically driven. Renamed career technical education (CTE), vocational training programs are often now integrated directly into the academic curriculum of schools, serving as "themes" that engage students' interests and provide them with practical avenues for gaining academic skills. Around the country, we have seen "career academies" crop up in the K to 12 systems.

The first "career academy" is attributed to Philadelphia where 30 years ago the Academy of Applied Electrical Science was established at Edison High School in collaboration with the Philadelphia Electric Company and Bell of Pennsylvania. The model has developed over the past three decades, and today the U.S. Department of Education estimates that 24% of high schools have career academies.

Research shows that career academies are successful educational programs. In 2004, the International Center for Leadership in Education and the Council of Chief State Schools Officers launched the Bringing Best Practices to Scale Initiative, which identified 30 of the nation's most outstanding high schools. Of these 30 schools, 26 use career or theme-based academies as their primary instructional delivery system. Willard R. Daggett of the International Center for Leadership in Education found that CTE "can indeed be a key to success in getting all students to achieve an academically rigorous and relevant curriculum." The 2004 study, which was

Ten Fastest Growing Jobs 2000-2014:

1. Home health aides
2. Network systems and data communications analysts
3. Medical assistants
4. Physician assistants
5. Computer software engineers
6. Physical therapist assistants
7. Dental hygienists
8. Computer software engineers
9. Dental assistants
10. Personal and home care aides

Source: Bureau of Labor Statistics

Parents:
Help Your Children Gain "Soft Skills" for the Workforce

Regardless of whether your child is enrolled in a career technical education program or a traditional college preparatory program, it is critical that he or she begins learning the "soft skills" necessary for future employment. Research shows that "soft skills," or non-technical skills, are critical to getting a job, staying employed and advancing in the workforce, regardless of the specific occupation. These soft skills include: problem-solving and other cognitive skills, oral communication skills, positive job attitude and work ethic, and interpersonal and teamwork skills.

In a 1999 study, the Joint Center for Political and Economic Studies found that low-income individuals with limited exposure to the world of work often lack one or more of these soft skills, putting them at a disadvantage in today's competitive workforce. Parents need to ensure that their children develop these soft skills, either through job readiness programs or through at-home mentoring. Below are some exercises that parents can do with their children to help them develop these soft skills.

1. Values and personal ethics – Discuss real world scenarios in which a student must make ethical decisions. For example, ask your child what he or she would do if a cashier gave him or her too much change after purchasing an item. What would be the ethical choice?

2. Self-esteem, taking directions and accepting criticism – Provide your child with directions to complete a challenging task. Discuss how he or she plans to accomplish the task, encouraging him or her to ask questions and request assistance. When the task is complete, provide your child with an honest assessment of his or her work, providing constructive criticism on how to improve. Then ask your child to share his or her experience of the task and how he or she felt about following directions and being provided with constructive criticism. Then reverse the scenario, asking your child to serve as supervisor for you to complete a challenging task. Guide him or her in developing directions, supporting you through the task and providing constructive criticism.

3. Self-motivation and taking initiative – Help your child distinguish between basic responsibilities and extra activities by examining his or her responsibilities in the home and identifying what extra activities he or she could perform in order to take initiative. Discuss why an individual would want to take initiative, including demonstrating your ability to superiors and gaining additional skills.

4. Recognizing strengths and working with limitations – Work with your child to list five personal strengths that he or she possesses (organized, dependable, patient, thorough, etc.). Discuss the importance of these strengths for developing friendships, working in groups, and achieving personal goals. Then list five challenges that he or she experiences in school (getting to school on time, working in groups, speaking in front of the class, etc.) and discuss how these limitations can be overcome.

5. Overcoming obstacles – Present your child with real-world scenarios in which he or she would be faced with an obstacle to achieving a specific goal. For example, ask your child what he or she would do if he was given a large homework assignment to complete over a weekend when they also had an important family commitment. Discuss possible ways to overcome the obstacle and what would be required to implement those strategies.

6. Recognition of and respect for diversity – Ask your child to think of one stereotype that he or she holds. Discuss where the stereotype came from, how it affects his or her behavior, and why this stereotype could be a problem in school and work. Then ask your child to identify someone at school who he or she sees as different from them in some way. Ask your child to identify one positive thing about that person.

7. Resource management – Ask your child to name the three priorities in his or her life, one in each of the following areas: family, school and entertainment/relaxation. Then work with your child to identify the resources necessary to maintain those priorities. For example, if participating in a sport is a priority for your child, help him or her identify the resources required to maintain this priority, such as money for equipment and transportation to and from practice sessions. Introduce possible scenarios in which those resources could be threatened and how your child could find alternative resources to maintain the priority.

8. Time management – Ask your child to figure out how much time he or she spends on the following activities during a day: sleeping, cooking and eating, getting ready for the day, school, work, family responsibilities, homework, entertainment, commuting to and from school (and work, if applicable), and other activities (specify). Did the time add up to more than 24 hours? If so, where can he or she cut back or better manage time? Did the time add up to less than 24 hours? If so, what could he or she do with this extra time? Help your child create a sample schedule for a more efficient and productive day.

9. Money management – Provide your child with a set amount of money to plan a budget for the household for one month. Then go through the list of expenses that must be covered, including rent/mortgage, utilities, food and entertainment. Discuss priorities and the differences between absolute and flexible expenses.

Culinary Arts Motivate High School Students

The 11:24 a.m. bell rings at Truman High School in the Bronx and within 20 seconds, students start pouring into the Culinary Arts studio at Truman High School. Students are out of breath, having raced through the halls to get to their favorite class as quickly as possible. They eagerly approach their teacher, Chef Harold Chase, who came to Truman to lead the Culinary Arts Program after several decades working at such prestigious restaurants and catering companies as the Hershey Hotel and Ram Caterers. Mr. Chase instructs the students to don their aprons and gloves so that they can prepare twice-baked potatoes in teams of three.

After a short tutorial by Mr. Chase, the students eagerly retrieve their ingredients and set off to scooping out baked potatoes, chopping scallions, measuring grated cheese, mashing, whipping and then filling the potato skins using pastry bags.

Teams shoot glances at the other prep stations to see how the other teams are doing. A subtle, friendly competition fills the air. Who will complete the recipe first? Whose potatoes will taste the best? Who will have the best presentation?

Olivia Salnave and Matthew Cruz at Truman High School in the Bronx prepare twice baked potatoes in the Culinary Arts Program.

Wildcat Academy, an alternative high school in Manhattan. At the Wilcat program, students regularly show up at 5:00 a.m. to prepare for the events that they cater through the culinary arts program. Ron Tabano, principal of Wildcat, describes the impact of the program on his students: "You know you are doing something right when students choose to come to school at 5:00 a.m. to chop carrots. They are proud of their work in the culinary program, and they recognize that if they want to do this kind of work for a living, then they need to put the same energy into their other coursework as well."

Mr. Chase explains that the goal of the Turman Culinary Arts Program is to provide students with the techniques and skills necessary to either enter the field upon graduation or continue on to higher education in the fields of food preparation and service, hospitality, restaurant and hotel management, and related fields. Assistant Principal Deana Blake sees the program as a resource to inspire students in their other academic work as well. As Mr. Chase puts it, students "light up" when they enter the Culinary Arts Studio and they carry the excitement from the culinary work into their English language arts, math, science and social studies classes.

The fifth period scene at Truman High School's Culinary Arts Studio has all the elements of an intriguing reality television program: intelligent, engaging and driven individuals with a warm, yet demanding host who guides them through challenging recipes that not only improve their cooking skills, but help them develop as individuals. The students are learning organizational skills, how to work well in groups, as well as innovation (an extra dash of paprika by one team).

The Truman High School program teaches students food preparation, restaurant management, and hospitality. Students learn everything from expert knife skills to sautéing, braising and basting. Students focus on technique and are exposed to all aspects of the culinary industries except for wine tasting. The program culminates in an internship in the senior year, and it is affiliated with several well-known restaurants and culinary arts institutes.

The Culinary Arts Program is a four-year program that is modelled on a highly successful program at the John V. Lindsay

Truman High School is benefiting from the momentum created by the Culinary Arts Program, as well as the school's other programs in television production and media arts, law and legal studies, pre-engineering, and Junior ROTC. Once faced with the challenges of an increasing student population and safety problems, Truman High School now outperforms the other area high schools. In 2004, 90.6% of the students passed the Regents English language arts exam and 86.9% passed the Regents math exam.

The Culinary Arts Program's popularity is soaring. In 2004, 626 students applied for 102 available spots. Far from traditional vocational technical programs of past decades, Truman's Culinary Arts Program is fully integrated into the academic program at Truman and guarantees that graduates can pursue any profession they choose. And no matter what career they select, they will always eat well.

NYC College of Technology
Prepares Students for Jobs of the Future

"Look towards tomorrow." This is one of the main instructions students entering the New York City College of Technology (City Tech) are given as they select from more then 50 degree and certificate programs offered at the largest public technical school in the northeastern United States. Students can select from programs in computer technologies, architecture and engineering technologies, arts and entertainment technologies, hospitality and business, public services, health-related fields and the liberal arts and sciences. Coming out of City Tech, students can work in the fields of architecture, construction, entertainment technologies, fashion marketing, dental hygiene, legal assistance, nursing, radiological technology and medical imaging, desktop publishing, chemical technology, lighting and sound systems technology, as well as child welfare, youth services and much more.

Founded in 1946 as the New York State Institute of Applied Arts and Sciences, City Tech has been providing New York City residents with career training for sixty years. Renamed in 2002 and designated the college of technology in The City University of New York (CUNY) system, City Tech educates more then 12,000 students a year. City Tech graduates include Mildred Garcia, President of Berkeley College, Sherry Yard, head party chef at Spago Beverly Hills, Erroll Pierre, Director of Planning at Saks, Inc., and Nelson Wong, Senior Director of Sony Music Digital Services.

Classes at City Tech are unique. They are conducted in technologically advanced classrooms by faculty who have been recruited from business and industry. Students are provided with internships and collaborative research opportunities that help them make connections and build a resume so that they can get a head start in their careers.

The United States Bureau of Labor Statistics issued data in 2002 that showed that someone with an associate degree will earn, on average, 50% more than someone with no college experience. Someone with a bachelor's degree will have a family income one million dollars higher during a career than someone with only an associate's degree. Unfortunately, for many students who come from low-income families, college is just too great a financial burden despite the ultimate financial return on the investment. Students at City Tech pay the same low tuition and fees charged at other CUNY schools, despite the fact that they have access to CUNY's top technology. In addition, most of City Tech's entering students qualify for need-based financial assistance, and the college awards scholarships in many majors, based both on need and merit.

For more information on the opportunities available at City Tech, visit their website at www.citytech.cuny.edu.

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From the desk of:
Sy Fliegel, CEI-PEA President

Career Technical Education is a critical component of improving public education and helping our schools prepare students for the 21st century. Unlike in past eras, the line between "technical" careers and "professional" careers is blurry, with many of the same skill sets necessary for success in both career tracks. Nowadays, the line chef must know how to interface with computer systems that network the front and back of a restaurant, while copyright lawyers must understand such technical concepts as "open source software" in order to defend clients.

At the same time as the bar is being raised in terms of career training, school systems have divested themselves of vocational technical education programs. We have seen a rise in newly-fashioned career technical education programs that are more closely integrated into the overall academic programs of schools. While I encourage the development of these valuable programs, I also encourage educators to continue to foster CTE programs that are not merely theme-based education, but provide students with job skills that they can use after graduation or later in life. We should avoid "tracking" students into either CTE or college bound programs, as was the case in the past. However, we should also avoid watering down CTE programs to the point that they do not provide students with the valuable job skills that can serve them if they go on to college or not. Considering the large percentage of New York City public school students who are faced with putting themselves through college, giving them skills to gain higher compensated positions while going to college seems crucial to the mission of public education.

CTE programs provide many benefits to the full range of students. They inspire and motivate them to come to school and attend to their traditional academic work. They help students make connections between academic subjects and the real world. They prepare students to be "engineers" in their own lives by putting problem solving and project-based work at the center of the educational model. We should support the development of these programs, putting them at the center of the City's efforts to reform public education so that it serves all students.

Career Technical Education

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funded by the Bill and Melinda Gates Foundation, found that these schools provide an academic program that uses career areas as the platform to develop and improve the academic skills that students need to compete in today's workforce.

Daggett describes these schools as using "21st century CTE" programs. Such programs, he explains, use thematic and collaborative approaches to teach high-level reading, writing and mathematics skills in the context of real-world problems. CTE "is the platform, the spine and the instructional basis for developing strong academic skills for students on the state tests [used to assess student and school performance] and in life." Despite the reformulation of vocational technical education into the more academically-driven CTE model, there remains a popular perception that such programs provide a second-class education. Daggett describes the challenge: "CTE is still widely perceived as vocational technical education—a great program 'for somebody else's child, because my child is going to college.'"

CTE is—at its best—the answer to the major challenge of how America's public education system can help the country remain strong within the new global economy. CTE programs help engage students so that schools can move them towards long-term academic success. In a 2005 summary of research on CTE, Richard Kazis of Jobs for the Future noted the following:

- CTE programs help prevent high school students from dropping out.
- CTE programs engage students who are turned off by traditional academic work.
- CTE programs may be particularly important for addressing the growing gap between male and female success in school.

Kazis also noted that CTE promotes nonacademic behaviors that have value in preparation for work (what we would commonly describe as a "work ethic"), and CTE programs provide valuable employment contacts for otherwise disconnected youth. For students who choose not to go on to college, CTE programs give them the skills, contacts and work ethic necessary to be successful in the new global, information-driven economy.

In this issue of the *CEI-PEA Alert*, we describe the history of vocational/career technical education, policies that affect the implementation of 21st century CTE programs, and model CTE programs at the secondary and postsecondary levels.

The *CEI-PEA Alert* is an advocacy newsletter that deals with topics of interest to all concerned with the New York City public schools. Back issues are available on the CEI-PEA website at www.cei-pea.org. To arrange for multiple copies of current or previous issues, call (212) 302-8800.

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