

Denver Public Schools Career and Technology Education Business Advisory Board Executive Summary

WHAT IS THE CTE BUSINESS ADVISORY BOARD?

The CTE Business Advisory Board is a group of interested community business members who meet with the common focus of program reform in the Denver Public Schools. This group believes that the Denver Public Schools CTE curriculum and programs offer students invaluable learning experiences that prepare them for future employment. The CTE program is uniquely aligned with the DPS vision for school excellence. This document outlines the CTE Business Advisory Board's mission and goals as well as describing its connection to the district's focus on rigor, relevance, and relationship as they support student learning.

CTE Program Purpose

A strong economy begins with a solid, well-educated workforce. CTE addresses these needs by providing cutting edge programs that articulate to post-secondary training so students can get a head start on their future. Colorado's strength in mature high tech industries such as telecommunications, software development, and high tech manufacturing has resulted in the highest concentration among all 50 states of high tech workers. Emerging industries such as biotech, photonics, homeland security, aerospace, nanotechnology and renewable energy are gaining momentum. There is a growing need for skilled/educated workers to fill these positions. (Colorado Data Book, August 2005). CTE is an essential paradigm for reforming high schools and providing young people with important *choices and skills* needed for success later in life (Brand 2003).

CTE Business Advisory Board Mission

The Career and Technology Education Business Advisory Board fosters partnerships between local and community businesses and Denver Public Schools by elevating awareness, impacting policy, and implementing programming to provide students the opportunity to learn workplace skills and explore careers. The group will focus on three goals:

- **Develop strong, enduring relationships with the business community to determine future workforce needs**
- **Revitalize the CTE program at the 6-12 grade levels at all schools focusing on rigor, relevance, and relationship**
- **Align CTE with the district vision of standards for high school excellence**

CTE CORE CONNECTIONS WITH DISTRICT STANDARDS

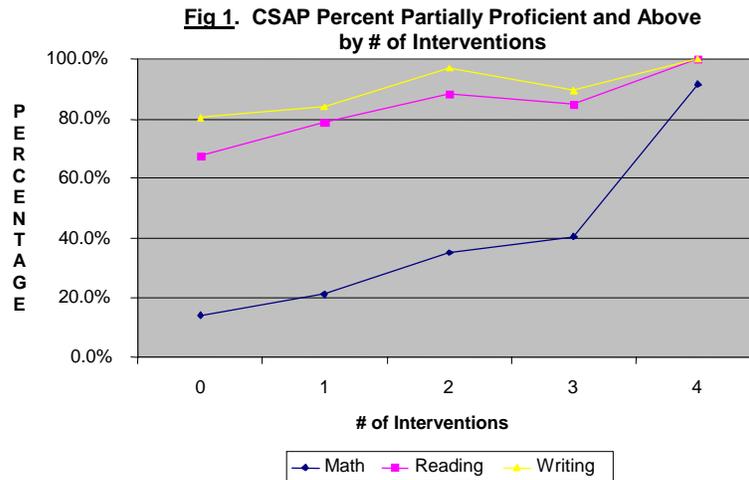
CTE is on the reform forefront. It is aligned with DPS district standards for excellence in high school education. CTE supports the Denver Commission on Secondary School Reform's ("Not a Moment to Lose! A Call to Action for Transforming Denver's High Schools") new vision for Denver's high schools emphasizing academic rigor, educational relevance and positive relationships. For more information you can go to dcssr.dpsk12.org. The following sections describe CTE programs and data that link directly to district standards.

Program Accomplishments – Rigor

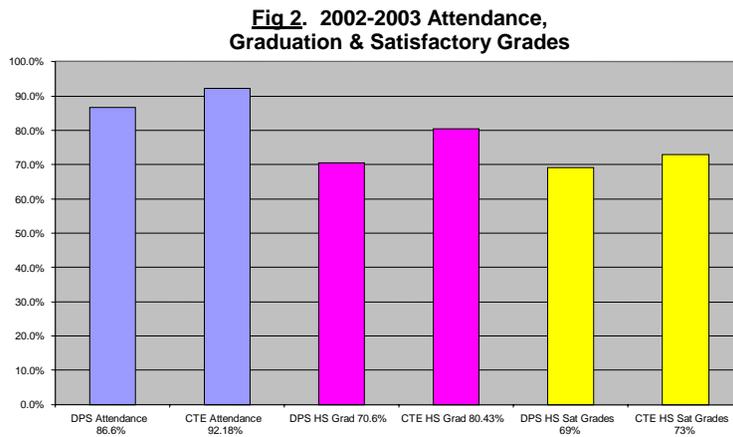
CTE programs prepare students to make a successful transition to post-secondary education or the workplace after high school. Twenty-one percent of 2002 DPS graduating students completed CTE programs their senior year. A survey conducted nine months after graduation found that 83% continued their education at a post-secondary institution and/or found employment related to their training. The 2003 graduation data reports similar successes.

The CTE programs have been involved in three research projects over the past three years that demonstrate student success.

- The National Proactive Schools Pilot Research Project key findings show a positive correlation between involvement in CTE and CSAP scores. (Figure 1)



- Students enrolled in CTE programs have higher attendance, graduation rates and grade point averages as compared to the general population of students in Denver Public Schools. (Figure 2)



CTE programs have documented other important data:

- The Math-in-CTE Research Project, sponsored by National Center for CTE shows that students in the study score higher on the Acuplacer Test and Tara Nova than those students in the control group.
- Over 60 CTE courses articulate or have credit escrowed to participating Colorado community colleges, providing dual high school/college credit within a statewide framework of competency-based curriculum.
- CTE coursework provides “integration of skills across disciplines and a variety of assessment techniques” called for in “Not a Moment to Lose!” by embedding standards in course syllabi.
- CTE follow-up data from the 2002-2003 school-year shows an average CTE student GPA of 3.69. Their attendance rate was 92.18%

Community Impact - Relevance

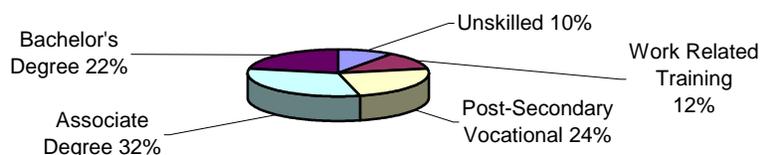
CTE offers important experiences to students that apply core subjects and skills. A variety of field experiences such as special projects, speakers, pre-employment experiences, job shadows, internships, community service, and work experience reinforce the relevance of core knowledge. CTE programs provide training in diverse occupations. Programs targeting high job growth areas include Project Lead the Way, a pre-engineering program, Geographic Information Systems, Teacher Cadet, Medical Preparation, and the Computer Magnet. These important connections encourage students to stay the course and focus on graduation.

CTE students’ graduation rate is higher than other DPS students as shown in Figure 2. This success is significant. Based on the “Colorado Succeeds” report, Coloradans lose more than \$3.4 billion each year in potential earnings related to the high cost of students failing to graduate from high school. This graduation crisis can exact a huge cost on individuals, families, local communities, and the state. Unemployment and underemployment burdens social programs. Students who do not complete high school can be at risk for incarceration. Nationally, 68% of inmates do not have a high school diploma. Significant portions of Colorado’s \$470 million dollar correction budget are devoted to incarcerating and ultimately retraining inmates for work. CTE can act as a ‘preventive intervention’. Students involved in CTE develop real world job skills that they can utilize in the work force upon graduation, giving them an immediate and positive connection in the employment world.

CTE programs impact student learning at both the individual level and the district level. Approved CTE courses generate an annual average of 1.75 million dollars in financial reimbursement from both state and federal funds. These funds augment the existing CTE budget, making the fiscal support of the program overall economical for the district.

There is a growing need for specific vocational training in the work force. The highest percentage of jobs for the 21st century will require students to have some post-secondary education and training. CTE is preparing students for post-secondary studies, job placement, and the formation of life long learning habits. (Figure 3)

Fig 3. 21st Century Job Outlook



Students Served - Relationship

CTE programs currently serve over 13,000 students annually, representing 69% of all students enrolled in DPS middle schools and high schools. There are currently 123 CTE programs in 27 middle and K-8 schools, 10 comprehensive high schools, CEC Middle College, Florence Crittenton School, and the Contemporary Learning Academy. The programs are available to all students, including those with special needs. Additionally, during 2004 – 2005, CTE assisted 13,194 DPS students in preparing electronic Individual Career and Academic Plans. CTE works to cultivate supportive relationships with students. Important data related to this includes:

- 2,500 CTE students develop leadership skills and build relationships through student organizations such as Future Business Leaders of America (FBLA), DECA, An Association of Marketing Students, and the Family, Career, and Community Leaders of America (FCCLA).
- During the 2004-2005 school year, CTE students participated in numerous field experiences:
 - 2,994 students - Goodwill Industries of Denver School To Work Program
 - 430 students - Career Connection Experience and Executive Internships
 - 455 students - Girls Exploring Science, Engineering and Technology
 - 521 students - Construction Career Days; Architecture, Construction Management & Engineering Mentoring Program; and Wheels and Motion Transportation Expo
- During the 2004-2005 school year, CTE partnered with over 1000 members of the business community to bring real-world experience to students. Volunteers conducted mock job interviews, hosted field trips, provided job shadows and on-the-job training, supervised internships, acted as guest speakers and mentored students. Five hundred volunteers support CTE by serving on individual high school advisory committees.

NEXT STEPS

Career and Technology Education provides invaluable educational experiences and real-world work preparation to its students. CTE courses and program objectives are not in competition with core subject skills, but rather work to integrate these important skills into learning experiences. There is a demand for these courses, however, an emphasis on academic core subjects and budget cuts have impacted staffing allocations for CTE teachers and programs over the past ten years. Between 1994 and 2005, CTE staff has been reduced by 29% at the high school level. The CTE Business Advisory Board is dedicated to revitalizing programs at each school. In order to accomplish this, the district needs to make an active commitment to CTE in the form of:

- recognition of the importance of CTE through increased staff and state of the art resources
- inclusion into district philosophy as a vital component in student learning
- active integration of CTE components in students' academic and career plans

These actions are imperative for continued student success. Students who complete CTE coursework exit high school with exceptional preparation for higher education and the world of work. Not only do students develop a solid general education through core classes, but they also master specific skills that bridge their transition into employment. It's good for students, good for schools, and good for employers.