

EXECUTIVE SUMMARY

The primary purpose of the Career and Technical Education (CTE) program is to prepare students for college and career success by providing them with the skills necessary to be competitive in a global economy. To meet this goal, the Dallas Independent School District (ISD) offers courses across 135 comprehensive CTE pathways to students in grades six through 12. Courses can be taken as electives, as a coherent sequence of courses, or as dual credit courses at participating middle and high schools. Students can also participate in CTE by taking courses through the National Academy Foundation (NAF), Career Institutes (CI), or the early college high school (ECHS) program. Through participation in CTE, students can earn diploma endorsements, industry certifications, educational certificates, and college credit hours. In addition, students can participate in paid internships. The CTE program is coordinated by the CTE Department under Teaching and Learning. Program activities are partially funded through both state CTE funds and a grant established by the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV). In 2019-20, the total Dallas ISD CTE budget was \$38,589,277. Of these funds, the Dallas ISD CTE Department oversaw a budget of \$8,925,867 which included \$1,713,000 for Career Institutes. CTE program funding (\$7,212,867) increased by two percent from 2018-19 (\$7,079,587).

The purpose of this evaluation was to provide 1) context information related to key components of the program and 2) data for campus, program, and district leadership to examine the implementation and program outcomes of the CTE program.

EVALUATION QUESTIONS/OUTCOMES

What were the components of the CTE program?

CTE course offerings are centered around three endorsements: Business and Industry; Public Service; and Science, Technology, Engineering and Mathematics (STEM). Within each of the endorsements, a student can select a career cluster, followed by a pathway.

For the 2019-20 school year, Perkins V redefined pathways, resulting in the merging of several previously offered pathways. In order to better align with the new programs of study created by the Texas Education Agency (TEA), the number of pathways offered dropped from 271 in 2018-19 to 135 comprehensive pathways in 2019-20. CTE courses

were offered as either a CTE-coherent sequence of courses or electives. The Department of Education defined a coherent sequence of courses as “a series of courses in which vocational and academic education are integrated, and which directly relates to, and leads to, both academic and occupational competencies.”

NAF Academies

In 2019-20, in cooperation with the NAF, the Dallas ISD operated 49 NAF academies at 20 high schools. NAF academies were designed to be small learning communities that operate based on a “school within a school” model within the existing high school systems. These academies are based around one of five high-growth career industries: Engineering; Finance; Health Sciences; Hospitality and Tourism; and Information Technologies. NAF academies provided students career-focused educational experiences within and outside the classroom. The NAF curricula incorporates industry standards and practices, literacy strategies, and STEM integration, while emphasizing project-based learning. Students can explore career interests and participate in career preparation activities, including mock interviews and paid internships. Students who successfully complete their academic courses, workplace projects, and internship can earn the NAFTrack Certification, indicating to post-secondary institutions and employers that the student is college- and career-ready. The NAFTrack Certified Hiring program is a commitment made by top American companies to consider these qualified students as eventual job applicants. All NAF academies have an open enrollment policy.

Career Institutes

Career Institutes provide high school students the opportunity to obtain relevant workforce readiness skills and post-secondary education in high-demand vocations to earn a living wage after graduating high school. Career Institutes function as a hub serving their surrounding high schools. By 2022-23, Dallas ISD plans to establish a total of four Career Institutes, one for each quadrant of the city (north, south, east, and west). CTE program documents indicated that “these state-of-the-art facilities will feature real-world learning spaces and industry standard equipment, providing students access to post-secondary education, training, and career pathways that may be inaccessible on their home campus”.¹ Pathways offered at the Career Institutes are tuition free for all Dallas ISD students and have open enrollment. Students will take their first Career Institute pathway course during grade nine on their home campus.

¹ Career Institutes brochure Developing Leaders Building Futures and March 7, 2019 Dallas ISD Board Briefing on Career Institutes.

During grades 10 through 12, students will take Career Institute pathway courses for half a day, twice a week at dedicated Career Institute campuses. Transportation of students from and to their home campus is free of charge. According to the Dallas ISD Board Update presented by the Executive Director of STEM on March 7, 2019, structuring the Career Institutes as hubs has several advantages, including:

- Cost-effectiveness,
- Student choice,
- Student recapture and retention.

In preparation for the opening of the Career Institutes North and South (Fall 2020), grade nine students interested in construction-related pathways enrolled in Principles of Construction at their home campus in 2019-20.

Early College High Schools

In 2019-20, the Dallas ISD operated 25 ECHSs, including seven traditional ECHSs and 18 Pathways in Technology Early College High Schools (P-TECH). Each P-TECH was paired with an institution of higher learning (IHE) and one or more industry partners. Students enrolled in a P-TECH can earn up to 60 tuition-free, dual-credit hours and graduate with an Associate's Degree of Applied Science in one of 32 fields. Out of the 60 dual-credit hours, students can take up to 18 credit hours of CTE related coursework. P-TECH students also have an opportunity to earn industry-based certifications and educational certificates in their selected career pathways that are attractive to employers and gain valuable workplace skills through one of the industry partners. The graduation of the first cohort of P-TECH students in 2019-20 marks an important milestone in the implementation of the program.

Credentials

Certificates are types of credentials that are predominately awarded by two-year institutions of higher learning for the satisfactory completion of a workforce education program. Certifications are types of credentials that are usually granted by an organization, such as a trade association, validating that an individual possesses certain skills. An occupation may have multiple certifications with different levels of expertise. Unlike certificates, certifications are often time-limited credentials and need to be renewed periodically. Since 2017-18, school districts are required to report student-level data to TEA about industry-based certifications that meet TEA accountability requirements. The 2019-20 list of approved industry-based certifications for the A-F Accountability System (March 2019) included 244 certifications within 14 primary career clusters.

CTE Implementation in Middle and Elementary Schools

Thirty-five out of 42 middle schools (83%) offered one or more CTE courses in 2019-20. Of the 19 CTE courses offered, five were considered foundational courses and

qualified for middle school credit, while 14 courses could be taken for high school credit. Five of the 14 courses utilized the Project Lead the Way (PLTW) Gateway curricula. CTE department leadership highly recommended all middle school students take the College and Career Readiness class, and one of the four Investigating Careers classes in grade eight to have a better understanding of CTE options in high school. Sixteen middle schools (38%) offered the College and Career Readiness class, and 22 middle schools (52%) offered one or more of the Investigating Careers classes.

Two elementary schools implemented the PLTW Launch engineering curriculum (STEM) in 2019-20. Implementing STEM-related curricula in elementary and middle schools exposes students to the various facets of CTE options and builds a pipeline for the CTE programs in high school. The Dallas ISD CTE Department provides support to those schools interested in opening CTE courses by facilitating curricula implementation, coordinating the training of teachers, and the purchasing of supplies. It is important to note that providing CTE services to elementary and middle school students does not increase the amount of funds the Dallas ISD receives from TEA for its CTE services.

What were the enrollment characteristics of CTE students?

During the 2019-20 school year, a total of 38,075 students took CTE courses, including 9,702 middle school students and 28,373 high school students (Table 1). Overall, 75 percent of the 38,075 CTE students took CTE courses as electives ($n=28,505$) while 25 percent of students enrolled in a coherent sequence of courses ($n=9,570$).

Table 1: 2019-20 CTE Enrollment by Grade

Grade	Elective N	Coherent Sequence n	Total N
Grade 6	1,208		1,208
Grade 7	3,799		3,799
Grade 8	4,695		4,695
Grade 9	7,266	446	7,712
Grade 10	6,013	1,419	7,432
Grade 11	2,678	3,839	6,517
Grade 12	2,846	3,866	6,712
Overall			
Overall Middle S.	9,702		9,702
Overall High S.	18,803	9,570	28,373
Overall	28,505	9,570	38,075

Source: May demographic file, 05/29/20 CTE course file, 10/8/20. Dallas ISD course file, 07/30/20.

Note: A grey box indicates that no students were enrolled in that grade level. S.=School

Districtwide, CTE students took the highest percentage of courses within the Business Management & Administration cluster (14%), followed by the STEM cluster (12%), and the Information Technology (12%).

High school students were able to participate in traditional CTE course offerings and enroll in specialized CTE programs such as Career Institutes, NAF Academies, and ECHSSs. Of the 28,373 high school students who enrolled in CTE courses in 2019-20, 14,041 students enrolled in one or more of these specialized high school CTE programs. Although 96 percent of the 14,041 students enrolled in only one of these programs, four percent enrolled in two or three programs. Overall, 760 students enrolled in Career Institutes, 9,229 students enrolled in NAF Academies, and 4,624 students enrolled in ECHSSs.

The ethnic composition of district CTE students was similar to middle and high school students not enrolled in the CTE program. There were more male than female students enrolled in CTE programs (52% vs 49%), a slightly higher percentage of CTE students were economically disadvantaged than for non-CTE students (84% vs 83%). More CTE students were at risk of dropping out than non-CTE students (77% vs 74%), a smaller percentage of CTE students received special education services compared to non-CTE students (8% vs 12%), and fewer CTE students were English learners compared to non-CTE students (39% vs 44%).

What were the completion rates for CTE courses?

In 2019-20, CTE middle and high school students passed 93 percent of all CTE courses. Passing rate by career clusters ranged from 91 percent (Business Management & Administration) to 99 percent (Government & Public Administration). Coherent sequence students had a higher passing rate than CTE elective students for all CTE students (95% vs 93%) and for CTE high school students (95% vs 92%). Of the 4,665 Dallas ISD students who took CTE dual credit courses, 43 percent were coherent sequence students ($n=2,008$). In 2019-20, CTE students completed 90 percent ($n=9,203$) of the 10,237 CTE dual credit courses they were enrolled in.

How many credentials were earned by CTE high school students?

Overall, 2,971 Dallas ISD CTE students earned 4,206 credentials in 2019-20, including 3,331 industry-based certifications and 875 educational certificates. Certifications identified by TEA for the A to F accountability system accounted for 23 percent ($n=770$) of all industry certifications earned.

How many associate degrees were awarded to coherent sequence CTE students?

Of the 1,163 coherent sequence CTE students who graduated in 2019-20, 323 students (28%) earned an associate degree. Campuses with the highest number of graduates who earned an associate degree were Pinkston (20%), Conrad (19%), and Seagoville (16%). The number of CTE students that earned an associate degree increased by 39 percent from 232 in 2018-19 (Grimberg, 2019).

Overall, more Associate of Applied Science degrees were awarded to coherent sequence CTE students ($n=309$, 96%) than Associate of Arts ($n=8$, 3%) or Associate of Science ($n=6$, 2%) degrees.

What were the college enrollment rates for CTE students?

Overall, 7,718 grade 12 students graduated from a Dallas ISD high school in 2018-19 (including the summer semester). Of these, 6,151 students (80%) were CTE students and 1,567 students (20%) were non-CTE students. According to the 2019-20 National Student Clearinghouse data file, 52 percent of CTE graduates and 57 percent of non-CTE graduates enrolled in college within one year of graduation. Fifty-six percent ($n=1,799$) of CTE students who enrolled in college joined a two-year college, and 44 percent enrolled at a four-year university ($n=1,402$). In contrast, 68 percent ($n=612$) of non-CTE students enrolled in a four-year university versus a two-year or less college ($n=283$, 32%). Although there was no difference in college enrollment percentage rates between CTE elective and coherent sequence students (52% each), a slightly higher percentage of elective student enrolled in a four-year university than coherent sequence students (47% vs 43%).

How did the Dallas ISD perform on CTE related accountability measures?

Over the past three years, Dallas ISD students have continuously improved on eight of the 10 presented CCMR measures. The percentage of graduates who were College, Career or Military Ready increased by 15 percentage points from 46 percent in 2016-17 to 61 percent in 2018-19. On CTE related measures for the same timeframe, the percentage of graduates who earned an industry-based certification increased by one percentage point (1% vs 2%) and the percentage of graduates who completed CTE coherent sequence coursework aligned with industry-based certifications increased by nine percentage points (6% vs 15%). The percentage of graduates who completed Level I or Level II certificates increased by one percentage point from 2017-18 to 2018-19 (0% vs 1%). However, a lower percentage of graduates completed Individual Education Program and Workforce Readiness (3% vs 2%) and enrolled in the armed forces (1% vs 0%). Compared to other similar large urban districts in Texas, a lower percentage of Dallas ISD graduates were College, Career, or Military ready (61%) than graduates of Austin ISD (86%), El Paso ISD (74%), San Antonio ISD (73%), Houston ISD (71%), and Fort Worth ISD (63%).

What were teacher perceptions of the CTE program?

The CTE department conducts an annual survey to collect programmatic feedback from teachers to assess program strengths and identify areas of improvement. Insights gained from the survey are meant to help with future program development and program evaluation. The

2019-20 survey was administered by CTE staff from May 11 through May 29, 2020, using Google Forms, an online survey-development tool. A total of 201 CTE teachers (40%) responded to the information request. Among the key-findings were that 96 percent of respondents agreed that the CTE program allows students to discover career opportunities they otherwise may not have considered. Seventy-eight percent of respondents agreed that the CTE program provides students with basic training to obtain a job. Furthermore, 68 percent of respondents agreed that the CTE program motivates students to complete high school who otherwise are at risk of dropping out. Overall, 96 percent of CTE teachers indicated that CTE learning activities were aligned with current practices in business, industry, and/or technology.

CTE teachers also provided feedback on the impact of COVID-19 and the resulting transition to at-home learning. Seventy-seven percent of respondents indicated that students seemed to be less motivated, 62 percent of respondents noted that the delivery of instructions was impacted by the inability to provide hands-on-training, and 56 percent of respondents indicated they encountered technical issues. Overall, 95 percent respondents reported that they attempted to contact students or their parents on a weekly basis. However, 41 percent of respondents noted that the lack of updated student contact information limited their ability to stay in touch with students and 35 percent of respondents noted that the lack of adequate resources was a major challenge for classroom teachers during the district closure.

RECOMMENDATIONS

Based on the key findings, the following recommendations are offered for stakeholders.

Continue to promote CTE students' completion of educational certificates and industry-based certifications. CTE students earned 4,206 credentials in 2019-20, including 875 educational certificates and 3,331 industry-based certifications. Twenty-three percent ($n=770$) of all industry certifications earned were A-F certifications providing points towards TEA's A to F accountability system. Completion of A-F certifications increase by 260 percent compared to 2018-19 ($n=214$). However, the total

number of completed industry-based certifications decreased from 4,652 in 2018-19 to 3,331 in 2019-20 in part due to students not being able to take certification tests during at-home learning on District provided Chromebooks. Given that industry-based certifications can provide students with an advantage in finding employment, the CTE department should continue to find ways to provide students with opportunities to complete certification requirements.

Continue to support specialized CTE initiatives including Career Institutes and NAF Academies. In 2019-20, 760 students enrolled in the Principles of Construction class offered by the Career Institutes at 12 feeder campuses. An additional 9,229 students enrolled in one or more NAF Academies. Of the 49 NAF academies, 23 academies (47%) were honored by NAF as distinguished academies. Review of the program documents indicated that these programs help provide specialized work-based, learning experiences that may otherwise be inaccessible for many Dallas ISD students; ensuring that students have the opportunity to earn a living wage after graduating high school.

Continue to work with the IT Department on accurately tracking CTE participation. Review of PowerSchool enrollment data indicated that CTE students were not accurately marked as such. This is especially true for cases in which students participate in more than one program, such as being an ECHS student and taking CTE courses. In such cases students should be marked in PowerSchool as both ECHS and CTE but are often only marked as ECHS, resulting in the underreporting of CTE students. In addition, the CTE department should work to establish protocols for CTE staff and teachers to maintain accurate student enrollment and credentialing information.

REFERENCES

- Career Institutes. (2019). Developing Leaders, Building Futures. Dallas, TX. Dallas Independent School District.
- Grimberg, N. (2019). 2018-19 Evaluation of Career and Technical Education. Dallas, TX. Dallas Independent School District.

EA20-195-4

Akiva Lorenz, Ph.D., Evaluation Analyst II

©2020 Dallas Independent School District (Dallas ISD)

Mail a written request for permission to use or reproduce any part of this document to:

Dallas ISD Department of Evaluation and Assessment; H. B. Bell School Support Center; 2909 Buckner Blvd.; Box10; Dallas, TX 75228

An electronic version of this report and full 2019-20 report can be found at www.dallasisd.org/Page/888.

For more information, please contact Program Evaluation at evaluation@dallasisd.org.