



RESEARCH DEMONSTRATES THE VALUE OF CAREER AND TECHNICAL EDUCATION

Career and technical education (CTE) produces gains in academic achievement and earnings and represents a significant contribution to the education of America's youth and adults in preparation of a skilled workforce. An extensive body of research exists that describes CTE programs and their outcomes, and the information below highlights the findings of numerous studies and reports.

CTE Students Achieve Academic Success:

- During the 1990s, CTE concentrators participated in more rigorous academic coursework, and, when compared with general students, CTE students are taking more and higher level math and science, found the National Research Center for Career and Technical Education (NRCCTE) in a 2003 report.¹
- CTE concentrators take more and higher level math than their general track counterparts, according to a 2002 National Center for Career and Technical Education (NCCTE) study.²
- The 2004 National Assessment of Vocational Education (NAVE)³ Final Report found that occupational concentrators increased their 12th-grade test scores on the National Assessment of Educational Progress (NAEP) by about 8 scale points in reading and 11 points in math, while students who took little or no career and technical education coursework increased their reading on NAEP by only 4 points and showed no improvement in math achievement.
- Students at schools with highly integrated rigorous academic and CTE programs have significantly higher student achievement in reading, mathematics and science than do students at schools with less integrated programs, as reported by the Southern Regional Education Board.⁴
- In 2004 the NAVE Independent Advisory Panel found that the number of academic courses taken by occupational concentrators increased by nearly 30 percent from 1982 to 1998⁵, while from 1990-2000 the number of CTE students completing the New Basics curriculum (4 years of English and 3 years each of math, science, and social studies) rose from 19 percent to 51 percent, according to the 2004 NAVE Final Report.⁶

CTE Students Experience Increases in Earnings and Improved Employment Outcomes:

- A 2002 study conducted by the Federal Reserve Bank of Chicago⁷ found that a year of technically oriented coursework at a community college increased the earnings of men by 14% and women by 29%. Additionally, the study found almost no earnings increase for non-technically oriented coursework.
- CTE graduates are 10-15% more likely to be in the labor force, and earn 8-9% more than graduates of academic programs, according to a 2001 Russell Sage Foundation study.⁸
- Seven years after graduating from high school, CTE students had earnings that increased by about 2 percent for each additional high school CTE course they took, according to the 2004 NAVE Final Report.⁹
- The 2004 NAVE Independent Advisory Panel Report indicated that students who took four high school CTE courses showed an average increase in earnings of \$1,200 immediately after graduation and \$1,800 seven years later.¹⁰
- The 2004 NAVE Final Report found that postsecondary vocational education proved an effective means to higher income, as, even without attaining a credential, a single year of study brought 5 to 8 percent more earnings to postsecondary CTE students than to high school graduates with similar characteristics.¹¹
- Secondary students who graduate with a career and technical education concentration are 2 ½ times more likely to be employed while pursuing postsecondary education than are "college prep" students, according to the SREB.¹²

Career and Technical Education Reduces Dropout and Absentee Rates:

- A ratio of 1 CTE class for every 2 academic classes was shown to minimize the risk of students dropping out in a 2005 National Research Center for Career and Technical Education (NRCCTE) report.¹³
- Smaller learning communities such as career academies have been shown to reduce dropout rates by 3 percent over high schools over 1000 students as reported by Oregon State Legislature study in 2000.¹⁴
- In a Gates Foundation report, 81 percent of students who dropped out said that “more real world learning” may have influenced them to stay in school.¹⁵

CTE Students Achieve Postsecondary Success:

- Career and technical education (CTE) students enter postsecondary education at approximately the same rate as all high school graduates, notes a study by the Center on Education Policy and American Youth Policy Forum in 2000.¹⁶
- The National Center for Education Statistics (NCES) in 2000¹⁷ found that vocational concentrators were more likely than their general peers to obtain a degree or certificate within 2 years, despite the fact that vocational concentrators were more likely to be employed while in school.
- A 2000 NCES study¹⁸ found that 71.2% of all subbaccalaureate students (those enrolled in two-year or shorter postsecondary programs) have vocational majors. NCES’ study also indicated that 66.2% of all degree-seeking undergraduates pursue career majors, 37.6% being vocational (non-baccalaureate) and 28.6% baccalaureate.
- The 2004 NAVE Final Report¹⁹ states that CTE student college attendance increased by nearly 32 percent between 1982 and 1992.

Occupational Outlook:

- According to the 2004 NAVE Final Report²⁰, employment growth in occupations requiring a vocational associate’s degree (30%) is projected to be more than double overall employment growth (14%) through 2008.
- Nearly one-third of the fastest growing occupations will require an associate’s degree or a postsecondary vocational certificate, according to a 2006 Bureau of Labor Statistics (BLS) report.²¹
- More than 80 percent of respondents in the 2005 Skills Gap Report indicated that they are experiencing a shortage of qualified workers overall – with 13 percent reporting severe shortages and 68 percent indicating moderate shortages. Also 90 percent of respondents indicated a moderate to severe shortage of qualified skilled production employees, including front-line workers, such as machinists, operators, craft workers, distributors, and technicians.²²

Some Facts About CTE:

- 96.6% of high school students take at least one vocational course, reports the 2004 NAVE Final Report.²³
- The 2004 NAVE Final Report²⁴ indicated that nearly one-third of all for-credit postsecondary education students – an estimated 4.9 million youths and adults – were enrolled in subbaccalaureate vocational courses and programs.
- Students in rural school are more likely to be involved in vocational education, the 2004 NAVE Final Report²⁵ found. Rural schools serve 32.2% of all public high school graduates but 40.1% of all occupational concentrators.
- The number of students enrolled in CTE programs has risen 157% from 1999 to 2004 according to an Office of Vocational and Adult Education report.²⁶
- According to the Career Academy Support Network in the Graduate School of Education at Berkeley, there are over 1600 career academies in the United States covering 18 different career themes including Agriculture and Natural Resources; Arts, A/V Technology and Communications; Hospitality and Tourism; and Scientific Research and Engineering.²⁷

The Association for Career and Technical Education (ACTE) is the nation's largest education association dedicated to the advancement of education that prepares youth and adults for successful careers. For more information, contact: Jason Kiker (jkiker@acteonline.org), ACTE, 1410 King Street, Alexandria, VA 22314, (703) 683-3111, (703) 683-7424 (Fax), www.acteonline.org. October 2006.

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