

2021-22

Evaluation of Career and Technical Education

DEPARTMENT OF EVALUATION AND ASSESSMENT

Stephanie Elizalde, Ed. D.
Superintendent of Schools



2021-22

Evaluation of Career and Technical Education

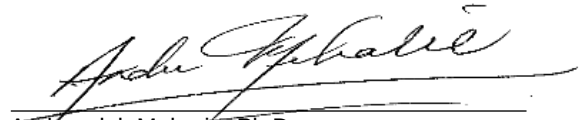
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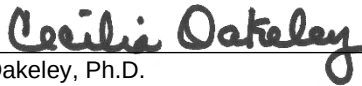
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ACRONYMS AND ABBREVIATIONS

Approaches+	Approaches Grade Level or Above
CCMR	College, Career, and Military Readiness
CI	Career Institutes
CTE	Career and Technical Education
ECHS	Early College High School
EOC	<i>End-of-Course</i>
FTE	Full-Time Equivalent
HB22	Texas House Bill 22
HB5	Texas House Bill 5
HS	High school
IDEA	Innovation, Design and Entrepreneurship Academy
ISD	Independent School District
Meets+	Meets Grade Level or Above
NAF	National Academy Foundations
NSC	National Student Clearinghouse
PBMAS	Performance-Based Monitoring Analysis System
PD	Professional development
PLTW	Project Lead The Way
P-TECH	Pathways to Technology
SPED	Special education
STAAR	<i>State of Texas Assessments of Academic Readiness</i>
STEM	Science, Technology, Engineering, and Mathematics
TAG	Talented and Gifted
TEA	Texas Education Agency

Evaluation of Career and Technical Education

DEPARTMENT OF EVALUATION AND ASSESSMENT

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 51 comprehensive CTE pathways to students in grades six through 12. Courses can be taken as one-off courses or in a program of study at participating middle and high schools. Students can also participate in CTE by taking courses through National Academy Foundation (NAF), Career Institutes (CI), or Early College High School (ECHS) programs. 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 2021-22, the total Dallas ISD CTE budget was \$42,503,415, which included \$28,399,071 for payroll expenses, and \$3,970,008 for the Career Institutes.

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.
- In 2020-21, Perkins V redefined pathways, resulting in the merging of several previously offered pathways. 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 51 comprehensive pathways in 2020-21.
- Starting with the 2020-21 school year, CTE students were identified by TEA as either CTE Participants, CTE Explorer, CTE Concentrator, or CTE Completer based on CTE course enrollment. Generally, CTE Participants and Explorers are similar to students in prior years identified as CTE elective, whereas CTE Concentrators

and Completers are similar to CTE Coherent Sequence students prior to 2020-21.

NAF Academies

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.

- In 2021-22, the Dallas ISD, in cooperation with NAF, operated 44 NAF academies at 18 high schools. All NAF academies have an open enrollment policy.
- 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.
- Academies are based around one of five high-growth career industries: Engineering; Finance; Health Sciences; Hospitality and Tourism; and Information Technologies.
- 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. Career Institutes

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 2026-27, 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

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

- Pathways offered at the Career Institutes are tuition-free for all Dallas ISD students and have open enrollment. 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.

Early College High Schools

- In 2021-22, the Dallas ISD operated 26 ECHSs, including eight 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 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.

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 2021-22 list of approved industry-based certifications for the A-F Accountability System included 244 certifications within 14 primary career clusters.

CTE Implementation in Middle Schools

Fifty out of 54 middle schools² (93%) offered one or more CTE courses in 2021-22.

- Of the 20 CTE courses offered, four were considered foundational courses and qualified for middle school credit, while 16 courses could be taken for high school credit.

- Five of the 21 courses utilized 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.
- Thirty-seven middle schools (69%) offered the College and Career Readiness class and 27 middle schools (50%) offered one or more of the Investigating Careers classes.

What were the enrollment and demographic characteristics of CTE students?

- During the 2021-22 school year, 41,379 students participated in CTE, including 11,382 middle school students and 29,997 high school students (Table E1), an overall decrease of two percent ($n=650$) compared to 2020-21.

Table E1: 2021-22 CTE Enrollment by Grade

Grade	N	%
Middle School		
Grade 6	1,108	11.5
Grade 7	5,139	51.2
Grade 8	5,135	50.6
High School		
Grade 9	9,253	73.9
Grade 10	7,448	77.8
Grade 11	6,618	79.2
Grade 12	6,668	76.8
Overall		
Overall Middle School	11,382	38.2
Overall High School	29,997	76.6
Overall	41,379	60.0

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22.

- In 2021-22, 44 percent of the 41,379 CTE students were CTE Participants ($n=18,239$), 25 percent were CTE Explorers ($n=10,447$), 23 percent were Concentrators ($n=9,324$), and eight percent were CTE Completers ($n=3,369$).
- Districtwide, CTE students took the highest percentage of courses within the Business Management & Administration cluster (23%), followed by the Science, Technology, Engineering & Mathematics cluster (15%), and Arts A V Technology Communications (9%).

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 ECHSs.

² Includes Elementary/Middle, Middle, and Middle/High level schools.

- Of the 29,997 high school students who enrolled in CTE courses in 2021-22, 15,087 students enrolled in one or more of these specialized high school CTE programs.
- Although 87 percent of the 15,087 students enrolled in only one of these programs, 13 percent enrolled in two or three programs. Overall, 4,152 students enrolled in Career Institutes, 7,481 students enrolled in NAF Academies, and 5,535 students enrolled in ECHSs.

Demographic Characteristics

- The ethnic composition of district CTE students was similar to middle and high school students not enrolled in the CTE program.
- A smaller percentage of CTE students received special education services compared to non-CTE students (9% vs 13%).
- Fewer CTE students were English learners compared to non-CTE students (45% vs 48%).
- While CTE and non-CTE students were similarly at risk of dropping out (71% vs 72%), both groups, however, increased by five (CTE) and six percentage points (non-CTE) over 2020-21 (both 66%).

What were the completion rates for CTE courses?

- In 2020-21, 41,379 CTE students enrolled in 69,661 CTE courses with an 89 percent passing rate (61,832 courses).
- Likewise, 5,501 Dallas ISD students participated in 12,514 CTE dual credit courses of which they passed 10,849 courses (87%).
- CTE Completers had the highest overall passing rate for all CTE courses (96%) and CTE dual credit course (91%) followed by CTE Concentrators (94% and 90%), and CTE Participants (87% and 87%). CTE Explorers had the lowest overall passing rate for all CTE courses (82%) and CTE dual credit courses (80%).

What were the academic outcomes of CTE students on STAAR EOC exams?

- Overall, 23,705 out of the 29,997 CTE high school students took one or more STAAR EOC exams in 2022-22 (79%).
- The subject test with the highest participation count was English I ($n=11,534$), followed by English II ($n=9,761$).
- Majority of CTE students met the Approaches+ benchmark for U.S. History (85%), followed by Biology (76%) and English II (60%).
- CTE Explorers participated in the greatest number of STAAR EOC exams, while CTE Completers met the Approaches+ benchmark most often (77%) across all subject tests, followed by CTE Concentrators (68%).

How many credentials were earned by CTE high school students?

- Overall, 7,348 Dallas ISD CTE students earned 9,833 credentials in 2021-22, including 9,395 industry-based certifications and 438 educational certificates, which was an increase of 4,912 credentials from 2020-21 (4,921 credentials).
- Certifications identified by TEA for the A to F accountability system accounted for 58 percent ($n=5,401$) of all industry certifications earned.
- Compared to 2020-21, the number of industry-based certifications increased by 4,941, while the number of educational certificates decreased by 29.

How many Dallas ISD CTE seniors received an associate degree?

- Overall, 723 CTE graduates earned an associate degree in 2021-22.
- Of these graduates, all were ECHS students, which included 528 PTECH students and 195 traditional ECHS students.
- Students who participated in a program of study (CTE Concentrators and CTE Completers) accounted for 469 associate degrees (65%).
- In 2021-22, more Associate of Science degrees were awarded to CTE students ($n=379$, 52%) than Associate of Applied Science ($n=167$, 23%), Associate of Arts ($n=125$, 17%), or Associates of Arts in Teaching ($n=52$, 7%) degrees.

What were the college enrollment rates for 2020-21 CTE graduates?

- According to the 2021-22 NSC data file, 42 percent of CTE graduates and 44 percent of non-CTE graduates enrolled in college within one year of graduation.
- Of these students, more CTE students enrolled in a two-year college than non-CTE students (15% vs 9%). Similarly, a lower percentage of CTE students enrolled in a four-year university than non-CTE students (85% vs 91%).

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 2021-22 survey was administered by Evaluation and Assessment (E&A) staff from April 6 through May 6, 2022, using Qualtrics, an online survey-development tool.
- A total of 314 CTE teachers (62%) responded to the information request. Among the key-findings were:

- Ninety-seven percent of respondents agreed that the CTE program allows students to discover career opportunities they otherwise may not have considered.
- Eighty-seven percent of respondents agreed that the CTE program provides students with basic training to obtain a job,
- Seventy-seven percent of respondents agreed that the CTE program motivates students to complete high school who otherwise are at risk of dropping out.
- Overall, 99 percent of CTE teachers indicated that CTE learning activities were aligned with current practices in business, industry, and/or technology.

What were the perceptions of the CTE Internship program?

CTE staff worked with the E&A staff to design and collect feedback from student interns, employers, and direct supervisors regarding their internship experiences.

- The 2021-22 surveys were administered by E&A staff from July 27 (student survey) and August 3, 2022 (employer and supervisor surveys) through September 12, 2022, using Qualtrics.
- Overall, 12 students (86%), ten employers (71%), and 11 supervisors (79%) responded to CTE surveys.
- Overall, all students and most employers (80%) were satisfied or very satisfied with the CTE internship program.
- Ninety-two percent of students further noted that their internship experience met their expectations.
- Ninety percent of employers noted that they would participate again in the internship program.
- However, students and employers were less satisfied with the Oppti platform (67% and 90%, respectively).
- Overall, 91 percent of responding supervisors agreed or strongly agreed that the intern met their expectations.
- Eight out of 11 responding supervisors (73%) noted that they would hire the intern following the internship if a position was open.

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

- Over the past three years, the percentage of Dallas ISD graduates who were College, Career or Military Ready decreased by two percentage points from 61 percent in 2018-19 (2020 report) to 59 percent in 2020-21 (2022 report).
- For the same timeframe, the percentage of graduates who earned at least three dual credit hours in ELA or Mathematics or nine hours in any subject increased by 17 percentage points (14% vs 31%).
- The percentage of graduates who completed Level I or Level II certificates increased by three percentage point from 2018-19 to 2020-21 (1% vs 4%).

- The percentage of graduates who earned an industry-based certification increased by eight percentage points (2% vs 10%).
- The percentage of graduates who completed Individual Education Program and Workforce Readiness remained stable from 2018-19 to 2020-21 (2% vs 2%).
- Compared to other similar large urban districts in Texas, a lower percentage of Dallas ISD graduates were College, Career, or Military ready (59%) than graduates of Austin ISD (80%), El Paso ISD (78%), San Antonio ISD (75%), Houston ISD (60%), and Fort Worth ISD (59%).

RECOMMENDATIONS

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

Continue to work with the IT Department to accurately track CTE participation.

Continue to support specialized CTE initiatives including Career Institutes and NAF Academies.

Continue to promote CTE students' completion of educational certificates and industry-based certifications.

2021-22

Evaluation of Career and Technical Education

DEPARTMENT OF EVALUATION AND ASSESSMENT

PROGRAM DESCRIPTION

The purpose of the Career and Technical Education (CTE) programs is to prepare students for college and career success by equipping them with the necessary skills to be competitive in a global economy. Compared to traditional education, CTE education places more emphasis on providing hands-on skill training, rather than only teaching theoretical knowledge. Hanover Research (2020) has recommended that all students should be exposed to CTE programs in middle school, to learn and explore career options across all career clusters. This early exposure to CTE can help to engage students and to break down potential stereotypes held by students and their families. Hannover (2020) also recommended that middle school CTE activities should align within a broader K-12 career development system because students who participate in CTE programs may experience additional benefits. For example, Plasman and Gottfried (2020) found that participation in a vocational training or CTE program reduced absenteeism, and both Wilson *et al.* (2011) and Dougherty (2016) reported that participation in CTE programs may lead to a reduction in the high school dropout rate and an increase in the high school completion rate. Students who completed more than the average number of CTE courses had also better educational and labor market outcomes (Dougherty, 2016 & 2018). According to ACTE³, individuals who completed a CTE associated degree earned up to \$10,000 more per year than those with associate degrees in other fields. Advance CTE, a non-profit organization representing State CTE directors, noted that nationwide some 12.5 million students were enrolled in CTE programs.⁴

In 2021-22, the Dallas Independent School District (ISD) CTE department offered courses across 51 comprehensive CTE pathways to students in grades six through 12. Courses could be taken as one-off courses or in a program of study at participating middle and high schools. Students could also participate in CTE by taking courses through National Academy Foundation (NAF), Career Institutes (CI), or Early College High School (ECHS) programs. Through participation in CTE, students could earn diploma endorsements, industry certifications, educational certificates, and college credit hours. In addition, students could participate in paid internships. The CTE program was coordinated by the CTE Department⁵ under Teaching and Learning in 2021-22. Program activities were partially funded through state CTE funds and a grant established by the Carl D. Perkins Career and Technical Education Act of 2006. In 2021-22, 41,379 students participated in CTE.

³ See <https://www.acteonline.org/nacte/>

⁴ Secondary and postsecondary programs.

⁵ For the context of the 2021-22 report, Career Institutes are included with the CTE Department. However, the Dallas ISD organizational hierarchy lists Career Institutes directly under Teaching and Learning, parallel to the CTE Department.

The Carl D. Perkins Vocational and Technical Education Act was first authorized by the federal government in 1984 and was most recently reauthorized as the Strengthening Career and Technical Education for the 21st Century (Perkins V) Act in 2018. The purpose of the Perkins V Act was to increase learner access to high-quality career and technical education programs to prepare students for the diverse needs of employers. The Texas Legislature passed House Bill 5 (HB 5) in 2013 encouraging high school students to complete foundation curriculum plus additional coursework under one of five diploma endorsements, three of which are CTE-related: a) business and industry; b) public service; and c) Science, Technology, Engineering, and Mathematics (STEM). HB 5 required the Dallas ISD to make additional coursework available to high school students for offered endorsement areas resulting in rapid CTE coursework expansion in the years following its passage. Beginning in 2017-18, House Bill 22 (HB22) required the Texas Education Agency (TEA) to evaluate the academic performance of school districts with a rating of A through F based on three domains: a) student achievement, b) school progress, and c) closing the gaps. College, Career, and Military Readiness (CCMR) indicators account for 40 percent of the weighted performance of high school campuses and school districts in the student achievement domain. CCMR indicators include dual-credit course completion, associate degrees earned, and industry-based certifications earned, among others.⁶

PURPOSE AND SCOPE OF THE EVALUATION

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 of the CTE program. During the 2019-20 school year, in response to the COVID-19 pandemic, Dallas ISD transitioned students to at-home learning on March 23 until the end of the school year. In 2020-21, Dallas ISD delayed the start of the school year until September 8, 2020 and implemented at home learning districtwide for the first four weeks and modified the school calendar from a six-week schedule to a nine-week schedule. To help district students and families access the internet during at-home learning, the district provided 23,000 hotspots to families by October 2020 and announced that parents could choose in-person or virtual learning for the rest of the school year. Both options included both synchronous and asynchronous learning activities. In 2021-22, the district returned to in-person instruction for all students, with minimal exceptions. The district was able to offer virtual learning to a small subset of students who met district eligibility requirements. To help mitigate learning loss and further support students, the district offered three different school calendars in 2021-22 (School-Day Redesign, Intersession, and Base/Traditional) and other supports⁷. Because of these variations in instructional time, and support activities, all results should be reviewed with caution. This report addressed the following questions:

- How were CTE operations in Dallas ISD funded?
- What were the components of the CTE program?

⁶ 2021 Accountability Manual can be accessed at <https://tea.texas.gov/2021accountabilitymanual.aspx>

⁷ Additional information can be found at <https://www.dallasisd.org/timetolearn> and <https://www.dallasisd.org/esser>.

- What were the enrollment and demographic characteristics of CTE students?
- What were the completion rates for CTE courses?
- What were the academic outcomes of CTE students on *STAAR EOC* exams?
- How many credentials were earned by CTE high school students?
- How many Dallas ISD CTE seniors received an associate degree?
- What were the college enrollment rates for 2020-21 CTE graduates?
- What were teacher perceptions of the CTE program?
- What were the perceptions of the CTE Internship program?
- How did the Dallas ISD perform on CTE related accountability measures?

EVALUATION QUESTIONS AND RESULTS

EQ1: How were CTE operations in Dallas ISD funded?

Results

TEA brochure (n.d.)⁸ noted that “Under the Texas Education Code (TEC), §42.154, a school district is eligible to receive weighted funding for each eligible full-time equivalent (FTE) student in average daily attendance (ADA) in an approved CTE program. In addition to this weighted funding, a school district is also eligible to receive a flat amount of \$50 per FTE enrolled in certain advanced CTE courses or programs”.⁹ In other words, districts receive 35 percent more funding for CTE students than other students. Weighted CTE and advanced course funding are calculated as follows:

CTE weighted funding = eligible CTE FTEs × district's adjusted allotment (AA) × 1.35

CTE advanced course funding = eligible CTE FTEs × \$50

In 2021-22, TEA allocated a total of \$60,157,943 in CTE funding to the Dallas ISD, a decrease of \$7,117,318 over 2020-21 TEA funding. Based on TEA requirements, 55 percent of CTE state funding had to be spent on the CTE program, and 45 percent could be allocated to the general operating fund. In general, CTE staff and teacher salaries, purchased curricula, equipment, and professional development were paid from the CTE portion, while some of the general operating funds were used to pay for operating costs of CTE classrooms, labs, and buildings. Of the TEA funds, the Dallas ISD allocated \$39,597,879 (60%) to the CTE program with 69 percent (\$27,519,535) covering payroll expenses (Table 1). In addition, the district received \$2,905,536 from the Perkins V Grant. No Early College P-TECH and Industry Cluster Innovative Academies (ICIA) grants were received in 2021-22. In total, CTE had a budget of \$42,503,415 in 2021-22 which included \$3,970,008 for the Career Institutes (CI)¹⁰. With \$3,179,868, Supplies and

⁸ Source: <https://capitol.texas.gov/tlodocs/84R/handouts/C4002016092909001/e19232c7-5a98-4919-a2b2-99677d0304c9.PDF>

⁹ The allotment applies to students grades nine through twelve enrolled in CTE program, and students with disabilities in grades seven through twelve enrolled in Career Technology for the Disabled (CTED) programs.

¹⁰ A decrease of \$76,610 over 2020-21

Materials were the largest expenditure (80%) of the CI budget, followed by Capital Outlay for land, buildings, and equipment (\$488,795, 12%).

Table 1: 2021-22 Dallas ISD CTE Budget

Description	TEA Funds	Perkins Grant	Total
Payroll Costs	27,519,535	879,536	28,399,071
Professional & Contracted Services	375,672	522,954	898,626
Supplies and Materials	9,684,429	1,077,777	10,762,206
Other Operational Costs	199,216	425,269	624,485
Capital Outlay – Land/Buildings/Equipment	1,819,027	-	1,819,027
Overall	39,597,879	2,905,536	42,503,415

Source: Dallas ISD Budget Services Department, 09/15/22. Dallas ISD Department of Special Revenue, 08/25/22.

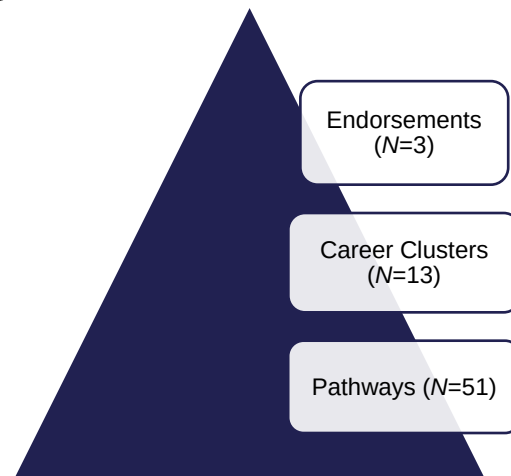
Notes: - = no funds were attributed to this category.

EQ2: What were the components of the CTE program?

Results

CTE course offerings were centered around three endorsements: Business and Industry, Public Service, and STEM. Within each of the endorsements, a student can select a career cluster, followed by a pathway (Figure 1).

Figure 1: 2021-22 Organizational Chart of Career and Technical Education Offerings



Source: CTE department program document, Fall 2021.

Eight career clusters are offered for Business and Industry, four career clusters for Public Service, and one career cluster for STEM, culminating in a total of 51 comprehensive CTE pathways (Figure 2). See also Appendix A for a full list of CTE pathways by campus.

Figure 2: 2021-22 Number of Career and Technical Education Endorsements by Career Clusters and Pathways

①	Business and Industry								Public Services				STEM
②	Agriculture, Food & Natural Resources	Architecture & Construction	Arts, AV Technology & Communications	Business, Marketing & Finance	Hospitality & Tourism	Information Technology	Manufacturing	Transportation, Distribution & Logistics	Education	Health Science	Human Services	Law & Public Safety	Science, Technology, Engineering & Mathematics
③	5	6	8	4	3	2	2	4	1	7	2	3	4

Source: CTE department program document, Fall 2021.

Notes: 1) Endorsements, 2) Career Clusters, 3) Pathways. The CTE program offered a total of 51 pathways in 2021-22.

In 2020-21, Perkins V redefined pathways, resulting in the merging of several previously offered pathways. To better align with the new programs of study created by TEA, the number of pathways offered dropped from 135 in 2019-20 to 51 comprehensive pathways in 2020-21. While CTE courses were previously offered as either a CTE coherent sequence of courses or electives, TEA revised the way they characterized CTE students in 2020-21. Starting with the 2020-21 school year, CTE student were identified by TEA as either CTE Participants, CTE Explorer, CTE Concentrator, or CTE Completer¹¹ based on CTE course enrollment (Appendix B).

NAF Academies

Historically, NAF started at the Dallas ISD in the 1990s with Hospitality and Tourism themed academies. 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. Based around one of five high-growth career industries (Table 2), NAF academies provide students career-focused educational experiences within and outside the classroom to explore career interests and participate in career preparation activities including mock interviews and paid internships. The NAF curricula incorporate industry standards and practices, literacy strategies, and STEM integration, while emphasizing project-based learning. 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.

In 2021-22, the Dallas ISD, in cooperation with NAF, operated 44 NAF academies at 18 high schools. Although NAF operated two new academies in 2021-22 (Hospitality & Tourism at Bryan Adams

¹¹ Generally, CTE Participants and Explorers are similar to students in prior years identified as CTE elective, whereas CTE Concentrators and Completers are similar to CTE Coherent Sequence students prior to 2020-21.

and Information Technologies at Pinkston), six academies either closed ($n=4$) or moved to Career Institutes South ($n=2$). Therefore, NAF experienced a net loss of four academies in 2021-22¹².

Of 44 NAF academies, 28 academies (64%) were honored by NAF as distinguished academies¹³, compared to 32 academies in 2010-21. In addition, three academies were recognized as NAF Model Academies. Each academy focuses on one of five themes: Engineering, Finance, Health Sciences, Hospitality and Tourism, and Information Technologies. The three most common career themes offered were Information Technologies ($N=12$), Finance ($N=10$), and Engineering ($N=9$). Most high schools ($n=13$, 68%) housing a NAF academy offered more than one career theme, with Conrad and Skyline high schools each hosting five academies (Table 2).

Table 2: 2021-22 Number of NAF Academies by Career Theme and Campus

Campus	Academy of Engineering <i>n</i>	Academy of Finance <i>n</i>	Academy of Health Sciences <i>n</i>	Academy of Hospitality and Tourism <i>n</i>	Academy of Information Technologies <i>n</i>	Total Academies per Campus <i>N</i>
Adams	Y		Y	Y	Y	4
Adamson		Y	Y			2
Carter		Y				1
Conrad	Y	Y	Y	Y	Y	5
Hillcrest	Y		Y			2
IDEA		Y			Y	2
Jefferson	Y	Y		Y		3
Kimball				Y		1
Madison					Y	1
North Dallas	Y	Y			Y	3
Pinkston					Y	1
Samuell					Y	1
Skyline	Y	Y	Y	Y	Y	5
South Oak Cliff	Y				Y	2
Spruce	Y	Y			Y	3
Sunset		Y	Y			2
White	Y		Y		Y	3
Wilmer-Hutchins		Y		Y	Y	3
Overall	9	10	7	6	12	44

Source: Correspondence with NAF coordinator 04/29/22.

Notes: Y=NAF Academy offered. IDEA=Innovation, Design and Entrepreneurship Academy.

NAF provides curricula for four of the five career themes, while the Engineering curriculum is provided by Project Lead The Way (PLTW). To teach the NAF curricula, teachers must be TEA CTE-certified. PLTW offered a two-week long teacher certification training to schools offering the engineering curriculum for the first time. PLTW further utilized the train the trainer model, allowing teachers who were trained by PLTW to train other teachers at their campuses. A total of 93 teachers taught NAF courses in 2021-22 (19 less than in 2020-21 with 112 teachers). The number of teachers per campus varied (from one to 13 teachers) based on the number of NAF academies offered and number of students enrolled.

¹² Although Roosevelt is still listed to have a NAF academy, the program is currently on hold due to new campus leadership. IDEA also announced that it will not continue with the NAF program starting 2022-23,

¹³ Distinguished academies have achieved NAF's highest level of achievement. A total of 138 academies in the NAF network have reached Distinguished level (NAF, 2020).

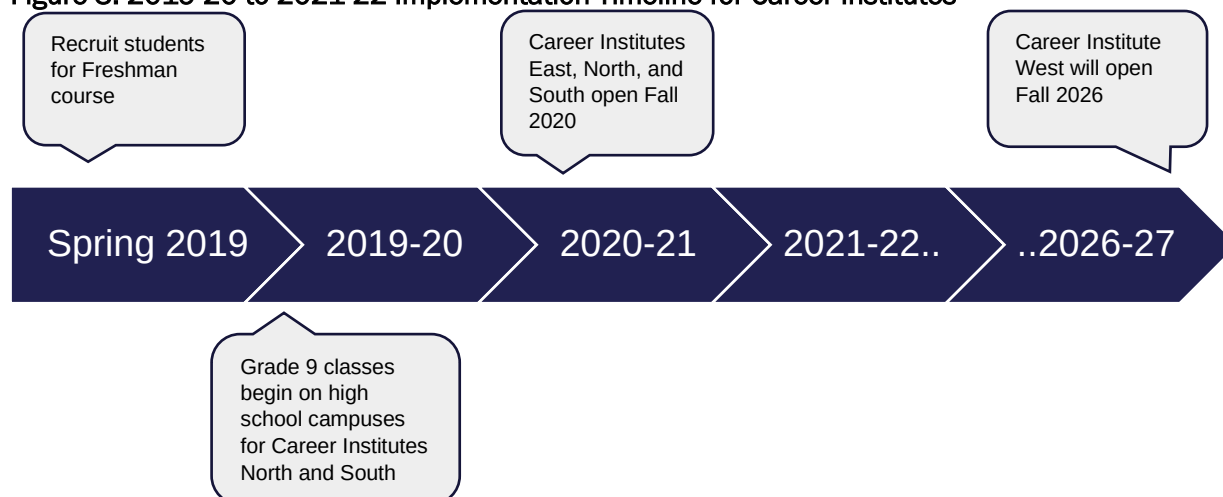
On average, two teachers were employed by each NAF academy. In preparation for the 2021-22 school year, teachers were encouraged to participate in the NAF 2021 Virtual Conference on July 13-15, 2021 and participated in Dallas ISD's virtual professional development (PD) sessions on September 20, 2021 (Returning NAF teachers) and September 21, 2021 (new NAF teachers).

In 2021-22, the Dallas ISD NAF coordinator held three parent meetings to inform parents about paid internship opportunities available to students for the 2022 summer break. Parent meetings were held on December 17, 2021, January 13, 2022, and on February 1, 2022. Participation numbers were not provided by NAF staff. Overall, the NAF coordinator reported that 36 companies offered internship opportunities to 262 NAF students of which 167 internships were accepted. Nine of the 36 companies offered virtual internships, 14 companies offered hybrid internships, and 13 companies offered in-person internships.

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. Established in 2018, five campus-based Career Institutes operated during the 2018-19 school year (Grimberg, 2019). It was noted at a Board Briefing (June 7, 2018) that the intention was to establish a Career Institute at every Dallas ISD high school, each serving an in-demand trade. Campus-based Career Institutes either (a) utilized existing CTE programs and elevated them by formalizing relationships with industry partners and the Dallas College (formally known as the Dallas College District) or (b) established new programs where no prior CTE program serving an in-demand trade existed.

In a strategic shift in 2019, Dallas ISD moved away from campus-based Career Institutes to a system of stand-alone Career Institutes. None of the original five campus-based Career Institutes were rolled into the new Career Institutes system, and henceforth operate as regular CTE programs. The newly established Career Institutes function as a hub serving their surrounding high schools. By 2026-27, Dallas ISD plans to establish a total of four Career Institutes (Figure 3), one for each quadrant of the city (north, south, east, and west).

Figure 3: 2019-20 to 2021-22 Implementation Timeline for Career Institutes

Source: Interviews with CI Directors, March 2021.

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”.¹⁴ Pathways offered at Career Institutes are tuition-free for all Dallas ISD students and have open enrollment. 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 provided free of charge (Table 3). 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:* Centralizing specialized equipment reduces the number of hours equipment is idle, allows for easier maintenance, and increases the number of students who can attend each class.
- *Student choice:* Home campuses can now offer any pathway available at Career Institutes; therefore, students will have access to more pathways, career endorsements, and industry partners.
- *Student recapture and retention:* Because of the unique value that they bring, Career Institutes will help attract and retain students in the Dallas ISD.

Construction-related pathways were among the first pathways offered by Career Institutes because they share the same principal course. Construction-related pathways included construction and carpentry; interior design; plumbing and pipefitting; electrical and solar technology; and heating ventilation, air conditioning and refrigeration. Furthermore, industry sources indicated that with a current shortage of up to 20,000 skilled workers, construction will be a vocation in high demand in the Dallas Metroplex until at least 2030.¹⁵ Career Institute leadership has extended existing pathway offerings for 2021-22 school year

¹⁴ Career Institutes brochure titled “Developing Leaders Building Futures” and March 7, 2019 Dallas ISD Board Briefing on Career Institutes.

¹⁵ September 2019 Dallas ISD Board Update on Career Institutes.

by opening Patient Care Technician and Pharmacy Technician pathways. (See Appendix B for a full list of 2021-22 Career Institute Pathways.)

Table 3: 2021-22 Feeder High Schools for Career Institutes East, South and North

Career Institute East	Career Institute North	Career Institute South
Adams	Conrad	Adamson
Lincoln	Hillcrest	Carter
Madison	Jefferson	Kimball
Samuel	North Dallas	Molina
Spruce	White	Pinkston
Woodrow Wilson		Roosevelt
		South Oak Cliff
		Sunset

Source: Correspondence with Career Institutes Directors, Spring 2021.

In 2021-22, a total of 66 teachers (17 for Career Institutes East, 22 Career Institutes North, and 27 for Career Institutes South) taught 37 courses¹⁶ at the Career Institutes campuses. While teachers at the Career Institutes were masters of their trade, under House Bill 1842, (i.e., District of Innovation), teachers were not required to possess a valid TEA teaching certificate. Overall, 35 percent of teachers ($n=23$) taught under the District of Innovation exemption. To help these teachers learn pedagogy, Career Institute staff held PD sessions throughout the 2021-22 school year. Topics included classroom management skills, ESL strategies, lesson planning, and Career Institutes updates.

Early College High Schools

In 2021-22, the Dallas ISD operated 26 ECHSs, including eight 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 Degree of Applied Science in one of 32 fields (see Appendix C). 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.

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. TEA quoted a 2013 study by Georgetown University that stated certificates have the largest growth among college credentials over the past 30 years.¹⁷ Several levels of certificates exist in Texas, including Enhanced Skills or Occupational Skills Certificates (between nine to 15 credit hours), Level I certificates (between 15 to 42 credit hours),

¹⁶ Includes five language courses.

¹⁷ Understanding Credentials in Texas: Certificates & Certifications (2018).

Level II certificates (between 30 to 51 credit hours), and Advanced Technical Certificates (requiring a previously awarded associate or bachelor degree and 16 to 50 credit hours).

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 2021-22 list of approved industry-based certifications for the A-F accountability system included 244 certifications within 14 primary career clusters.

CTE Implementation in Middle Schools

Fifty out of 54 middle schools¹⁸ (93%) offered one or more CTE courses in 2021-22. Of the 20 CTE courses offered, four were considered foundational courses and qualified for middle school credit, while 16 courses could be taken for high school credit. Five of the 20 courses utilized PLTW Gateway curricula.¹⁹ 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 in order to have a better understanding of CTE options in high school. Thirty-seven middle schools (69%) offered the College and Career Readiness class and 27 middle schools (50%) offered of the Investigating Careers class. The Dallas ISD CTE Department provides support to those middle schools interested in opening CTE courses by facilitating curricula implementation, coordinating the training of teachers, and the purchase of supplies. It is important to note that providing CTE services to middle school students does not increase the amount of funds the Dallas ISD receives from TEA for its CTE services.

EQ3: What were the enrollment and demographic characteristics of CTE students?

Results

During the 2021-22 school year, 41,379 students participated in CTE, including 11,382 middle school students (27.5%) and 29,997 high school students (72.5%, Table 4), a decrease of 1.5 percent ($n=650$) compared to 2020-21. Overall, 60 percent of all middle and high school students were enrolled in a CTE course. Thirty-eight percent of middle school students were enrolled in a CTE course, a decrease of three percentage points over 2020-21 (41%, Lorenz 2021). Middle school CTE enrollment percentage ranged from 12 percent in grade six to 51 percent in grades seven and eight. High school CTE enrollment percentage ranged from 74 percent in grade nine to 79 percent in grade 11. Overall, 77 percent of high school students were enrolled in CTE courses, indicating that CTE enrollment in high schools increased by four percentage points compared to 2020-21 (73%, Lorenz 2021).

¹⁸ Includes Elementary/Middle, Middle, and Middle/High level schools.

¹⁹ PLTW offers the following three types of curricula: PLTW Launch (Grades K-5), PLTW Gateway (Grades 6-8), and PLTW Programs (Grades 9-12).

Table 4: 2021-22 Student Enrollment by Grade

Grade	Non-CTE		CTE		Total N
	n	%	n	%	
Middle School					
Grade 6	8,519	88.5	1,108	11.5	9,627
Grade 7	4,902	48.8	5,139	51.2	10,041
Grade 8	5,005	49.4	5,135	50.6	10,140
High School					
Grade 9	3,275	26.1	9,253	73.9	12,528
Grade 10	2,129	22.2	7,448	77.8	9,577
Grade 11	1,733	20.8	6,618	79.2	8,351
Grade 12	2,009	23.2	6,668	76.8	8,677
Overall					
Overall Middle School	18,426	61.8	11,382	38.2	29,808
Overall High School	9,146	23.4	29,997	76.6	39,143
Overall	27,572	40.0	41,379	60.0	68,951

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22.

In 2021-22, 44 percent of the 41,379 CTE students were CTE Participants ($n=18,239$), 25 percent were CTE Explorers ($n=10,447$), 23 percent were Concentrators ($n=9,324$), and eight percent were CTE Completers ($n=3,369$, Table 5). All but three middle school students were either CTE Participants ($n=10,884$, 96%) or CTE Explorers ($n=495$, 4%). The highest number of high school students were CTE Explorers ($n=9,952$, 33%) and CTE Concentrators ($n=9,321$, 31%), followed by CTE Participants ($n=7,355$, 25%) and CTE Completers ($n=3,369$, 11%). More high school students were either CTE Participants or CTE Explorers than CTE Concentrators or CTE Completers in grade nine (94% vs 6%) and grade 10 (59% vs 41%). However, more students were identified as CTE Concentrators or CTE Completers in grade 11 (62% vs 38%) and grade 12 (74% vs 26%).

Table 5: 2021-22 CTE Student Enrollment by Status

Grade	CTE Participant		CTE Explorer		CTE Concentrator		CTE Completer		Total N
	n	%	n	%	n	%	n	%	
Middle School									
Grade 6	1,108	100.0	-	-	-	-	-	-	1,108
Grade 7	5,056	98.4	83	1.6	-	-	-	-	5,139
Grade 8	4,720	91.9	412	8.0	3	0.1	-	-	5,135
High School									
Grade 9	5,129	55.4	3,587	38.8	537	5.8	-	-	9,253
Grade 10	1,294	17.4	3,078	41.3	2,935	39.4	141	1.9	7,448
Grade 11	550	8.3	1,954	29.5	3,247	49.1	867	13.1	6,618
Grade 12	382	5.7	1,333	20.0	2,602	39.0	2,361	35.4	6,678
Overall									
Middle School	10,884	95.6	495	4.3	3	0.0			11,382
High School	7,355	24.5	9,952	33.2	9,321	31.1	3,369	11.2	29,997
Total	18,239	44.1	10,447	25.2	9,324	22.5	3,369	8.1	41,379

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: - = no students were identified.

Enrollment by Career Cluster

In 2021-22, 41,379 middle and high school students enrolled in one to six career clusters (*mean*=1.4). This remained stable compared to 2019-20. Career clusters with the highest enrollment were Business Management & Administration (29%),²⁰ followed by Science, Technology, Engineering & Mathematics (20%), and Arts Audio Video (A V) Technology Communications (13%, Table 6). Student enrollment data by school level and status can be found in Appendix E, Table 1.

Districtwide, CTE students took the highest percentage of courses within the Business Management & Administration cluster (23%),¹¹ followed by the Science, Technology, Engineering & Mathematics cluster (15%), and Arts A V Technology Communications (9%, Table 7). The CTE groups with the highest enrollment within the Business Management & Administration cluster were CTE Explorers and CTE Concentrators and (34% and 39%, respectively). Additional CTE course enrollment data by school level and status can be found in Appendix E, Table 2.

²⁰ General Elective CTE Courses were not noted as it is not an actual career cluster but a catchall category for courses that can serve more than one cluster.

Table 6: 2021-22 CTE Student Enrollment by Career Cluster

Career Cluster	CTE Participant <i>n</i>	CTE Explorer <i>n</i>	CTE Concentrator <i>n</i>	CTE Completer <i>n</i>	Total CTE Enrollment <i>N</i>	Enrollment by Cluster %
Business Marketing Finance	2,509	4,329	4,116	931	11,885	28.7
General Elective CTE Courses*	8,406	1,328	694	714	11,142	26.9
Science, Technology, Engineering & Mathematics	4,041	2,185	1,806	367	8,399	20.3
Arts A V Technology Communications	2,073	1,488	1,319	524	5,404	13.1
Information Technology	1,345	1,789	1,440	458	5,032	12.2
Health Science	357	1,050	1,419	677	3,503	8.5
Human Services	1,022	891	804	353	3,070	7.4
Law Public Service	415	816	982	561	2,774	6.7
Architecture Construction	410	1,063	455	247	2,175	5.3
Hospitality Tourism	335	630	606	377	1,948	4.7
Transportation Distribution Logistics	101	326	209	149	785	1.9
Agriculture Food Natural Resources	185	251	199	64	699	1.7
Manufacturing	83	183	102	26	394	1.0
Education Training	32	42	114	51	239	0.6

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: Total number of CTE students enrolled in 2021-22 was 41,379. Column percent does not sum to 100 percent as student could enroll in more than one career cluster. * = General Elective CTE Courses is not a CTE cluster but serves as a holder for CTE courses that can serve more than one cluster. A V = Audio Video.

Table 7: 2021-22 CTE Course Enrollment by Career Cluster

Career Cluster	CTE Participant <i>n</i>	CTE Explorer <i>n</i>	CTE Concentrator <i>n</i>	CTE Completer <i>n</i>	Total CTE Enrollment <i>N</i>	Enrollment by Cluster %
Business Marketing Finance	2,679	5,288	6,157	1,612	15,736	22.6
General Elective CTE Courses*	9,584	1,674	892	871	13,021	18.7
Science, Technology, Engineering & Mathematics	4,649	2,769	2,341	633	10,392	14.9
Arts A V Technology Communications	2,091	1,572	1,482	921	6,066	8.7
Information Technology	1,396	1,953	1,721	891	5,961	8.6
Health Science	361	1,136	1,807	1,004	4,308	6.2
Law Public Service	443	914	1,462	914	3,733	5.4
Human Services	1,057	1,040	971	461	3,529	5.1
Architecture Construction	424	1,118	521	379	2,442	3.5
Hospitality Tourism	337	651	696	429	2,113	3.0
Transportation Distribution Logistics	102	348	240	163	853	1.2
Agriculture Food Natural Resources	186	291	281	92	850	1.2
Manufacturing	83	187	115	26	411	0.6
Education Training	32	42	116	56	246	0.4

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: Student could enroll in more than one career cluster. * = General Elective CTE Courses is not a CTE cluster but serves as a holder for CTE courses that can serve more than one cluster. A V = Audio Video.

NAF Academies Enrollment

Overall, 7,481 students enrolled in 44 NAF Academies in 2021-22, a decrease of 273 students from 48 NAF Academies in 2020-21 (Table 8). Analyses indicated that eight percent of NAF participants ($n=593$) enrolled in more than one academy (max academies enrolled=3). This was an increase of three percentage points over 2020-21 (5%). Academies with the highest enrollment numbers for 2021-22 were Academy of Finance ($n=2,611$), followed by Academy of Information Technologies ($n=2,089$), and Academy of Engineering ($n=1,169$).

The top three schools with NAF enrollment in 2020-21 were Skyline ($n=1,572$), Adams ($n=737$), and North Dallas ($n=609$). Adams had the largest enrollment for the following academies: Engineering ($n=237$); Health Sciences ($n=256$); and Hospitality and Tourism ($n=242$). Likewise, Skyline had the largest enrollment for the following academies: Finance ($n=841$) and Information Technologies ($n=357$).

Table 8: 2021-22 Dallas ISD NAF Student Enrollment

NAF Academy	AOE	AOF	AOHS	AOHT	AOIT	Overall	
	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>N*</i>	$\bar{x}$
Skyline	170	841	221	196	357	1,572	1.1
Adams	237	-	256	242	67	737	1.1
North Dallas	48	438	-	-	215	609	1.2
Spruce	182	130	-	-	261	542	1.1
White	95	-	218	-	240	520	1.1
Jefferson	116	242	-	200	-	500	1.1
Adamson	-	309	158	-	-	445	1.0
W-H	-	145	-	147	162	404	1.1
Conrad	74	128	43	103	23	350	1.1
Hillcrest	169	-	133	-	-	292	1.0
South Oak Cliff	78	-	-	-	202	277	1.0
Sunset	-	104	128	-	-	231	1.0
Madison	-	-	-	-	188	188	1.0
Samuell	-	-	-	-	187	187	1.0
Kimball	-	-	-	174	-	174	1.0
Pinkston	-	-	-	-	174	174	1.0
Carter	-	150	-	-	-	150	1.0
IDEA	-	124	-	-	13	129	1.1
Overall	1,169	2,611	1,157	1,062	2,089	7,481	1.1

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22.

Note: Student could enroll in more than one career cluster. * = Unique student enrollment. - = no academy was offered. AOE=Academy of Engineering, AOF=Academy of Finance, AOHS=Academy of Health Sciences, AOHT=Academy of Hospitality and Tourism, AOIT=Academy of Information Technologies. IDEA=Innovation, Design and Entrepreneurship Academy, W-H = Wilmer-Hutchins.

Career Institutes Enrollment

In 2021-22, 4,152 students enrolled in Career Institutes, an increase of 103 percent ($n=2,109$) from 2020-21 (Table 9). Enrollment ranged from 57 students (Lincoln in CI East and Carter in CI South) to 533 students (Adams in CI East). Overall, Career Institute students enrolled in 5,925 courses (including language courses) and passed 5,325 (90%). In CI's third year, courses were geared towards grade nine ($n=1,994$), grade ten ($n=1,077$), and grade 11 ($n=713$). However, counselors enrolled a total of 368 students

in grades 8 ($n=6$) and 12 ($n=362$), meaning nine percent of students were in a grade level outside of grade levels nine through 11.

Table 9: 2021-22 Career Institute Enrollment by Feeder High Schools

Career Institute East <i>N</i> =1,300		Career Institute North <i>N</i> =1,429		Career Institute South <i>N</i> =1,423	
Home Campus	<i>N</i>	Home Campus	<i>N</i>	Home Campus	<i>N</i>
Adams	533	Conrad	189	Adamson	82
Lincoln	57	Hillcrest	346	Carter	57
Madison	98	Jefferson	202	Kimball	113
Samuel	297	North Dallas	371	Molina	307
Spruce	220	White	321	Pinkston	239
Woodrow Wilson	95			Roosevelt	113
				South Oak Cliff	279
				Sunset	233

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22.

Student Characteristics

The ethnic composition of district CTE students (Table 10) was similar to middle and high school students not enrolled in the CTE program (within two percentage points difference). A smaller percentage of CTE students received special education services (9%) compared to non-CTE students (13%). Forty-five percent of CTE students were English learners compared to 48 percent of non-CTE students (an increase of three percentage points over 2020-21). While CTE and non-CTE students were similarly at risk of dropping out (71% vs 72%), both groups, however, increased by five (CTE) and six percentage points (non-CTE) over 2020-21 (both 66%). CTE and non-CTE groups were similar on the percentage of students who were economically disadvantaged (83%) and Talented and Gifted (TAG) eligible (20%).

Table 10: 2021-22 Student Characteristics

	MS CTE (n=11,382)		HS CTE (n=29,997)		District All CTE (N=41,379)		District Non-CTE (N=27,572)	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Grade								
Grade 6	1,108	9.7	-	-	1,108	2.7	8,519	30.9
Grade 7	5,139	45.2	-	-	5,139	12.4	4,902	17.8
Grade 8	5,135	45.1	-	-	5,135	12.4	5,005	18.2
Grade 9	-	-	9,253	30.8	9,253	22.4	3,275	11.9
Grade 10	-	-	7,448	24.8	7,448	18.0	2,129	7.7
Grade 11	-	-	6,618	22.1	6,618	16.0	1,733	6.3
Grade 12	-	-	6,678	22.3	6,668	16.1	2,009	7.3
Gender								
Female	5,485	48.2	14,673	48.9	20,158	48.7	13,934	50.5
Male	5,897	51.8	15,324	51.1	21,221	51.3	13,638	49.5
Race / Ethnicity								
Asian	99	0.9	372	1.2	471	1.1	286	1.0
African American	2,224	19.5	5,889	19.6	8,113	19.6	5,330	19.3
Hispanic	8,271	72.7	22,169	73.9	30,440	73.6	19,790	71.8
White	569	5.0	1,044	3.5	1,613	3.9	1,625	5.9
Other	219	1.9	523	1.7	742	1.8	541	2.0
Student Characteristics								
At Risk Status	8,542	75.0	20,894	69.7	29,436	71.1	19,886	72.1
Eco Dis Status	9,693	85.2	24,708	82.4	34,401	83.1	22,888	83.0
English Learner	5,602	49.2	13,027	43.4	18,629	45.0	13,135	47.6
Special Education	1,164	10.2	2,548	8.5	3,712	9.0	3,678	13.3
TAG Eligible	2,819	24.8	5,239	17.5	8,058	19.5	5,589	20.3

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22.

Note: A - indicates that no students were enrolled in that grade level. MS=middle school, HS=high school, Eco Dis=economically disadvantaged. Column percentages may not sum to 100 due to rounding.

High school students were able to participate in traditional CTE course offerings and enroll in specialized CTE programs (Career Institutes, NAF Academies, and ECHSs). Of the 29,997 high school students who enrolled in CTE courses in 2021-22, 15,087 students enrolled in one or more of these specialized high school CTE programs. Although 87 percent of the 15,087 students enrolled in only one of these programs, 14 percent enrolled in two or three programs. For example, 73 students (0.5%) enrolled in courses through the Career Institutes, the NAF Academies, and the ECHSs (Table 11). Following a dip in specialized CTE program student enrollment in 2020-21 ($n=13,709$), enrollment numbers in 2021-22 were higher than those in 2019-20 ($n=15,087$ vs $n=14,041$). Similar to 2020-21, more students enrolled in two or more programs in 2021-22 ($n=2,008$ vs $n=1,023$, respectively).

Table 11: 2021-22 Students Enrolled in One or More CTE High School Programs

Enrolled in	<i>N</i>	%
One Program	13,079	86.7
Two Programs	1,935	12.8
Three Programs	73	0.5
Overall	15,087	100.0

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22.

Note: CTE high school programs analyzed: Career Institutes, NAF Academies, and Early College High Schools.

A comparison of these specialized CTE high school programs found that more male students than female students enrolled in these programs, except for the ECHS program, where female students were in the majority (57%, Table 12). Among all high school CTE programs, Career Institutes had the highest percentage of at-risk students (82%), followed by NAF academies (78%), and the ECHS Program (62%). Compared to 2020-21, the percent of at-risk students increased between two percentage points (CI) and 12 percentage points (ECHS). Moreover, CTE students enrolled in Career Institutes had the highest percentage of economically disadvantaged students (87%) and the highest percentage of English learners (56%), while having the lowest percentage of TAG-eligible students (10%). CTE students in the ECHS program had the lowest percentage of special education students (3%).

Table 12: 2021-22 Student Characteristics by CTE Program

Variable	Career Institutes (<i>n</i> = 4,152 ¹)		NAF Academies (<i>n</i> =7,481)		ECHS Program (<i>n</i> =5,535)	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Grade Level						
Grade 9	1,994	48.0	2,740	36.6	1,379	24.9
Grade 10	1,077	25.9	1,927	25.8	1,470	26.6
Grade 11	713	17.2	1,565	20.9	1,414	25.5
Grade 12	362	8.7	1,249	16.7	1,272	23.0
Gender						
Female	1,639	39.5	3,628	48.5	3,144	56.8
Male	2,513	60.5	3,853	51.5	2,391	43.2
Race / Ethnicity						
Asian	41	1.0	69	0.9	57	1.0
African American	744	17.9	1,515	20.3	1,095	19.8
Hispanic	3,209	77.3	5,559	74.3	4,208	76.0
White	85	2.0	193	2.6	85	1.5
Other	73	1.8	145	1.9	90	1.6
Student Characteristics						
At Risk Status	3,423	82.4	5,801	77.5	3,433	62.0
Eco Dis Status	3,617	87.1	6,310	84.3	4,710	85.1
English Learner	2,313	55.7	3,841	51.3	2,302	41.6
Special Education	461	11.1	650	8.7	149	2.7
TAG Eligible	417	10.0	969	13.0	1,383	25.0

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22.

Note: Eco Dis=economically disadvantaged. Column percentages may not sum to 100 due to rounding.

1 = Six Grade eight middle school students (0.1%) took CI courses in 2021-22.

EQ4: What were the completion rates for CTE courses?

Results

In 2021-22, CTE middle and high school students passed 89 percent of all CTE courses, compared to 81 percent in 2020-21 (Table 13). Passing rates by career clusters ranged from 83 percent (Human Services) to 95 percent (Education Training and Health Science). CTE Completers had the highest overall passing rate of 96 percent followed by CTE Concentrators (94%), and CTE Participants (87%). CTE Explorers had the lowest overall passing rate of 82 percent. Additional CTE course completion data by school level and status can be found in Appendix E.

Table 13: 2021-22 CTE Course Enrollment and Completion Rates by Career Cluster and CTE Status

Career Cluster	CTE Participant		CTE Explorer		CTE Concentrator		CTE Completer		Total CTE Enrollment	
	N	%	N	%	N	%	N	%	N	%
Education Training	32	96.9	42	78.6	116	98.3	56	100.0	246	95.1
Health Science	361	93.9	1,136	90.8	1,807	96.1	1,004	98.2	4,308	95.0
Architecture Construction	424	90.8	1,118	88.4	521	95.8	379	99.5	2,442	92.1
General Elective CTE Courses*	9,584	91.0	1,674	89.2	892	92.8	871	96.1	13,021	91.2
Law Public Service	443	86.0	914	81.2	1,462	95.8	914	95.4	3,733	91.0
Transportation Distribution Logistics	102	91.2	348	84.5	240	91.3	163	100.0	853	90.2
Manufacturing	83	84.3	187	88.2	115	92.2	26	100.0	411	89.3
Science Technology Engineering Mathematics	4,649	87.2	2,769	86.8	2,341	94.5	633	92.9	10,392	89.1
Hospitality Tourism	337	87.2	651	78.5	696	91.8	429	99.1	2,113	88.5
Agriculture Food Natural Resources	186	83.3	291	78.4	281	97.2	92	100.0	850	88.0
Information Technology	1,396	81.5	1,953	80.2	1,721	94.7	891	94.7	5,961	86.9
Arts A V Technology Communications	2,091	84.2	1,572	80.7	1,482	92.8	921	93.7	6,066	86.9
Business Marketing Finance	2,679	83.8	5,288	77.0	6,157	93.4	1,612	95.0	15,736	86.4
Human Services	1,057	69.2	1,040	80.1	971	93.1	461	97.6	3,529	82.7
Overall	23,424	87.1	18,983	82.3	18,802	94.1	8,452	96.0	69,661	88.8

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: N=Enrollment Number %=Completion Percentage. Student could enroll in more than one career cluster. * General Elective CTE Courses is not a CTE cluster but serves as a holder for CTE courses that can serve more than one cluster. A V = Audio Video.

In 2021-22, 5,501 Dallas ISD students participated in 12,514 CTE dual credit courses of which they passed 10,849 courses (87%). Thirty-two percent of CTE students who took dual credit courses were CTE Explorers ($n=1,739$), followed by CTE Concentrators ($n=1,585$, 29%), CTE Participants ($n=1,513$, 28%), and CTE Completers ($n=664$, 12%).

The number of dual credit course taken by campus varied from one dual credit course (Washington) to 967 dual credit courses (Jefferson, Table 14). Overall, 87 percent ($n=8,247$) of dual credit courses were completed, up eight percentage points from 2020-21. Dual credit completion rates ranged from 42 percent (Roosevelt) to 100 percent (Townview SEM and Washington). CTE Completers passed dual credit course at a higher rate than all other CTE student groups (91%).

Table 14: 2021-22 CTE Dual Credit Course Completion Rates by Campus and CTE Status

Career Cluster	CTE Participant		CTE Explorer		CTE Concentrator		CTE Completer		Total CTE Enrollment	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
Adams	20	70.0	125	62.4	360	90.3	26	96.2	531	83.2
Adamson	160	86.3	75	74.7	172	90.7	319	91.2	726	88.3
Carter	109	78.0	33	54.5	68	72.1	160	86.3	370	78.4
Conrad	254	92.5	239	92.9	203	94.6	260	96.5	956	94.1
Garza	143	97.2	178	97.2	86	100.0	-	-	407	97.8
Gilliam	184	87.5	202	97.0	*	*	-	-	389	92.5
Hillcrest	221	88.2	150	96.0	39	94.9	-	-	410	91.7
IDEA	-	-	*	*	*	*	-	-	8	0.0
Jefferson	130	85.4	117	60.7	357	87.4	363	90.9	967	85.2
Kimball	42	78.6	100	84.0	38	97.4	-	-	180	85.6
Lassiter	109	93.6	150	92.7	29	100.0	-	-	288	93.8
Lincoln	136	77.9	74	13.5	92	88.0	21	90.5	323	66.9
Madison	46	34.8	97	68.0	20	90.0	97	80.4	260	68.5
Molina	45	88.9	509	91.9	287	94.4	88	95.5	929	92.9
North Dallas	54	50.0	125	47.2	146	80.8	97	78.4	422	66.4
North Lake EC	157	95.5	60	96.7	20	100.0	-	-	237	96.2
Pinkston	12	58.3	161	72.0	138	87.0	136	93.4	447	82.8
Roosevelt	20	55.0	119	28.6	34	61.8	15	86.7	188	42.0
Samuell	45	95.6	142	95.8	28	96.4	*	*	218	95.9
Seagoville HS	25	96.0	45	75.6	352	87.8	338	94.1	760	90.1
Skyline	125	87.2	208	81.7	152	90.8	132	99.2	617	88.8
South Oak Cliff	100	91.0	101	68.3	109	57.8	116	72.4	426	72.1
Spruce	6	100.0	94	78.7	191	91.1	153	94.8	444	89.9
Sunset	205	89.3	86	90.7	36	100.0	52	100.0	379	92.1
Townview Business	-	-	12	66.7	171	94.2	74	94.6	257	93.0
Townview Health	67	82.1	54	83.3	240	97.5	-	-	361	92.5
Townview Law	-	-	-	-	6	100.0	96	72.9	102	74.5
Townview SEM	-	-	-	-	*	*	-	-	*	*
Washington	-	-	*	*	-	-	-	-	*	*
White	108	97.2	47	83.0	302	99.0	5	100.0	462	97.0
Wilmer-Hutchins HS	55	83.6	121	77.7	174	84.5	96	99.0	446	85.7
Overall	2,578	86.6	3,428	79.9	3,861	89.9	2,647	90.9	12,514	86.7

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: SEM = Science and Engineering. IDEA = Innovation, Design and Entrepreneurship Academy. *N* = total number of students enrolled in a dual credit course. % = percentage of students who completed the dual credit courses. - = no students were enrolled. *Data was masked as five or fewer students belonged to these categories.

EQ5: What were the academic outcomes of CTE students on STAAR EOC exams?

Results

Overall, 23,705 out of the 29,997 CTE high school students took one or more STAAR EOC exams in 2021-22 (79%, Table 15). The subject test with the highest participation count was English I ($n=11,534$), followed by English II ($n=9,761$). Majority of CTE students met the Approaches+ benchmark for U.S. History (85%), followed by Biology (76%) and English II (60%). CTE Concentrators participated in the greatest number of STAAR EOC exams, while CTE Completers met the Approaches + benchmark most often (77%) across all subject tests, followed by CTE Concentrators (68%).

Table 15: 2021-22 Percentage of CTE Students Meeting STAAR EOC Approaches Grade Level or Above

STAAR EOC Subject	CTE Participant		CTE Explorer		CTE Concentrator		CTE Completer		Overall CTE	
	N	%	N	%	N	%	N	%	N	%
Approaches Grade Level or Above										
Algebra I	3,535	62.2	3,067	53.8	782	48.5	31	41.9	7,415	57.2
Biology	4,106	80.8	3,526	72.5	1,385	69.7	100	68.0	9,117	75.8
English I	5,178	55.9	4,586	51.9	1,591	47.0	179	29.6	11,534	52.7
English II	1,564	65.2	3,902	54.5	3,977	62.3	318	69.8	9,761	59.9
U.S. History	715	83.9	2,255	80.4	3,573	85.9	1,002	88.9	7,545	84.5
Overall	15,098	66.4	17,336	60.7	11,308	67.5	1,630	76.5	45,372	64.9
Meets Grade Level or Above										
Algebra I	3,450	26.3	3,065	20.7	779	14.8	31	6.5	7,325	22.6
Biology	4,010	49.4	3,522	41.3	1,379	40.1	99	29.3	9,010	44.6
English I	5,093	38.1	4,585	31.9	1,588	24.0	179	7.3	11,445	33.1
English II	1,504	49.1	3,884	37.4	3,947	45.2	318	50.0	9,653	42.8
U.S. History	671	55.9	2,229	51.7	3,546	59.3	997	67.0	7,443	57.7
Overall	14,728	40.3	17,285	35.6	11,239	43.9	1,624	53.6	44,876	39.9

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22. STAAR EOC file, 08/02/22.

Note: STAAR EOC = State of Texas Assessments of Academic Readiness End-of-Course. Number of tested students may differ in Meets Grade Level or Above from Approaches Grade Level or Above due to missing data.

EQ6: How many credentials were earned by CTE high school students?

Results

Overall, 7,348 Dallas ISD CTE students earned 9,833 credentials in 2021-22 (Table 16), including 9,395 industry-based certifications and 438 educational certificates. This is an increase of 4,912 credentials from 2020-21 (4,921 credentials). Compared to 2020-21, the number of industry-based certifications increased by 4,941, while the number of educational certificates decreased by 29. The campus with the highest number of CTE students who completed one or more credentials was Skyline ($n=771$), followed by Adams ($n=671$). Overall, students at Skyline earned the highest number of credentials (1,082), followed by Adams ($n=837$) and South Oak Cliff ($n=762$).

Certifications identified by TEA for the A to F accountability system accounted for 58 percent ($n=5,401$) of all industry certifications earned, which was an increase of 221 percent from 2020-21 ($n=1,684$, 38%). CTE Completers earned the greatest number of educational certificates ($n=354$) and completed industry-based certifications at the highest percentage of all CTE groups (all certifications, 82%; A-F certifications, 78%). However, CTE Concentrators earned the greatest number of industry-based certifications ($n=3,571$, 38%) and A-F certifications ($n=2,255$, 42%).

Table 16: 2021-22 CTE Credentials Earned by Campus

Campus	Industry-Based Certification						Educational Certificates	All Credentials
	All Certifications			Certifications in A-F				
	N	n	%	N	n	%		
Skyline	1,485	1061	71.4	540	377	69.8	21	1,082
Adams	1,219	818	67.1	822	446	54.3	19	837
South Oak Cliff	809	728	90.0	567	520	91.7	34	762
Wilson	890	728	81.8	739	595	80.5	-	728
White	993	663	66.8	650	407	62.6	-	663
Spruce	910	604	66.4	339	194	57.2	37	641
Hillcrest	737	505	68.5	382	272	71.2	-	505
Jefferson	356	312	87.6	239	209	87.4	59	371
Conrad	455	354	77.8	325	249	76.6	7	361
Wilmer-Hutchins HS	385	299	77.7	333	257	77.2	28	327
Sunset	394	326	82.7	241	185	76.8	-	326
Molina	367	299	81.5	151	99	65.6	14	313
Townview Business	464	304	65.5	265	156	58.9	1	305
North Dallas	345	240	69.6	191	141	73.8	30	270
Kimball	276	268	97.1	132	127	96.2	-	268
Seagoville	278	191	68.7	196	113	57.7	74	265
Adamson	387	205	53.0	341	161	47.2	56	261
Pinkston	194	183	94.3	142	132	93.0	32	215
Samuell	268	200	74.6	166	107	64.5	-	200
Townview Health	244	179	73.4	165	113	68.5	-	179
Townview Education	168	144	85.7	129	125	96.9	-	144
Carter	196	128	65.3	33	27	81.8	11	139
Rangel	189	123	65.1	116	75	64.7	0	123
Madison	130	114	87.7	112	96	85.7	8	122
Roosevelt	109	101	92.7	25	19	76.0	7	108
Lincoln	241	105	43.6	97	9	9.3	-	105
New Tech	96	82	85.4	96	82	85.4	-	82
IDEA	89	54	60.7	88	54	61.4	-	54
CityLab	80	37	46.3	56	14	25.0	-	37
Townview Law	27	27	100.0	27	27	100.0	-	27
Townview SEM	25	13	52.0	25	13	52.0	-	13
Overall								
CTE Participant	1,500	1,049	69.9	789	537	68.1	-	1,049
CTE Explorer	4,122	2,904	70.5	2,311	1,521	65.8	4	2,908
CTE Concentrator	4,889	3,571	73.0	3,241	2,255	69.6	80	3,651
CTE Completer	2,295	1,871	81.5	1,389	1,088	78.3	354	2,225
Overall	12,806	9,395	73.4	7,730	5,401	69.9	438	9,833

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22. Industry-based certification data, 11/30/22. Educational Certificate data, 11/07/22.

Note: N=Courses attempted, n=courses passed. SEM= Science and Engineering. IDEA = Innovation, Design and Entrepreneurship Academy. - = no credentials earned. In addition, 18 middle school students at 11 schools earned a total of 18 Industry-based Certifications of which 10 were A-F certifications.

EQ7: How many Dallas ISD CTE seniors received an associate degree?

Results

Overall, 723 CTE graduates earned an associate degree in 2021-22 (Table 17). All 723 students were ECHS students, including 528 PTECH students and 195 traditional ECHS students. Students at Garza earned the greatest number of associate degrees ($n=82$) across all CTE groups, followed by Conrad ($n=81$) and Molina ($n=65$). Overall, students who participated in a program of study (CTE Concentrators and CTE Completers) accounted for 469 associate degrees (65%). This is a decrease of 12 percent compared to the 532 CTE Concentrators and CTE Completers who earned an associate degree in 2020-21.

Table 17: 2021-22 Number of Associate Degrees Awarded to CTE Students

Campus	CTE Participant	CTE Explorer	CTE Concentrator	CTE Completer	Overall	
	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>N</i>	%
Garza	22	38	22	-	82	11.3
Conrad	3	31	26	21	81	11.2
Molina	-	4	43	18	65	9.0
Adams	-	-	55	5	60	8.3
Sunset	-	26	11	16	53	7.3
Gilliam	-	48	1	-	49	6.8
Hillcrest	2	19	21	-	42	5.8
Jefferson	-	-	-	35	35	4.8
White	-	2	32	-	34	4.7
Lassiter	1	24	6	-	31	4.3
Seagoville HS	-	-	-	30	30	4.1
Wilmer-Hutchins HS	-	-	17	13	30	4.1
Adamson	-	-	-	19	19	2.6
Samuell	-	15	4	-	19	2.6
Lincoln	-	-	11	3	14	1.9
Spruce	-	-	5	9	14	1.9
North Dallas	-	-	12	2	14	1.9
Kimball	-	6	7	-	13	1.8
Pinkston	-	9	-	3	12	1.7
Carter	-	-	5	6	11	1.5
Roosevelt	-	4	2	2	8	1.1
South Oak Cliff	-	-	-	6	6	0.8
Madison	-	-	-	1	1	0.1
Overall	28	226	280	189	723	100.0

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22. Graduation file, 08/23/22. Associate Degree files, 11/07/22.

Note: - = no associate degrees earned.

In 2021-22, more Associate of Science degrees were awarded to CTE students ($n=379$, 52%) than Associate of Applied Science ($n=167$, 23%), Associate of Arts ($n=125$, 17%), or Associates of Arts in Teaching ($n=52$, 7%) degrees (Table 18). The Associate of Applied Science was the preferred degree among CTE Completers (78%), while CTE Concentrators and CTE Explorers preferred the Associate of Science (50% and 85%, respectively). Eighty-nine percent of CTE Participants who earned an associate degree also earned an Associate of Science.

Table 18: 2021-22 Associate Degrees Awarded to CTE Coherent Sequence Students by Degree Plan

Degree Plan	CTE Participant	CTE Explorer	CTE Concentrator	CTE Completer	Overall	
	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>N</i>	%
Associate of Science	25	193	139	22	379	52.4
Associate of Applied Science	-	-	20	147	167	23.1
Associate of Arts	3	29	75	18	125	17.3
Associates of Arts in Teaching	-	4	46	2	52	7.2
All Degrees	28	226	280	189	723	100.0

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22. Graduation file, 08/23/22. Associate Degree files, 11/07/22.

Note: Percentages do not sum to 100 due to rounding. - = no associate degrees earned.

EQ8: What were the college enrollment rates for 2020-21 CTE graduates?

Results

Overall, 7,780 grade 12 students graduated from a Dallas ISD high school in 2020-21 (including the summer semester). Of these, 6,156 students (79%) were CTE students, and 1,624 students (21%) were non-CTE students (Table 19). According to the 2021-22 NSC data file, 42 percent of CTE graduates and non-CTE graduates enrolled in college within one year of graduation. A higher percentage of CTE students (7%) enrolled in a two-year college than non-CTE students (4%). On the other hand, a lower percentage of CTE students enrolled in a four-year university than non-CTE students (36% vs 40%). Overall, college enrollment numbers within one year of graduation were higher for all student groups compared to students who graduated in 2019-20 (11 percentage points for CTE graduates vs. 3 percentage points for non-CTE graduates).

Table 19: 2021-22 College Enrollment Rates for 2020-21 Dallas ISD Graduates

Enrollment Status	CTE Participant Graduates			CTE Explorer Graduates			CTE Concentrator Graduates			CTE Completer Graduates			Total CTE Graduates			Non-CTE Graduates		
	Grad	Enrolled		Grad	Enrolled		Grad	Enrolled		Grad	Enrolled		Grad	Enrolled		Grad	Enrolled	
	<i>N</i>	<i>n</i>	%	<i>N</i>	<i>n</i>	%	<i>N</i>	<i>n</i>	%	<i>N</i>	<i>n</i>	%	<i>N</i>	<i>n</i>	%	<i>N</i>	<i>n</i>	%
Two-Year*		19	5.7		72	6.3		168	7.4		141	5.8		400	6.5		66	4.1
Four-Year*		130	39.0		400	34.9		707	31.3		963	39.9		2,200	35.7		652	40.1
Overall	333	149	44.7	1,146	472	41.2	2,261	875	38.7	2,416	1,104	45.7	6,156	2,600	42.2	1,624	718	44.2

Source: Dallas ISD graduation file, 08/23/22. Demographic file, 06/07/21 (2020-21). NSC file, 08/09/22.

Note: Grad= Graduated. *Enrolled in two year or less or four-year colleges.

EQ9: What were teacher perceptions of the CTE program?

Results

Three-hundred and fourteen CTE teachers (62%)²¹ responded to the 2021-22 information request from the CTE department. Eighty-one percent of responding teachers ($n=254$) indicated that they taught one career cluster while the remaining 19 percent of respondents ($n=60$) indicated that they taught between two and 17 career clusters, with an average of 2.8 career clusters. Teachers further reported that they taught on average 101 students in 2020-21, a decrease of 10 percent from 2020-21 ($n=112$). Of the 259 teachers who taught subjects that offered industry-based certifications, 220 teachers (85%) indicated that they offered students the opportunity to earn industry-based certificates.

Overall, 99 percent of CTE teachers indicated that learning activities were aligned with current practices in business, industry, and/or technology. In addition, the respondents indicated that:

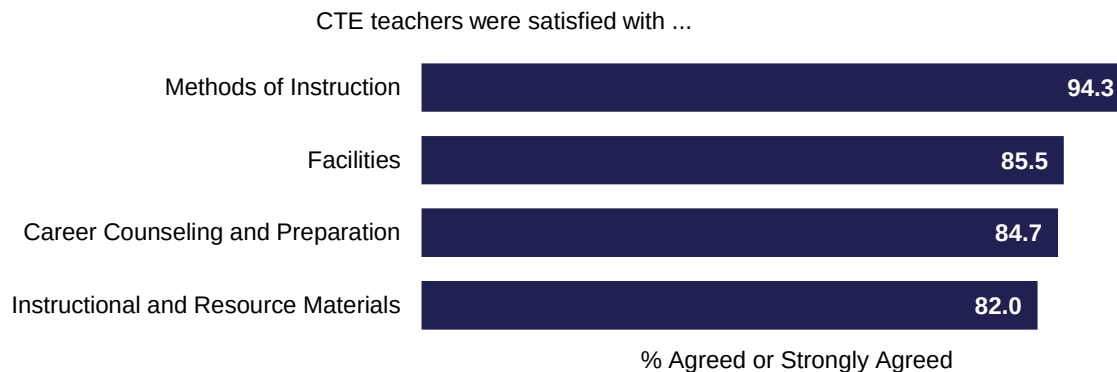
- The CTE program allows students to discover career opportunities they otherwise may not have considered (97%).
- The CTE program provides students with basic training to obtain a job (87%),
- The CTE program motivates students to pursue post-secondary education (82%).
- The CTE program motivates students to complete high school who otherwise are at risk of dropping out (77%).

CTE teachers also provided feedback on the instructional and resource materials, methods of instructions, career counseling and preparation, and facilities (Figure 4).²²

- Ninety-four percent of respondents agreed or strongly agreed that instruction methods were appropriate to provide quality CTE education to Dallas ISD students.
- Eighty-six percent of respondents agreed or strongly agreed that facilities were well maintained and provided up-to-date technologies to ensure effective student learning.
- Eighty-five percent of respondents agreed or strongly agreed that the CTE program provided students training in in-demand careers and provided opportunities to establish strong relationships with businesses and postsecondary schools.
- Eighty-two percent of respondents indicated that the CTE program provided students with the appropriate instructional and resource materials needed to succeed.
- Overall, teacher's satisfaction slightly decreased from 2020-21 to 2021-22 by one percentage point (career counseling and preparation) to four percentage points (instructional and resource materials).

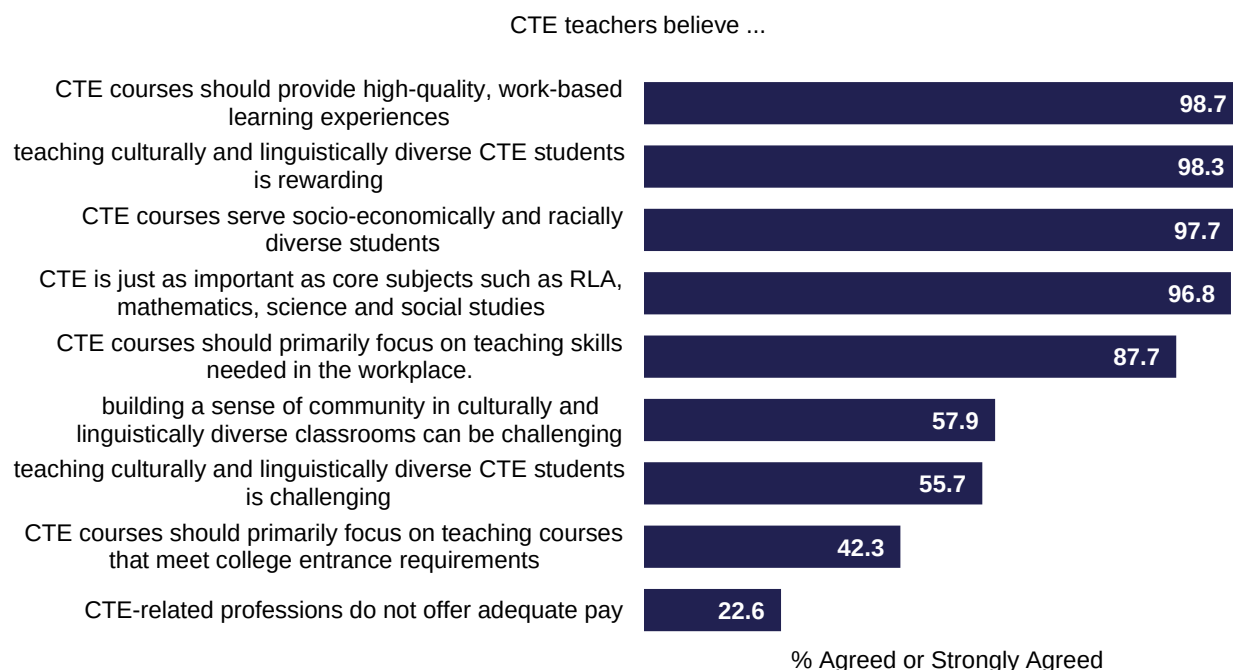
²¹ CTE staff invited 505 CTE teachers to participate in the survey.

²² Individual questions by category are presented in Appendix G.

Figure 4: 2021-22 CTE Teacher Perceptions of the CTE Program

Source: 2021-22 CTE Program Survey, 6/16/22.

CTE teachers also shared their perceptions regarding the CTE program focus and implementation (Figure 5). Respondents reported that CTE courses should provide high-quality, work-based, learning experiences (99%) and focus on teaching skills that are needed in the workforce (88%). Ninety-eight percent of teachers agreed or strongly agreed that the CTE program successfully serves a diverse student population. Although 58 percent of respondents indicated that serving such a diverse student population can at times be challenging, almost all respondents (98%) found their work to be rewarding. Ninety-seven percent of respondents agreed or strongly agreed that CTE courses should receive the same level of importance given to core courses. Overall, 77 percent of respondents agreed that CTE related professions offer competitive pay. Results were similar to the 2020-21 CTE survey.

Figure 5: 2021-22 CTE Teacher Perceptions of CTE Program Focus and Implementation

Source: 2021-22 CTE Program Survey, 09/16/22.

Teachers could select more than one response option to articulate challenges they faced in 2021-22. While 45 percent of all respondents ($n=314$) indicated that they received the needed support from the CTE Department, 15 percent indicated that additional professional development opportunities would be helpful, and 16 percent wished for better guidance from the CTE department. Respondents also indicated that they needed additional technical support (17%) and more technical resources (19%).

EQ10: What were perceptions of the CTE Internship program?

Results

Online survey invitations were emailed to CTE internship participants (i.e. students), employers, and supervisors²³ to collect feedback about their respective CTE internship experiences. Overall, 12 students (86%), ten employers (71%), and 11 supervisors (79%) responded.

Student Survey

Students provided feedback on their overall internship experience and on topics such as internship administration, communication, preparation, and quality of supervisor.²⁴

- Overall, all interns were satisfied or very satisfied with the CTE Internship program while 92 percent of respondents noted that their internship experience met their expectations.

²³ Employers were the primary representatives of a company or organization to Dallas ISD, supervisors were staff that work directly with the intern. In most cases, employers and supervisors were the same person.

²⁴ Individual questions by category are presented in Appendix H, Table 1.

- Ninety-seven percent of respondents noted that their supervisor behaved in a professional manner and answered questions during the internship.
- Most respondents (92%) noted that they were satisfied or very satisfied with the administration of the internship and agreed or strongly agreed that they were well prepared for the internship.
- Overall, students were satisfied or very satisfied with the communication received from the CTE department and teachers (88%).
- However, a considerably smaller proportion of respondents (67 %) indicated that they were satisfied or very satisfied with the use of the Oppti platform²⁵.

Employer Surveys

Employers were asked to provide feedback about their experience with the internship program while supervisors were asked to evaluate the Dallas ISD intern based a several categories.

Employer Feedback²⁶

- All employers were either satisfied or very satisfied with the internship selection process and the internship fair. However, only eight out of the 10 employers (80%) rated their overall internship experience as very satisfying with two employers being dissatisfied (20%). Overall, 90 percent of employers noted that they would participate again in the internship program.
- Ninety percent of employer respondents were satisfied or very satisfied with the communication they received from the CTE department or the use of the Oppti platform.
- Eighty percent of employer respondents were satisfied or very satisfied with the level of students' preparedness for the internship program.

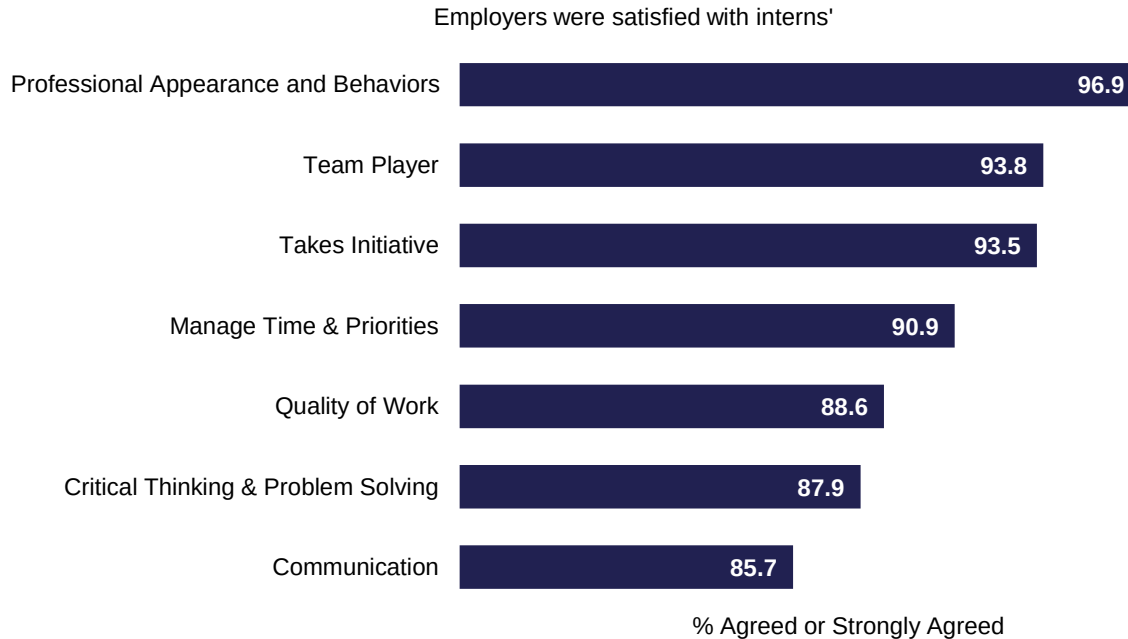
Intern Evaluations²⁷

- Overall, 91 percent of respondents agreed or strongly agreed that the intern met their expectations. Eight out of 11 respondents (73%) noted that they would hire the intern following the internship if a position was open.
- Supervisors also rated interns on relevant workplace related traits. Ninety-seven percent of respondents highlighted the professional appearance and behaviors of their intern. Additionally, 94 percent of respondents noted that interns made contributions to the work team and took initiative. Interns' abilities to communicate was ranked the lowest (86%, Figure 6).

²⁵ Oppti is a career exploration and management platform that allows districts to facilitate work-based learning opportunities such as internships.

²⁶ Individual employer questions are presented in Appendix H, Table 2. Ten employers responded (71%).

²⁷ Evaluations conducted by supervisors about the intern. Individual intern evaluation questions by category are presented in Appendix H, Table 3. Eleven supervisors responded (79%).

Figure 6: 2021-22 Employer Perceptions of CTE Interns

Source: 2021-22 Intern Evaluation Survey, 09/15/22.

EQ11: How did the Dallas ISD perform on CTE related accountability measures?

Results

The percentage of Dallas ISD graduates who were College, Career or Military Ready in 2020-21 (2022 report) is almost back to its pre-pandemic levels in 2018-19 (2020 report), showing a two percentage points decline (59% vs 61%, Table 20), increasing by 10 percentage points from 2019-20 (49%). On CTE-related measures for the three-year timeframe, the percentage of graduates who earned at least three dual credit hours in ELA or Mathematics or nine hours in any subject increased by 17 percentage points (14% vs 31%) and the percentage of graduates who completed Level I or Level II certificates increased by three percentage points from 2018-19 to 2020-21 (1% vs 4%). The percentage of graduates who earned an industry-based certification increased by eight percentage points (2% vs 10%) and the percentage of graduates who completed Individual Education Programs and Workforce Readiness remained stable from 2018-19 to 2020-21 (2% vs 2%). The percentage of graduates who met criterion scores on an AP/IB exam decreased by one percentage point (23% vs 21%) and decreased by three percentage points for those who met TSI criteria in both ELA/Reading and Mathematics (28% vs 25%).

Table 20: 2019 to 2021 Dallas ISD College, Career, and Military Readiness Indicators

Indicator	2020 (N=8,293)		2021 (N=8,197)		2022 (N=8,003)	
	N/Credit	%	N/Credit	%	N/Credit	%
College, Career or Military Ready	5,021	61	4,034	49	4,687	59
Met TSI criteria in both ELA/Reading and Mathematics	2,292	28	2,176	27	2,024	25
Met criterion score on an AP/IB Exam in any subject	1,037	23	1,881	23	1,674	21
Earned dual credit for at least 3 hours in ELA or Mathematics or 9 hours in any subject	1,145	14	1,738	21	2,488	31
Earned an industry-based certification from approved list	137	2	243	3	825	10
Earned a level I or level II certificate in any workforce education area	76	1	333	4	314	4
Earned an associate degree while in high school	245	3	624	8	943	12
Graduated with Completed Individual Education Program (IEP) and Workforce Readiness	194	2	218	3	157	2
Enlisted in the Armed Forces*	28	0	NA	NA	NA	NA
CTE Coherent Sequence Coursework Aligned with Industry-Based Certifications ¹	1,247	15	NA	NA	NA	NA

Source: 2022 Texas district/school report cards and accountability data accessed on 08/19/22 at tea.texas.gov.

Note: *Due to discrepancies between annual enlistment counts for Texas military enlistees aged 17-19 released by the United States Department of Defense and TSDS PEIMS military enlistment data, military enlistment data is excluded from accountability calculations. ¹2019 was the last year for this indicator to be counted towards CCMR.

Overall, a lower percentage of Dallas ISD and Fort Worth ISD graduates were college, career, or military ready (59%) than graduates of comparable districts ($\geq 60\%$) in Texas (Table 21). Dallas ISD and Houston ISD graduates had the lowest percentage of all graduates who met TSIA criteria in both ELA/Reading and Mathematics (25% vs $\geq 35\%$) and met TSIA criteria in Mathematics (28% vs $\geq 44\%$). Compared to other districts, the Dallas ISD had the highest percentage of all graduates who earned level I or level II certificates (4% vs $\leq 1\%$) and an associate degree (12% vs $\leq 5\%$). In all other categories, the Dallas ISD scored in the lower to mid-range. No military enlistment information was provided due to discrepancies between annual enlistment counts for Texas military enlistees aged 17-19 released by the United States Department of Defense and TSDS PEIMS military enlistment data. Therefore, military enlistment data is excluded from accountability calculations.

Table 21: 2022 Dallas ISD, Austin ISD, El Paso ISD, Fort Worth ISD, Houston ISD, San Antonio ISD CTE College, Career, and Military Readiness Indicators

Indicator	Dallas ISD		Austin ISD		El Paso ISD		Fort Worth ISD		Houston ISD		San Antonio ISD	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Graduated College; Career or Military Ready	8,003	59	4,511	80	3,775	78	4,622	59	11,566	60	2,678	75
Met TSI criteria in both ELA/Reading and Mathematics	2,024	25	3,070	68	2,228	59	1,700	37	2,936	25	941	35
Met TSI criteria in ELA/Reading	3,609	45	3,628	80	2,935	78	2,902	63	4,389	38	1,302	49
Met TSI criteria in Mathematics	2,240	28	3,292	73	2,492	66	2,051	44	3,228	28	1,224	46
Met criterion score on an AP/IB Exam in any subject	1,674	21	1,506	33	867	23	860	19	3,233	28	442	17
Earned dual credit for at least 3 hours in ELA or Mathematics or 9 hours in any subject	2,488	31	1,320	29	1,328	35	589	13	1,915	17	990	37
Earned an industry-based certification from approved list	825	10	391	9	184	5	460	10	2,625	23	905	34
Earned a level I or level II certificate in any workforce education area	314	4	21	1	-	-	-	-	63	1	11	0
Earned an associate degree while in high school	943	12	87	2	146	4	167	4	382	3	127	5
Graduated with Completed Individual Education Program (IEP) and Workforce Readiness	125	2	145	3	42	1	106	2	144	1	58	2
Identified as receiving special education services and earned an advanced degree plan	364	5	252	6	184	5	194	4	577	5	197	7
Enlisted in the Armed Forces*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Source: 2022 Texas district/school report cards and accountability data accessed on 08/19/22 at tea.texas.gov.

Note: *Due to discrepancies between annual enlistment counts for Texas military enlistees aged 17-19 released by the United States Department of Defense and TSDS PEIMS military enlistment data, military enlistment data is excluded from accountability calculations. - = Indicates there are no students in the group.

KEY FINDINGS AND RECOMMENDATIONS

Key Findings

The primary purpose of the Career and Technical Education (CTE) programs 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) CTE department offers courses across 51 comprehensive CTE pathways to students in grades six through 12. 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. Program activities are partially funded through state CTE funds and a grant established by the Carl D. Perkins Career and Technical Education Act of 2006. Overall, Dallas ISD budgeted \$42,503,415 for CTE activities, which included \$3,970,008 for the Career Institutes. Key findings included:

- During the 2021-22 school year, 41,379 students participated in CTE, including 11,382 middle school students (27.5%) and 29,997 high school students (72.5%), a decrease of 1.5 percent ($n=650$) compared to 2020-21.
- Middle school enrollment in CTE courses decreased by three percentage points from 2020-21 to 2021-22 (41% vs 38%), while high school enrollment increased by four percentage points compared to 2020-21 (73% vs 77%).
- The ethnic composition of district CTE students was similar to middle and high school students not enrolled in the CTE program. A smaller percentage of CTE students received special education services compared to non-CTE students (9% vs 13%), and fewer CTE students were English learners compared to non-CTE students (45% vs 48%). In 2021-22, CTE students were slightly less at risk of dropping out than non-CTE students (71% vs 72%), however both groups increased by five (CTE) and six percentage points (non-CTE) over 2020-21 (both 66%).
- In 2021-22, 18,239 of the 41,379 CTE students were identified as CTE Participants (44%), followed by CTE Explorers ($n=10,447$, 25%), Concentrators ($n=9,324$, 23%), and CTE Completers ($n=3,369$, 8%).
- In 2021-22, CTE students were enrolled on average in 1.4 career clusters. Career clusters with the highest enrollment were Business Management & Administration (29%), followed by Science, Technology, Engineering & Mathematics (20%), and Arts A V Technology Communications (13%).
- A total of 15,087 high school students enrolled in CTE courses through one or more specialized programs including the Career Institutes ($n=4,1521$), NAF Academies ($n=7,481$), and ECHSs ($n=5,535$).
- In 2021-22, 44 NAF Academies operated at 18 Dallas ISD campuses. Overall, eight percent of NAF participants ($n=593$) enrolled in more than one academy (max academies enrolled=3). NAF academies with the highest enrollment numbers for 2021-22 were Academy of Finance ($n=2,611$), followed by Academy of Information Technologies ($n=2,089$), and Academy of Engineering ($n=1,169$).

- In 2021-22, 4,152 CTE students enrolled in 5,925 courses offered by three Career Institutes. Compared to 2020-21, enrollment increased by 103 percent ($n=2,109$).
- In 2020-21, 41,379 CTE students enrolled in 69,661 CTE courses with an 89 percent passing rate (61,832 courses). Likewise, 5,501 Dallas ISD students participated in 12,514 CTE dual credit courses of which they passed 10,849 courses (87%).
- CTE Completers had the highest overall passing rate for all CTE courses (96%) and CTE dual credit course (91%) followed by CTE Concentrators (94% and 90%), and CTE Participants (87% and 87%). CTE Explorers had the lowest overall passing rate for all CTE courses (82%) and CTE dual credit courses (80%).
- Overall, 23,705 out of the 29,997 CTE high school students took one or more *STAAR EOC* exams in 2021-22 (79%). The subject test with the highest participation count was English I ($n=11,534$), followed by English II ($n=9,761$). U.S. History was also the subject test with the largest number of students who met the Approaches+ benchmark (85%).
- Overall, 7,348 Dallas ISD CTE students earned 9,833 credentials in 2021-22, including 9,395 industry-based certifications and 438 educational certificates. This is an increase of 4,912 credentials from 2020-21 (4,921 credentials). Certifications identified by TEA for the A to F accountability system accounted for 58 percent ($n=5,401$) of all industry certifications earned.
- In 2021-22, 723 CTE graduates earned an associate degree. Students who participated in a program of study (CTE Concentrators and CTE Completers) accounted for 469 associate degrees (65%). This is a decrease of 12 percent compared to the 532 associate degrees earned by students who participated in a program of study in 2020-21.
- According to the 2021-22 NSC data file, 42 percent of 2020-21 CTE graduates and 44 percent of non-CTE graduates enrolled in college within one year of graduation. Of these students, more CTE students enrolled in a two-year college than non-CTE students (15% vs 9%). Similarly, a lower percentage of CTE students enrolled in a four-year university than non-CTE students (85% vs 91%).
- Three-hundred and fourteen CTE teachers responded to the CTE departmental survey. Among the key findings were that 97 percent of respondents agreed that the CTE program allows students to discover career opportunities they otherwise may not have considered. Eighty-seven percent of respondents agreed that the CTE program provides students with basic training to obtain a job. Furthermore, 77 percent of respondents agreed that the CTE program motivates students to complete high school who otherwise are at risk of dropping out. Overall, 99 percent of CTE teachers indicated that CTE learning activities were aligned with current practices in business, industry, and/or technology.
- Overall, 12 students (86%), ten employers (71%), and 11 supervisors (79%) responded to CTE surveys collecting feedback about their respective CTE internship experiences. Overall, students (100%) and employers (80%) were satisfied or very satisfied with the CTE internship program. Ninety-two percent of students further noted that their internship experience met their expectations and 90 percent of

employers noted that they would participate again in the internship program. However, students and employers were less satisfied with the Oppti platform (67% and 90%, respectively).

- Overall, 91 percent of responding supervisors agreed or strongly agreed that the intern met their expectations. Eight out of 11 respondents (72.7%) noted that they would hire the intern following the internship if a position was open.
- The percentage of graduates who were College, Career or Military Ready is almost back to its pre-pandemic levels in 2018-19 (2020 report), showing a two percentage points decline (59% vs 61%). Overall, a lower percentage of Dallas ISD graduates were college, career, or military ready (59%) than graduates of comparable districts ($\geq 60\%$) in Texas.

Recommendations

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

Continue to work with the IT Department to accurately track CTE participation. Review of PowerSchool enrollment data indicated that CTE students were not accurately identified as such. This is especially true for cases in which students participate in more than one program, such as being an ECHS student taking CTE courses, resulting in the underreporting of CTE students. Tracking student enrollment via a dedicated PowerSchool variable may provide a streamlined solution that benefits the program and increases the accuracy of future data analysis.

Continue to support specialized CTE initiatives including Career Institutes and NAF Academies. Specialized CTE programs provide work-based learning experiences that may otherwise be inaccessible for a large part of Dallas ISD students. While enrollment in the Career Institutes more than doubled from 2020-21 ($n=2,043$) to 2021-22 ($n=4,1521$) enrollment in NAF academies declined by four percent to 7,481 students (2021-22). Given that participation in these programs increases the likelihood that students can earn a living wage after graduating high school, consider allocating additional resources to these areas of the program.

Continue to promote CTE students' completion of educational certificates and industry-based certifications. CTE students earned 9,833 credentials in 2021-22, including 438 educational certificates and 9,395 industry-based certifications. Fifty-eight percent ($n=5,401$) of all industry certifications earned were A-F certifications providing points towards TEA's A to F accountability system. Although the numbers of industry-based certifications more than doubled from 2019-20 to 2020-21 (A-F certifications increased by 221%), the number of educational certificates earned decreased over the same timeframe by six percent. Given the importance of credentials in finding employment, the CTE department should continue to find ways to promote the participation and completion of industry-based certifications or educational certificates.

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APPENDICES



Appendix A: Methodology for Evaluation Questions

EQ1: How were CTE operations in Dallas ISD funded?

Methodology

Budget information for the 2021-22 school year was provided by the Dallas ISD Budget Services Department (for state and local funds) on September 15, 2022, and the Dallas ISD Department of Special Revenue on August 25, 2022.

EQ2: What were the components of the CTE program?

Methodology

Program documentation was provided by CTE program staff members. Board briefings from June 2018 through June 2022 provided additional information regarding Career Institutes. Information about program components were supplemented through informal interviews. Examination of program documents and informal interviews focused on program components including comprehensive CTE career clusters and pathways, NAF academies, Career Institutes, and credentials as well as CTE program support provided to elementary and middle schools.

EQ3: What were the enrollment and demographic characteristics of CTE students?

Methodology

CTE students were identified by extracting student information numbers (IDs) from the Dallas ISD course enrollment file dated September 8, 2022, based on CTE course numbers provided by the CTE department (September 6, 2022). CTE student IDs were merged with the end-of-year demographic file dated June 6, 2022, to identify current enrollment status and demographic information. Frequency analyses were conducted to report CTE enrollment data based on demographic characteristics and grade-level enrollment by CTE programs, and grade-level enrollment by CTE status. In addition, frequency analyses were conducted to report CTE enrollment numbers by campus for NAF academies and Career Institutes. Prior year CTE enrollment numbers were taken from Lorenz (2020).

EQ4: What were the completion rates for CTE courses?

Methodology

CTE course enrollment and completion rates were calculated by merging the End-of-Year CTE program enrollment data and district course file dated September 8, 2022. Courses were defined as complete if a student earned credit for the course. Frequency analyses were conducted to report the completion rates for all CTE courses by (a) career cluster and CTE status and (b) dual-credit course enrollment by campus and CTE status.

EQ5: What were the academic outcomes of CTE students on STAAR EOC exams?

Methodology

Although *STAAR EOC* performance was used to examine the academic knowledge of the CTE participants, it is important to note that participation in CTE courses may not have a direct impact on the core content knowledge of students as measured by the *STAAR EOCs*. Therefore, this information was presented to provide a comprehensive analysis of CTE students' achievements.

Students are grouped into four performance categories based on established *STAAR EOC* scale scores, including: Does Not Meet Grade Level (Does Not Meet), Approaches Grade Level or Above (Approaches+), Meets Grade Level or Above (Meets+), and Masters Grade Level (Masters). *STAAR EOC* assessment data were extracted from the *STAAR EOC* data file dated August 2, 2022, and merged with the end-of-year CTE program enrollment data dated September 8, 2022 and CTE student identifier file dated November 11, 2022 which was provided by TEA via the Dallas ISD PEIMS department. Frequency analyses were conducted to report the percentage of CTE students who attained the Approaches+ and Meets+ performance standards grouped by *STAAR EOC* subtest and CTE status.

EQ6: How many credentials were earned by CTE high school students?

Methodology

CTE students had the opportunity to earn industry-based certifications and educational certificates in their career pathways. CTE department staff provided on November 30, 2022, a comprehensive list of all attempted and earned industry-based certifications while the Postsecondary Success department staff provided a cumulative record of educational Level I or Level II certificates attained by grade 11 and 12 students on November 7, 2022. Industry-based certifications were reported to the CTE department by district teachers while Level I and Level II certificates were reported by the Dallas College. The number of certifications earned were compared overall, by school, and CTE student identifier.

EQ7: How many Dallas ISD CTE seniors received an associate degree?

Methodology

ECHS students had the opportunity to earn an associate degree by the time of their high school graduation. Associate degree plan data for graduating grade 12 ECHS students were provided by the Postsecondary Success Department on November 7, 2022. The associate degree data file was merged with the end-of-year demographic file dated June 6, 2022, and CTE Student Identifier file dated November 11, 2022, to identify graduates who were CTE students in 2021-22. Frequency analyses were conducted to report the percentage of these graduates who earned an associate degree by campus and by associate degree plan. While attainment of an associate degree is not a stated goal of the CTE program, data are presented to provide a comprehensive analysis of CTE students' achievements.

EQ8: What were the college enrollment rates for 2020-21 CTE graduates?

Methodology

To determine the percentage of 2020-21 Dallas ISD graduates who enrolled in college within one year of graduating high school, the 2020-21 CTE student identification file was merged with the Dallas ISD graduation file dated August 23, 2022, and the 2021-22 National Student Clearinghouse (NSC) college enrollment file dated August 9, 2022. College enrollment is not a stated goal of the CTE program. However, data are presented to provide a comprehensive analysis of CTE students' achievements.

EQ9: What were teacher perceptions of the CTE program?

Methodology

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. Survey items ($n=64$) consist of a mix of closed- ($n=49$) and open-ended ($n=15$) questions regarding teacher qualifications, program alignment, facilities, CTE program strength, and CTE program needs. The 2021-22 survey was administered by Evaluation and Assessment (E&A) staff from April 6 through May 6, 2022, using Qualtrics, an online survey-development tool. The evaluator used frequency analyses to calculate responses to closed-ended survey questions, and content analyses for responses to open-ended questions, grouping feedback into general themes.

EQ10: What were perceptions of the CTE Internship program?

Methodology

CTE staff worked with the evaluator to design and host three surveys collecting feedback from student interns, employers, and direct supervisors regarding their internship experiences. The 2021-22 surveys were administered by Evaluation and Assessment (E&A) staff from July 27 (student survey) and August 3, 2022 (employer and supervisor surveys) through September 12, 2022, using Qualtrics, an online survey development tool. The evaluator used frequency analyses to calculate responses to closed-ended survey questions, and content analyses for responses to open-ended questions, grouping feedback into general themes.

EQ11: How did the Dallas ISD perform on CTE related accountability measures?

Methodology

Texas House Bill 22 (HB22) required the TEA to evaluate the academic performance of school districts with an accountability rating of A through F based on three domains: 1) student achievement, 2) school progress, and 3) closing the gaps. College, Career, and Military Readiness Indicators (CCMR) indicators account for 40 percent of the weighted performance of high school campuses, K-12 campuses,

and school districts in the student achievement domain. CCMR indicators include, among others, dual-credit course completion, associate degrees earned, and industry-based certifications earned. Ratings were released for the first time in August 2018 for the 2017-18 school year. The 2022 CCMR ratings were released in August 2022 via the Texas Performance Reporting System (TPRS) reflecting data from the 2020-21 school year.

Appendix B

Appendix B: 2021-22 Career Pathways and Academies by Campus

	Business and Industry							Public Services			STEM		
Career and Technical Education (CTE) Pathways by Career Cluster and Endorsement	Agriculture, Food & Natural Resources	Architecture & Construction	Arts, A/V Technology & Communications	Business, Marketing & Finance	Hospitality & Tourism	Information Technology	Manufacturing	Transportation, Distribution & Logistics	Education	Health Science	Human Services	Law & Public Service	Science, Technology, Engineering & Mathematics
Bryan Adams		*	*	*	*	*						*	*
Adamson		*		*			*	*			*		*
Carter		*		*		*	*	*				*	
City Lab	*	*										*	
Conrad		*		*	*	*	*	*		*			*
Hillcrest		*		*			*	*					*
IDEA				*		*							
Jefferson		*		*	*		*	*				*	*
Kimball		*		*	*		*	*				*	*
Lincoln		*	*	*	*								*
Madison		*		*		*							*
Molina		*	*				*	*				*	*
North Dallas		*		*	*	*	*	*					*
Obama													
Pinkston		*				*	*	*				*	*
Rangel													
Roosevelt		*			*		*	*		*			*
Samuell		*		*		*							*
Seagoville	*		*										
Skyline	*	*	*	*	*	*		*	*		*	*	*
Smith New Tech			*										
South Oak Cliff		*		*		*	*	*					*
Spruce		*		*		*		*					*
Sunset		*		*			*	*				*	*
Townview Business				*		*							
Townview Education									*		*		
Townview Health										*			
Townview Law												*	
Townview SEM													
Townview TAG													*
Washington PVA													
White				*			*	*		*	*		*
Wilmer-Hutchins		*	*	*	*	*		*					
Wilson		*		*									*
Total CTE Pathways	3	21	7	20	9	13	13	16	2	4	4	10	20

Source: CTE Department program document, Fall 2021.

Note: PVA= Performing and Visual Arts, IDEA = Innovation, Design and Entrepreneurship Academy. SEM= Science and Engineering. TAG = Talented and Gifted. * Met by traditional CT, Career Institute, or NAF courses.

Appendix C

Appendix C: 2021-22 CTE Indicator Auto-Coding

Texas CTE Indicator Auto-Coding Codes and Definitions 	
 Not CTE	Code 4 (Not CTE): A student who never enrolled or who did not complete any high-school CTE course as defined by 19 TAC Chapter 126 (C), 127 (B) or 130.
 CTE Participants	Code 5 (CTE Participant): A student completing one or more courses for less than two credits defined by 19 TAC Chapter 126 (C), 127 (B) or 130 (the student does not have to pass or receive credit).
 CTE Explorers	Code E (CTE Explorer): A student completing two or more high school CTE courses for a total of two or more credits defined by 19 TAC Chapter 126 (C), 127 (B) or 130 and not a participant, concentrator or completer (the student does not have to pass or receive credit).
 CTE Explorers*	*Code E (CTE Explorer): A student completing enough program of study courses in a regional program of study to be coded a 6 or 7, but completes the school year in a district and geographic region where the regional program is not approved. The code 6 or 7 is changed to a code E.
 CTE Concentrators	Code 6 (CTE Concentrator): A student completing and passing two or more 19 TAC Chapter 126 (C), 127 (B) or 130 CTE courses for a total of at least two credits within the same program of study and not a completer.
 CTE Completers	Code 7 (CTE Completer): A student completing and passing three or more 19 TAC Chapter 126 (C), 127 (B) or 130 CTE courses for a total of four or more credits within a program of study, including one level three or level four course from within the same program of study.
*Regional programs of study are approved in ESC geographic regions where there is specialized regional labor market demand for specific occupations. Students concentrating (code 6) and/or completing (code 7) a program of study outside of approved geographic ESC regions are assigned a code E (Explorer).	

Source: CTE Program Staff, Fall 2021.

Appendix D

Appendix D: 2021-22 Career Institute Pathways

		9th Grade	10th Grade	11th Grade	12th Grade
 Aviation	COURSES	Introduction to Aerospace and Aviation	Introduction to Unmanned Aerial Vehicles (UAV) Flight and Aviation Ground School	Advanced Aircraft Systems	Practicum in Transportation Systems
	CERTIFICATIONS	OSHA 10	FAA Remote Unmanned Aerial Vehicle Pilot Certification	Southwest Airlines Professional Communications	Student Pilot Certificate
 Construction	COURSES	Principles of Construction	Construction Technology I	Construction Technology II	Practicum in Construction Technology
	CERTIFICATIONS	OSHA 10	Autodesk Certified Professional (ACP) in Autodesk Revit Building Systems	NCCER Core Curriculum	NCCER Carpentry, Level 1
 Interior Design	COURSES	Principles of Architecture	Interior Design I	Interior Design II	Practicum in Architecture
	CERTIFICATIONS	OSHA 10	AAFCS Interior Design Fundamentals	Autodesk Certified User in AutoCAD	Autodesk Certified Professional (ACP) in Autodesk Revit Building Systems
 Plumbing	COURSES	Principles of Construction	Plumbing Technology I	Plumbing Technology II	Practicum in Construction Technology
	CERTIFICATIONS	OSHA 10	Autodesk Certified Professional (ACP) in Autodesk Revit Building Systems	NCCER Core Curriculum	NCCER Plumbing, Level 1
 Electrical	COURSES	Principles of Construction	Electrical Technology I	Electrical Technology II	Practicum in Construction Technology
	CERTIFICATIONS	OSHA 10	Autodesk Certified Professional (ACP) in Autodesk Revit Building Systems	NCCER Core Curriculum	NCCER Electrical, Level 1
 HVAC	COURSES	Principles of Construction	HVAC and Refrigeration Technology I	HVAC and Refrigeration Technology II	Practicum in Construction Technology
	CERTIFICATIONS	OSHA 10	Autodesk Certified Professional (ACP) in Autodesk Revit Building Systems	NCCER Core Curriculum	ACCA (Air Conditioning Contractors of America) Refrigerant Handling (EPA 608)
 Mechatronics	COURSES	Principles of Manufacturing	Manufacturing Engineering Technology I	Manufacturing Engineering Technology II	Practicum in Manufacturing
	CERTIFICATIONS	OSHA 10 Auto CAD	MSSC (Manufacturing Skills Standards Council) Certified Production Technician (CPT)	NIMS (National Institute for Metalworking Skills) Industrial Technology Maintenance and (TIM)- Maintenance Operations	NIMS (National Institute for Metalworking Skills) Industrial Technology Maintenance and (TIM) Process Control Systems
 Cybersecurity	COURSES	Foundations of Cybersecurity	AP Computer Science Principles	Computer Science I or AP Computer Science A	Cybersecurity Capstone
	CERTIFICATIONS	CompTIA IT Fundamentals	Microsoft Technology Associate (MTA) Security Fundamentals	CompTIA Security+	Oracle Certified Associate (OCA), Java SE 8 Programmer
Other courses offered on Campus: Spanish I, Spanish II, Principles of Information Technology, Computer Science I (LOTE Credit) AP Computer Science Principles, General Employability Skills.					

Source: Career Institutes program flyer provided, Fall 2019.

Note: Flyer does not include patient Care Technician and Pharmacy Technician pathways.

Appendix E

Appendix E, Table 1: 2021-22 CTE Student Enrollment by Career Cluster

Career Cluster	Middle School CTE (n=11,382)			High School CTE (n=29,997)				Overall CTE (N=41,379)	
	CTE Participant	CTE Explorer	CTE Concentrator	CTE Participant	CTE Explorer	CTE Concentrator	CTE Completer	Total Enrollment	Enrollment by Cluster
	n	n	n	n	n	n	n	N	%
Business Marketing Finance	620	174	-	1889	4155	4116	931	11,885	28.7
General Elective CTE Courses*	7,115	64	-	1291	1264	694	714	11,142	26.9
Science Technology Engineering Mathematics	3,016	267	3	1025	1918	1803	367	8,399	20.3
Arts A V Technology Communications	1,275	184	-	798	1304	1319	524	5,404	13.1
Information Technology	307	85	3	1038	1704	1437	458	5,032	12.2
Health Science	6	8	-	351	1042	1419	677	3,503	8.5
Human Services	481	12	-	541	879	804	353	3,070	7.4
Law Public Service	41	5	-	374	811	982	561	2,774	6.7
Architecture Construction	12	12	-	398	1051	455	247	2,175	5.3
Hospitality Tourism	-	-	-	335	630	606	377	1,948	4.7
Transportation Distribution Logistics	6	1	-	95	325	209	149	785	1.9
Agriculture Food Natural Resources	-	-	-	185	251	199	64	699	1.7
Manufacturing	-	-	-	83	183	102	26	394	1.0
Education Training	-	-	-	32	42	114	51	239	0.6

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: Column percent does not sum to 100 percent as student could enroll in more than one career cluster. * = General Elective CTE Courses is not a CTE cluster but serves as a holder for CTE courses that can serve more than one cluster. - = no students were enrolled. A V = Audio Video.

Appendix E, Table 2: 2021-22 CTE Course Enrollment by Career Cluster

Career Cluster	Middle School CTE (n=11,382)			High School CTE (n=29,997)				Overall CTE (N=41,379)	
	CTE Participant	CTE Explorer	CTE Concentrator	CTE Participant	CTE Explorer	CTE Concentrator	CTE Completer	Total Enrollment	Enrollment by Cluster
	n	n	n	n	n	n	n	N	%
Business Marketing Finance	620	174	-	2,059	5,114	6,157	1,612	15,736	22.6
General Elective CTE Courses*	7,477	65	-	2,107	1,609	892	871	13,021	18.7
Science Technology Engineering Mathematics	3,495	430	3	1,154	2,339	2,338	633	10,392	14.9
Arts A V Technology Communications	1,276	184	-	815	1,388	1,482	921	6,066	8.7
Information Technology	307	85	3	1,089	1,868	1,718	891	5,961	8.6
Health Science	6	8	-	355	1,128	1,807	1,004	4,308	6.2
Law Public Service	41	5	-	402	909	1,462	914	3,733	5.4
Human Services	481	12	-	576	1,028	971	461	3,529	5.1
Architecture Construction	12	12	-	412	1,106	521	379	2,442	3.5
Hospitality Tourism	-	-	-	337	651	696	429	2,113	3.0
Transportation Distribution Logistics	6	1	-	96	347	240	163	853	1.2
Agriculture Food Natural Resources	-	-	-	186	291	281	92	850	1.2
Manufacturing	-	-	-	83	187	115	26	411	0.6
Education Training	-	-	-	32	42	116	56	246	0.4
Overall	13,721	976	6	9,703	18,007	18,796	8,452	69,661	100.0

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: Column percent does not sum to 100 percent as student could enroll in more than one career cluster. - = no students were enrolled. * = General Elective CTE Courses is not a CTE cluster but serves as a holder for CTE courses that can serve more than one cluster. A V = Audio Video.

Appendix F

Appendix F, Table 1: 2021-22 CTE Course Enrollment and Completion Rates for Middle School Students

Career Cluster	CTE Participant		CTE Explorer		CTE Concentrator		CTE Completer		Total CTE Enrollment	
	N	%	N	%	N	%	N	%	N	%
Transportation Distribution Logistics	6	100.0	1	100.0	-	-	-	-	7	100.0
Law Public Service	41	97.6	5	100.0	-	-	-	-	46	97.8
Business Marketing Finance	620	91.8	174	100.0	-	-	-	-	794	93.6
Health Science	6	100.0	8	87.5	-	-	-	-	14	92.9
General Elective CTE Courses*	7,477	91.5	65	98.5	-	-	-	-	7,542	91.6
Arts A V Technology Communications	1,276	84.2	184	99.5	-	-	-	-	1,460	86.1
Science Technology Engineering Mathematics	3,495	85.4	430	86.3	3	100.0	-	-	3,928	85.5
Information Technology	307	76.2	85	97.6	3	100.0	-	-	395	81.0
Architecture Construction	12	50.0	12	83.3	-	-	-	-	24	66.7
Human Services	481	54.9	12	91.7	-	-	-	-	493	55.8
Agriculture Food Natural Resources	-	-	-	-	-	-	-	-	-	-
Education Training	-	-	-	-	-	-	-	-	-	-
Hospitality Tourism	-	-	-	-	-	-	-	-	-	-
Manufacturing	-	-	-	-	-	-	-	-	-	-
Overall	13,721	87.6	976	93.1	6	100.0	-	-	14,703	88.0

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: N=Enrollment Number %=Completion Percentage. Student could enroll in more than one career cluster. * General Elective CTE Courses is not a CTE cluster but serves as a holder for CTE courses that can serve more than one cluster. - = no students were enrolled. A V = Audio Video.

Appendix F, Table 2: 2021-22 CTE Course Enrollment and Completion Rates for High School Students

Career Cluster	CTE Participant		CTE Explorer		CTE Concentrator		CTE Completer		Total CTE Enrollment	
	N	%	N	%	N	%	N	%	N	%
Education Training	32	96.9	42	78.6	116	98.3	56	100.0	246	95.1
Health Science	355	93.8	1,128	90.9	1,807	96.1	1,004	98.2	4,294	95.0
Architecture Construction	412	92.0	1,106	88.4	521	95.8	379	99.5	2,418	92.3
Science Technology Engineering Mathematics	1,154	92.8	2,339	86.9	2,338	94.5	633	92.9	6,464	91.3
Law Public Service	402	84.8	909	81.1	1,462	95.8	914	95.4	3,687	90.9
General Elective CTE Courses*	2,107	89.3	1,609	88.8	892	92.8	871	96.1	5,479	90.8
Transportation Distribution Logistics	96	90.6	347	84.4	240	91.3	163	100.0	846	90.1
Manufacturing	83	84.3	187	88.2	115	92.2	26	100.0	411	89.3
Hospitality Tourism	337	87.2	651	78.5	696	91.8	429	99.1	2,113	88.5
Agriculture Food Natural Resources	186	83.3	291	78.4	281	97.2	92	100.0	850	88.0
Information Technology	1,089	83.0	1,868	79.4	1,718	94.6	891	94.7	5,566	87.3
Arts A V Technology Communications	815	84.3	1,388	78.2	1,482	92.8	921	93.7	4,606	87.1
Human Services	576	81.1	1,028	80.0	971	93.1	461	97.6	3,036	87.1
Business Marketing Finance	2,059	81.4	5,114	76.3	6,157	93.4	1,612	95.0	14,942	86.1
Overall	9,703	86.3	18,007	81.8	18,796	94.1	8,452	96.0	54,958	89.0

Source: End-of-year demographic file, 06/06/22. CTE course file, 09/06/22. Dallas ISD course file, 09/08/22. CTE Student Identifier, 11/11/22.

Note: N=Enrollment Number %=Completion Percentage. Student could enroll in more than one career cluster. * General Elective CTE Courses is not a CTE cluster but serves as a holder for CTE courses that can serve more than one cluster. A V = Audio Video.

Appendix G

Appendix G: 2021-22 CTE Teacher Perceptions of the CTE Program

Survey Question	Grand Total <i>N</i>	Strongly Disagree <i>n</i>	Disagree <i>n</i>	Agree <i>n</i>	Strongly Agree <i>n</i>	I Don't Know/Not Applicable <i>n</i>	Agree or Strongly Agree %
Methods of Instruction							
Instructional strategies provide the students with skills that will enable them to keep pace with the changing workplace and to have upward mobility in employment opportunities	314	3	7	183	113	8	96.7
An Individual Education Plan (IEP) is available in a timely manner for all Special Education students	314	7	31	160	101	15	87.3
Instructor analyzes, evaluates and makes changes in the curriculum as needed, to address the needs of students	314	2	2	137	170	3	98.7
Workplace Cleanliness							
The facility is arranged, organized, and maintained to ensure a safe and appropriate environment for effective student learning	314	8	30	168	104	4	87.7
The instructional areas are maintained in a clean and orderly fashion	314	4	17	171	118	4	93.2
Tools and/or equipment provided in the instructional areas are comparable to those used in business and/or industry	314	28	54	134	76	22	71.9
All safety protective equipment, including fire extinguishers, are accessible and the proper usage of such equipment is included in the instructional program	314	5	17	87	80	125	88.4
Safety training is provided to students and tests are administered annually and kept on file	314	0	19	74	60	161	87.6
Career Counseling and Preparation							
I am aware of the House Bill 5 endorsements selected by the students enrolled in my classes	314	10	40	155	80	29	82.5
Your Career and Technical Education program provides training for career opportunities available in the community and/or in the region	314	4	17	164	102	27	92.7
Strong partnerships exist with business and postsecondary schools for your Career and Technical Education program	314	8	52	145	77	32	78.7

table continues

Appendix G (continued)

Survey Question	Grand Total <i>N</i>	Strongly Disagree <i>n</i>	Disagree <i>n</i>	Agree <i>n</i>	Strongly Agree <i>n</i>	I Don't Know/ Not Applicable <i>n</i>	Agree or Strongly Agree %
Instructional and Resource Materials							
As a Career and Technical Education teacher, I am involved in the selection and acquisition of current instructional materials and supplies necessary to conduct a quality program of instruction	314	12	28	161	100	13	86.7
Students have adequate use and benefit of an up-to-date reference/technical library, equipment, and career resources	314	18	60	147	82	7	74.6
A variety of instructional materials are available and used to accommodate student differences, such as varying reading levels and learning styles	314	9	37	175	84	9	84.9

Source: 2021-22 CTE Program Survey, 06/16/22

Note: Presented survey questions reflect a sample of questions asked to CTE teachers.

Appendix H

Appendix H, Table 1: 2021-22 Student Perceptions of the CTE Internship Program

Survey Question	Grand Total <i>N</i>	Very Dissatisfied <i>n</i>	Dissatisfied <i>n</i>	Satisfied <i>n</i>	Very Satisfied <i>n</i>	Satisfied or Very Satisfied %
Communication						
Please rate the level of communication that you received from Dallas ISD CTE, related to the Internship Program.	12	0	1	9	2	91.7
Please rate the level of communication that you received from your teacher(s) related to the Dallas ISD Internship Program.	12	0	2	6	4	83.3
Internship Administration						
Please rate your experience with the Dallas ISD online internship application process.	12	0	2	6	4	83.3
Please rate your experience with the internship selection process.	12	0	1	7	4	91.7
Please rate your experience with the internship placement process.	12	0	0	9	3	100.0
Technology- Oppti Platform						
Please rate your satisfaction with the internship' preparation training modules in Oppti.	12	0	4	6	2	66.7
Please rate your satisfaction with the Oppti platform.	12	2	2	4	4	66.7
Overall						
Please rate your satisfaction with the Dallas ISD CTE Internship Program.	12	0	0	6	6	100.0

table continues

Appendix H, Table 1: (continued)

Survey Question	Grand Total <i>N</i>	Strongly Disagree <i>n</i>	Disagree <i>n</i>	Agree <i>n</i>	Strongly Agree <i>n</i>	Agree or Strongly Agree %
Internship Preparation						
Prior to starting your internship, did you understand the purpose and expectations of the internship?	13	0	0	7	6	100.0
Did the pre internship training workshops prepare you for the start of your internship?	12	0	2	8	2	83.3
Internship Experiences						
During your internship, did you feel that you produced valuable work that further the company's goal?	13	0	0	8	5	100.0
Did the internship help build your awareness of the variety of careers offered at the company?	13	0	1	6	6	92.3
Supervisor Feedback						
Did your supervisor conduct himself/herself in a professional manner?	13	0	1	1	11	92.3
Did your supervisor answer your questions during the internship?	13	0	0	3	10	100.0
Did your supervisor seem to benefit from the overall experience?	13	0	0	5	8	100.0
Overall						
Did your internship experience meet your expectations?	13	0	1	3	9	92.3

Source: 2021-22 CTE Internship Student Survey, 09/15/22

Note: Presented survey questions reflect a sample of questions asked to CTE internship students.

Appendix H, Table 2: 2021-22 Employer Perceptions of the CTE Internship Program

Survey Question	Grand Total <i>N</i>	Very Dissatisfied <i>n</i>	Dissatisfied <i>n</i>	Satisfied <i>n</i>	Very Satisfied <i>n</i>	Satisfied or Very Satisfied %
Please rate your overall satisfaction with the Dallas ISD CTE Internship Program.	10	0	2	0	8	80.0
Please rate your satisfaction with the internship selection process.	10	0	0	5	5	100.0
Please rate the level of communication that you received from Dallas ISD CTE, related to the Internship Program.	10	1	0	1	8	90.0
Please rate your satisfaction with the level of students' preparation for the Internship Program.	10	1	1	4	4	80.0
Please rate your satisfaction with the Oppti platform.						
Please rate your satisfaction with the Premier Virtual platform.	9	0	1	6	2	88.9
Please rate your satisfaction with the Internship Fair.	9	0	0	9	0	100.0

Source: 2021-22 CTE Internship Student Survey, 09/15/22

Note: Presented survey questions reflect a sample of questions asked to CTE internship employers.

Appendix H, Table 3: 2021-22 Employer Perceptions of the CTE Students

Survey Question	Grand Total <i>N</i>	Strongly Disagree <i>n</i>	Disagree <i>n</i>	Agree <i>n</i>	Strongly Agree <i>n</i>	Agree or Strongly Agree %
Critical Thinking & Problem Solving						
Did the intern apply academic knowledge and skills to the work setting?	11	0	1	3	7	90.9
Did the intern apply critical thinking to solve problems?	11	0	1	4	6	90.9
Was the intern able to distinguishes important from unimportant task?	11	1	1	3	6	81.8
Manage Time & Priorities						
Did the intern demonstrate the ability to handle multiple tasks	11	0	1	3	7	90.9
Did the work produced by the intern met your expectations?	11	1	0	2	8	90.9
Did the intern demonstrates good planning and follow through skills?	11	0	1	3	7	90.9
Was the intern able to discern priorities?	11	0	1	4	6	90.9
Communication						
Oral Communication - Did the intern demonstrate the ability to communicate effectively?	11	1	1	3	6	81.8
Written Communication - Did the intern demonstrate the ability to express thoughts effectively in written word?	10	0	1	4	5	90.0
Professional Appearance and Behaviors						
Did the intern demonstrate a professional appearance during the internship?	11	0	0	5	6	100.0
Was the intern on time to work?	11	0	0	3	8	100.0
Did the intern use technology appropriately?	11	0	0	3	8	100.0
Did the intern focus on the work task?	11	0	1	4	6	90.9
Did the intern's behaviors align with the worksite?	10	0	0	4	6	100.0
Did the intern understands the culture, etiquette, and practices of the workplace?	10	0	1	4	5	90.0

table continues

Appendix H, Table 3: (continued)

Survey Question	Grand Total <i>N</i>	Strongly Disagree <i>n</i>	Disagree <i>n</i>	Agree <i>n</i>	Strongly Agree <i>n</i>	Agree or Strongly Agree %
Quality of work						
Did the intern demonstrate attention to detail?	11	1	0	4	6	90.9
Did the intern exhibit organizational skills?	11	0	2	3	6	81.8
Can the intern work independently?	11	0	2	2	7	81.8
Did the intern provide good deliverables?	11	0	0	5	6	100.0
Takes Initiative						
Did the intern take initiative to seek out tasks?	10	0	2	3	5	80.0
While completing tasks, did the intern demonstrate flexibility and adaptability?	11	0	0	6	5	100.0
Did the intern seek to learn new skills?	10	0	0	3	7	100.0
Team Player						
Did the intern contribute to the team?	11	0	0	5	6	100.0
Did the intern share possible ideas or made suggestions?	11	0	1	3	7	90.9
Was the intern prepared for meetings?	10	0	1	2	7	90.0
Overall						
At the end of the internships, did the intern meet your expectations?	11	1	0	4	6	90.9

Source: 2021-22 CTE Internship Student Survey, 09/15/22

Note: Presented survey questions reflect a sample of questions asked to CTE internship employers.