



CTE WORKS!



CTE Works for High School Students

- A ratio of one CTE class for every two academic classes minimizes the risk of students dropping out of high school. (Plank et al., *Dropping Out of High School and the Place of Career and Technical Education*, National Research Center for CTE, 2005)
- The more students participate in Career Technical Student Organizations, the higher their academic motivation, academic engagement, grades, career self-efficacy, college aspirations and employability skills. (Alfeld et al., *Looking Inside the Black Box: The Value Added by Career and Technical Student Organizations to Students' High School Experience*, National Research Center for CTE, 2007)
- CTE concentrators improved their 12th grade NAEP scores by eight points in reading and 11 in math, while students who took no CTE courses did not increase their math scores and only increased reading by four points. (Department of Education, *National Assessment of Vocational Education*, 2004)
- Eighty percent of students taking a college preparatory academic curriculum with rigorous CTE met college and career readiness goals, compared to only 63 percent of students taking the same academic core who did not experience rigorous CTE (Southern Regional Education Board, *High Schools That Work 2012 Assessment*)
- CTE students were significantly more likely than their non-CTE counterparts to report developing problem-solving, project completion, research, math, college application, work-related, communication, time management and critical thinking skills during high school. The Society for Human Resource

Management (SHRM) has identified employer demand for many of these skills. (Lekes et al., *CTE Pathway Programs, Academic Performance and the Transition to College and Career*, National Research Center for CTE, 2007; SHRM and WSJ.com/Careers, *Critical Skills Needs and Resources for the Changing Workforce*, 2008)

- The average high school graduation rate in 2008 for students concentrating in CTE programs was 90 percent, compared to the average nationwide graduation rate of 75 percent. (U.S. Department of Education 2007-2008 data, National Association of State Directors of Career Technical Education Consortium analysis).
- In a study of freshman students, 60 percent who had participated in at least one high school work-based learning activity and 64 percent who participated in two or more activities had a college GPA above 3.0, compared to 58 percent of the entire cohort. (Swait et al., *Work-Based Learning and Higher Education: A Research Perspective*, Educational Policy Institute, 2004)

CTE Works for Postsecondary Students and Adults

- Students in programs that blend basic skills and occupational training for more contextualized learning are far more likely than similar adult students to improve basic skills and earn college-level credits. (Jenkins et al., *Educational Outcomes of I-BEST, Washington State Community and Technical College System's Integrated Basic Education and Skills Training Program: Findings from a Multivariate Analysis*, CCRC Working Paper No. 16, 2009)

CTE Works for Businesses and the Economy

- Participation in skills-training programs increased wages and earnings, raised the probability and consistency of employment, and led to work in higher-quality jobs. (Maguire et al., *Job Training That Works: Findings from the Sectoral Employment Impact Study*, Sectoral Employment Initiative: Public/Private Ventures (7), May 2009)
- Forty-three percent of young workers with licenses and certificates earn more than those with an associate degree, 27 percent of young workers with licenses and certificates earn more than those with a bachelor's degree, and 31 percent of young workers with associate degrees earn more than those with a bachelor's degree. (Georgetown University Center on Education and the Workforce, *Valuing Certificates*, Presentation, 2009)
- Business-education partnerships help adults build technical, academic and employability skills through education and on-the-job training. Examples include the Health Careers Collaborative in Cincinnati and the Georgia Power Electrical Lineworker Bootcamp, among many others. (Corporate Voices for Working Families, *A Talent Development Solution: Exploring Business Drivers and Returns in Learn and Earn Partnerships*, 2012)
- A person with a CTE-related associate degree or credential will earn an average of at least \$4,000 more a year than a person with a humanities associate degree—and those with credentials in high-demand fields such as healthcare can average almost \$20,000 more a year. (Jacobson et al., *Pathways to Boosting the Earnings of Low-Income Students by Increasing Their Educational Attainment*, 2009)
- In Virginia, occupational/technical associate degree holders out-earn non-occupational associate degree holders by about \$6,000 and bachelor's degree holders by almost \$2,500 per year. This is high return on a modest investment—average tuition and fees for U.S. public two-year institutions are less than half of tuition and fees for four-year colleges. (Schneider et al., *The Earning Power of Recent Graduates from Virginia's Colleges and Universities*, College Measures, 2012; College Board, *Average Published Undergraduate Charges by Sector*, 2012-13)
- Skilled trade workers, engineers and IT staff are the top three jobs employers are having trouble filling in the U.S., and CTE plays a critical role in training workers in these areas. (Manpower Group, *Talent Shortage Survey Results*, 2012)
- Sixty-seven percent of respondents in a 2011 manufacturing skills gap study indicated that they were experiencing a shortage of qualified workers—with 12 percent reporting severe shortages and 55 percent indicating moderate shortages. CTE plays a vital role in helping American business close this gap by building a competitive workforce for the 21st century. (Deloitte and The Manufacturing Institute, *Boiling Point? The Skills Gap in U.S. Manufacturing*, 2011)
- Middle-skill jobs, jobs that require education and training beyond high school but less than a bachelor's degree, are a significant part of the economy. Of the 46.8 million job openings created by 2018, 30 percent will require some college or a two-year associate degree. In addition, occupations requiring an associate degree are projected to grow faster than those requiring a bachelor's degree. (Carnevale et al., *Help Wanted: Projections of Jobs and Education Requirements Through 2018*, Georgetown University Center on Education and the Workforce, 2010; U.S. Bureau of Labor Statistics, *Occupational Outlook Handbook, 2012-13 Edition*)
- Communities across the nation benefit from CTE. In Washington, for every dollar spent on secondary CTE students, taxpayers will receive \$9 in revenues and benefits. In Connecticut, every public dollar invested in community colleges returns \$16.40 over the course of students' careers. Los Angeles County's economy receives roughly \$9.1 billion annually from the Los Angeles Community College District. (Washington State Workforce Training and Education Coordinating Board, *2011 Workforce Training Results*; Robison and Christophersen, *The Economic Contribution of Connecticut's Community Colleges and Economic Contribution of the Los Angeles Community College District*, 2008)