

2016-17 Evaluation of Career and Technical Education

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At-a-Glance

The Carl D. Perkins Career and Technical Education Act of 2006 helped support the Department of Career and Technical Education (CTE) of the Dallas Independent School District (ISD). The goals of the CTE program were to prepare students for college and career success, to provide them with the skills to be competitive in a global economy, and to recognize and meet the unique needs of a diverse student population. The CTE program was funded \$2,702,107 through a Texas Education Agency (TEA) grant.

Dallas ISD campuses offered courses and course sequences aligned with 16 career clusters or broad groupings of occupations and industries based on related disciplines.¹ The district offered 246 pathways within the 16 career clusters in 2016-17, an expansion from 196 in the previous year (25.5% increase). In 2016-17, Dallas ISD opened seven new collegiate academies and one new Pathways to Technology (P-TECH) Early College High School, the first P-TECH in Texas,² helping to increase dual credit enrollments. Dallas ISD also housed 42 National Academy Foundation (NAF) academies, small career-themed learning communities within larger schools or as stand-alone public high schools at 20 campuses.

The purpose of this evaluation was to report: (1) student characteristics in the Dallas ISD CTE program, (2) senior course completion rates, (3) academic effectiveness as measured by *State of Texas Assessments of Academic Readiness (STAAR) STAAR* and *STAAR End-of-Course (EOCs)*, (4) *Advanced Placement (AP)*, *International Baccalaureate (IB)*, and dual credit participation, (5) freshman diploma endorsements, and (6) post-secondary outcomes for the Class of 2010.

District Characteristics

CTE students were classified into two levels: (1) elective and (2) coherent sequence students. Elective students were those who were enrolled in at least one CTE course during the current school year. Coherent sequence students were high school students who took two or more CTE courses for three or more credits within a specified pathway. Overall enrollment in grades six through 12 for CTE elective ($n=19,277$, 27.1%) and coherent sequence ($n=19,507$, 27.5%) was similar.

Compared to 2015-16, the number of middle school CTE elective students increased by 29.1% ($n=2,015$). At the high school level, overall CTE enrollment increased by 0.6% ($n=170$), reflecting a 26.5% ($n=2,738$) decrease in elective students and a 17.5% ($n=2,908$) increase in coherent sequence students. Middle and high school students were about half male and female, and the majority of students were Hispanic.

CTE students most often enrolled in the business, management, and administration courses ($n=6,007$) and the least in manufacturing ($n=51$; See Table 1).

Table 1: 2016-17 Number of High School Enrollments by Career Cluster and CTE Status

Career Cluster	Total CTE Enrollment	Enrollment by Cluster
	<i>n</i>	%
Business, Mgmt, Admin.	6,007	17.3
Information Technology	4,679	13.5
Arts, A/V Tech., Comm.	2,815	8.1
Career Exploration	2,783	8.0
Hospitality and Tourism	2,740	7.9
Finance	2,476	7.1
Health Science	2,469	7.1
Human Services	2,402	6.9
Law, Public Safety, Corrections, Security	1,991	5.7
Mktg., Sales, and Serv.	1,385	4.0
Arch. and Construction	1,202	3.5
Trans., Dist., Logistics	995	2.9
STEM	761	2.2
Ag, Food, Natural Res.	753	2.2
Education and Training	669	1.9
Govt. and Admin.	468	1.4
Manufacturing	51	0.1
Total	34,646	100.0

Source: District demographic PEIMS file dated October 31, 2016. District CTE status PEIMS file dated July 25, 2017. District secondary course file dated February 6, 2017.

Note: CTE = Career and technical education. Includes CTE elective and coherent sequence students. A student could be enrolled in multiple courses within each career cluster. Mgmt = Management. Admin=Administration. A/V Tech = Audio/Video Technology. Comm = Communication. Mktg = Marketing. Serv = Service. Arch = Architecture. Trans = Transportation. Dist = Distribution. STEM = Science, Technology, Engineering, and Mathematics. Ag = Agriculture. Res = Resources. Govt = Government. Percentages may not add up to 100 due to rounding.

¹Accessed on September 21, 2017, <https://www2.ed.gov/about/offices/list/ovae/pi/cte/factsh/career-clstrs-prgrms-study-fs080528qa-kc.pdf>

² For more information on the 2016-17 Collegiate Academies, see Palladino, Zhang, & Douglas (2017).

Senior Course Completion Rates

CTE elective and coherent sequence seniors completed CTE coursework at 98.9 percent ($n=919$) and 96.9 percent ($n=5,579$), respectively.

Academic Effectiveness

Grades six and eight *State of Texas Assessments of Academic Readiness (STAAR)* performance showed that CTE students outperformed non-CTE students on all STAAR subjects; however, grade seven CTE students underperformed on all exams. For STAAR EOC, National Academy Foundation (NAF) students outperformed all student groups on Algebra I, Biology, and U.S. History. Non-CTE students in special population student groups, including individuals with disabilities and economically disadvantaged students, outperformed the combined CTE student group that included CTE elective and coherent sequence students on every EOC except U.S. History. ELL NAF students outperformed the combined CTE and non-CTE student groups on every STAAR EOC subject.

Advanced Placement (AP), International Baccalaureate (IB), and Dual Credit Enrollment

A total of 11,129 Dallas ISD students enrolled in *Advanced Placement (AP)* and *International Baccalaureate (IB)* courses, a 13.8 percent increase from 2015-16 ($n=9,771$; Turner, 2016). For overall AP exam performance, non-CTE students and the district outperformed CTE students on every AP exam except on the *AP Spanish Language*, *AP Chemistry*, and *AP Physics C: Mechanics* exams.

Overall, 2016-17 dual credit enrollments increased by 29 percent ($n=2,417$) compared to 2015-16 ($n=1,871$; Turner, 2016) largely due to the expansion of collegiate academies offering more dual credit opportunities.

Freshman Endorsement Selection

Revision of Texas high school graduation requirements mandated by House Bill 5 placed new emphasis on coherent sequences of CTE courses, which contribute to diploma endorsements in five areas: STEM; business and industry; public services; arts and humanities; and a multidisciplinary option. Freshman students could select up to five endorsements. Of the freshman students who selected a diploma endorsement, business was the most frequently selected ($n=2,730$, 22.3%).

Post-Secondary Outcomes

A study of college outcomes for the Dallas ISD class of 2010 compared college enrollment and employment status for CTE and non-CTE students. Information on students from the class of 2010 was obtained from the *Texas Public College Enrollment and Employment Outcomes for District High School Graduates by Career and Technical Education Participation* report.³ A greater percentage of CTE participants were enrolled in college (23.4%), employed (18.8%), and simultaneously employed and enrolled in college (15.5%) than non-CTE participants (22.8%, 16.4%, 11.5%, respectively) who graduated in 2009-2010. Forty-six percent ($n=3,285$) of 2010 graduates could not be identified as either college enrolled or employed.

Recommendations

Reassess evaluation outcomes. The annual evaluation could be improved by including more components from both the district- and state-level objectives. The program staff should consider including goals on CTE indicators used by the state (e.g. STAAR EOC passing rates for ELLs). By specifying goals, the analyses would be more pointed, useful, and actionable for program directors.

Continue efforts to improve performance on AP exams. Overall, CTE students underperformed compared to district and non-CTE students on AP exams. There is an opportunity to provide additional resources to assist CTE students to improve AP score outcomes.

Create three new Chancery variables to improve data analysis efficiency. First, because the district continued to offer innovative ways for students to participate in CTE courses (e.g. National Academy Foundations (NAF), collegiate academies, and pathways with CTE electives), stakeholders should consider a new variable to identify the CTE program in which the student has participated. The second recommended variable would identify the appropriate career cluster codes for individual courses. This code would need to be updated annually. The third recommended variable would indicate whether a course is considered nontraditional for a specific gender, per the Texas Education Agency (TEA). Nontraditional courses do not change frequently. The state monitors nontraditional students and this variable would allow for more efficient analyses, when necessary. The combination of these three suggested Chancery variables would provide a more systematic identification process, allowing more effective and

³Accessed on October 11, 2016, <http://www.texaseducationinfo.org/ViewReport.aspx>

efficient comparisons by CTE program, career cluster, and special course designations.

Create a course listing index in the CTE Handbook.

It was difficult to reconcile and locate new or uncategorized CTE courses. An index would improve the efficiency of course cross-validation across career clusters.

References

Palladino, D.K., Zhang, J., & Douglas, N.E. (August, 2017). 2016-17 Evaluation of the Collegiate Academies: Final Report. Dallas, TX: Dallas Independent School District.

Turner, H. (September, 2016). Career and Technical Education 2015-16: Final Report. Dallas, TX: Dallas Independent School District.

The full 2016-17 report can be found at www.dallasisd.org/Page/888. For more information, please contact Program Evaluation at evaluation@dallasisd.org.

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