

Career-tech Can Help American Competitiveness

October 11, 2006

Association for Career and Technical Education:

ACTE Issue Brief: American Competitiveness

http://www.acteonline.org/policy/legislative_issues/upload/Competitiveness.pdf

This issue brief will explore the dynamic role that career and technical education plays in economic competitiveness. High-quality career and technical education can ensure America's future in the global economy through increased student engagement, the innovative integration of math, science and literacy skills, and by meeting the needs of both employers and the economy as a whole. In May 2005, Thomas Friedman's The World is Flat reached the top of The New York Times best seller list and alerted the nation to the issue of increasing global competitiveness. No longer was the "flattening" of the world only of importance to economists and business leaders, but to policymakers, educators and the public at large. Today, America's economic competitiveness is at the forefront of a national policy debate, with federal, state and local leaders examining ways to keep the country at the top of international innovation as other countries make technological and economic gains.

When passing the recently reauthorized Carl D. Perkins Career and Technical Education Improvement Act, Members of Congress recognized that one area missing from almost all of these policy proposals is a focus on career and technical education (CTE). They added a new purpose to the Act: "Providing individuals with opportunities throughout their lifetimes to develop, in conjunction with other education and training programs, the knowledge and skills needed to keep the United States competitive."

Increasing Skills Demand

The globalization of business and industry requires workers to acquire core knowledge and skills that can be applied-and quickly upgraded and adapted-in a wide and rapidly changing variety of work settings. There continues to be a strong demand and an inadequate supply of employees with these skill levels. A recent Chamber of Commerce survey showed that almost half of employers are having a hard time finding qualified job applicants, and more than 90 percent of respondents in a 2005 National Association of Manufacturers (NAM) study reported shortages of skilled workers. The talent shortage being reported is not a theoretical or distant problem. In fact, 83 percent of respondents to the NAM study indicated that these shortages are currently impacting their ability to serve customers.

Declining Performance of American Students

The American education system is key to ensuring that students obtain the skills employers need to compete in the 21st century economy and remain highly innovative and competitive. In recent years, studies finding that American students are failing to keep pace with their international counterparts have given serious cause for concern and attention. Most careers in the 21st century will require students to engage in some type of postsecondary education, yet too many students leave school without even earning a high school diploma. Recent analyses have put high school graduation rates at around 70 percent. Of students who do graduate, many are not prepared for further education or careers. One estimate finds that, given projected retirements, postsecondary education enrollment and job growth, the U.S could experience a shortage of 12 million too few college-educated workers by 2020.

CTE Provides a Solution

High-quality CTE can ensure America's future competitiveness through increased student engagement, the innovative integration of math, science and literacy skills, and by meeting the needs of both employers and the economy as a whole. CTE prepares both youth and adults for a wide range of careers in the 21st century economy. These careers may require varying levels of education—from high school and postsecondary certificates to two- and four-year college degrees. According to the U.S. Department of Education's Office of Vocational and Adult Education (OVAE), 97 percent of all high school students take at least one CTE course, and one in four students take three or more courses in a single program area. One-third of college students are involved in CTE, and as many as 40 million adults engage in short-term postsecondary occupational training.

CTE programs help students achieve academic success, experience increases in earnings and improved employment outcomes, reduce dropout and absentee rates, and achieve postsecondary success. Nations enrolling a large proportion of upper-secondary students in vocational programs that include heavy doses of work-based learning have significantly higher school attendance rates, upper-secondary completion rates and college attendance. CTE supports strong economic competitiveness by helping secondary and postsecondary education programs meet the following goals:

1. Increase Student Engagement

CTE provides students with opportunities to gain critical math, science and literacy skills in a relevant context—utilizing principles of inquiry-based learning and exploration. A study by the National Research Center for Career and Technical Education discovered that when combining professional development with a pedagogic framework to identify and teach the mathematics that is inherent in CTE curricula, students who received the enhanced instruction scored significantly higher on standardized math tests than students who received their regular curriculum. At the

same time, scores on technical assessments did not decrease-showing that a high quality contextual approach to improving academics could produce very valuable payoffs for students and their future employers.

In states like Arizona, where academic content has been made explicit in CTE courses and CTE teachers understand and teach to the state's academic standards, CTE students have outperformed the general high school population. Arizona conducted a comprehensive review of its CTE curriculum during which specific program standards were written and programs were updated to include reinforcement of state academic standards. As a result, in 2004, CTE graduates who took two or more CTE courses outperformed the general high school student population taking all three of Arizona's high stakes academic tests (AIMS). Many states have gone even further to recognize the academic content inherent in CTE programs. Kentucky has developed 10 "interdisciplinary courses" that allow students to meet academic course requirements by taking classes that carefully merge academic standards with career-oriented content. Two courses-computer aided drafting/geometry and construction geometry-are structured so they cover all 23 state standards for geometry. Other courses, such as nutritional and food science and business economics, offer credits toward the state's life science and economics requirements.

2. Improve Math, Science and Literacy Skills

Future Work staff note: See report for complete text and examples.

3. Meet America's Workforce Needs

4. Meet Employer Needs for Highly Skilled Workers

Students must be exposed to future career opportunities during their formal education, and it is critical to get students interested in STEM-related occupations early in their educational careers. Even in areas that are not traditionally considered STEM fields, all jobs in the 21st century will require increasing levels of technical knowledge. CTE programs can provide this exposure to technical skills to all students, regardless of their future career goals. High-quality CTE will ensure America's future competitiveness through student engagement, the innovative integration of math, science and literacy skills, and by meeting the needs of both employers and the economy as a whole.