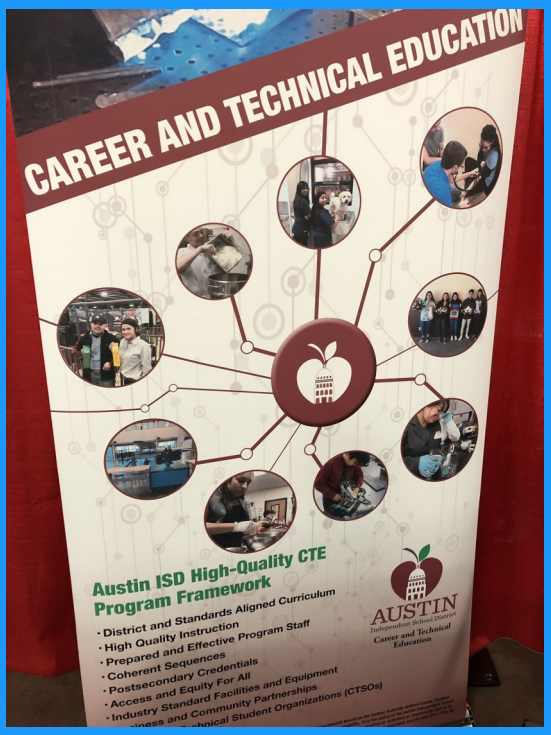
July 2021
Publication 19.59

Career and Technical Education

Program Analysis Scorecard Report, 2019-2020



Department of
Research and Evaluation
AUSTIN INDEPENDENT SCHOOL DISTRICT

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Publication 19.59
July 2021

Department of Research and Evaluation
Austin Independent School District

Career and Technical Education Program Analysis Scorecard Report

2019–2020

Career and Technical Education (CTE) at Austin Independent School District (AISD) aims to provide scholars with academic knowledge and technical skills needed to gain entry to high-demand, high-skill, and high-wage industries. CTE offers work-based learning experiences that combine hands-on learning with real-world scenarios so scholars are prepared to enter the workforce or college after they graduate high school.

This report summarizes results of the CTE Program Analysis Scorecard for the 2019–2020 school year. The CTE Program Analysis Scorecard results focus on three components of program outcomes: (a) program alignment, (b) quality of instruction, and (c) access and equity. Program outcomes provide information about program effectiveness and help to facilitate decisions about program implementation and improvement.

Evaluation Questions

To measure and address program outcomes, AISD Department of Research and Evaluation (DRE) staff collected and analyzed quantitative and qualitative data from AISD information systems, CTE instructors, and scholars (Appendix A). The program evaluation addresses questions in three focus areas as part of the CTE 5-Year Plan (5YP, Appendix B):

Program Alignment: Was the CTE Program implementation aligned with industry and postsecondary standards that prepared scholars for college and careers?

Quality of Instruction: Did the CTE Program provide teachers with the resources and professional learning opportunities needed to provide high-quality work-based instruction?

Access and Equity: Did the CTE Program provide scholars with access to a coherent sequence of courses that met scholars' pathway aspirations?

Program Alignment

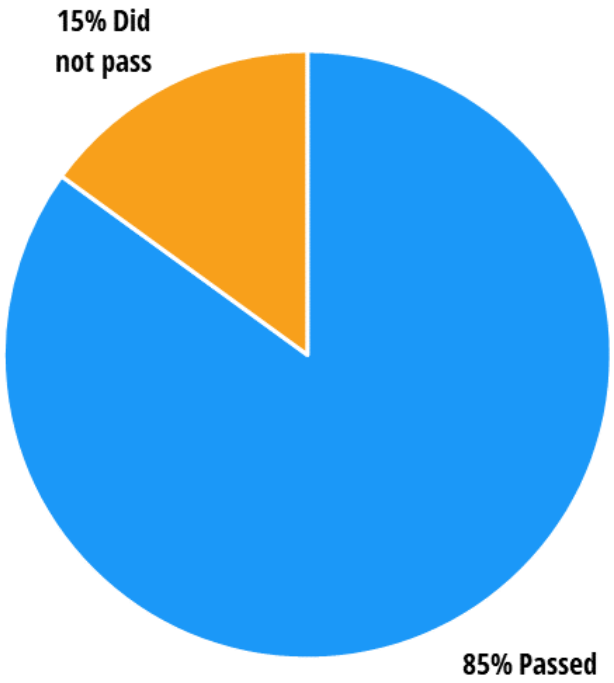
Was the CTE Program implementation aligned with industry and postsecondary standards that prepared scholars for college and career?

Results indicated that implementation aligned industry and postsecondary standards through courses and programs of study that prepared scholars to earn postsecondary credentials. At least one industry certification was earned by 2,533 scholars and at least one dual credit was earned by 2,974 scholars. Recognized by industry and postsecondary education institutions, postsecondary credentials, including industry certifications and postsecondary dual credits, provide evidence of program alignment to industry and postsecondary standards.

Industry Certifications

The passing rate for certification exams was higher in 2019-2020 (85%) compared with the previous year in 2018-2019 (77%). Certification exams were taken (n = 2,895) and passed (n = 2,458) by 2,533 scholars (Figure 1).

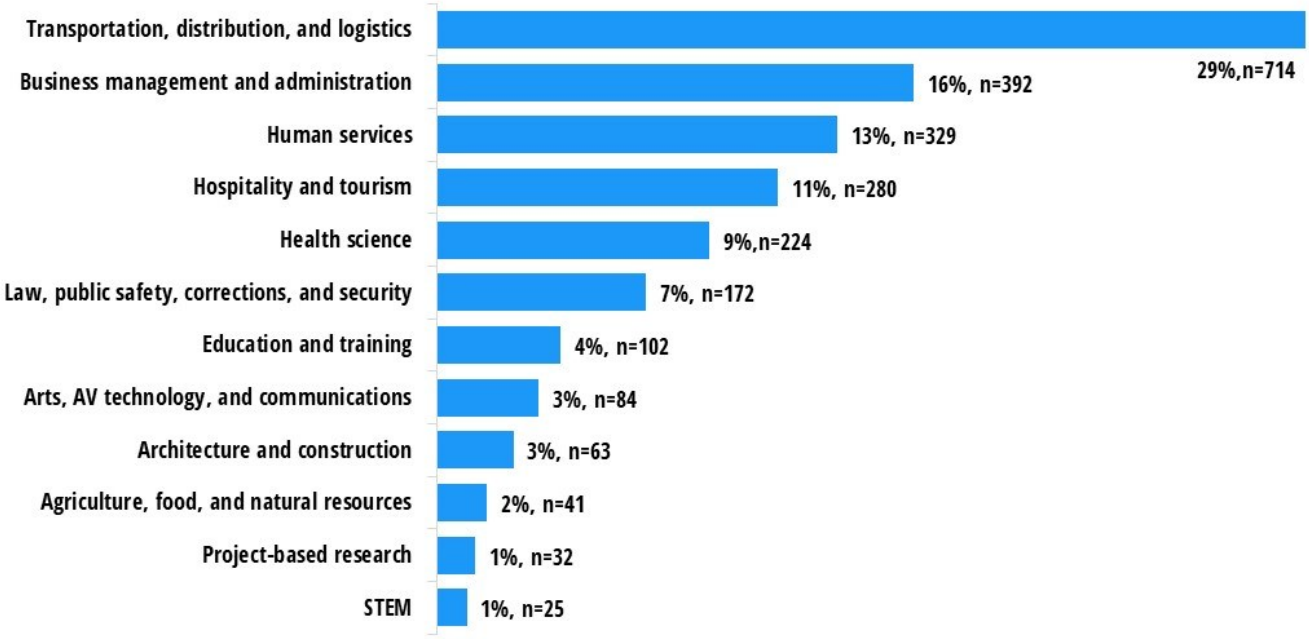
Figure 1
Of the 2,895 exams taken, 2,458 certification exams (85%) were passed.



Source. AISD student enrollment records, 2019-2020
Note. Total number of certifications earned was 2,458.

The transportation, logistics, and distribution career cluster had the greatest number of scholars who earned at least one certification (n = 714), and science, technology, engineering, and mathematics (STEM) had the least (n = 25). The numbers and percentages of scholars who earned certifications in each CTE career cluster are illustrated in Figure 2.

Figure 2
The transportation, distribution, and logistics cluster (29%, n = 714) had the highest percentage of CTE scholars who earned certifications.



Source. AISD student enrollment records, 2019-2020
Note. Total number of certifications earned was 2,458.

Certification Challenges

Certification examinations involved unique challenges in 2019–2020. Chromebooks distributed to CTE scholars in the spring semester supported continuous learning, but the ability to take the certification exams was limited. Chromebook web browsers were not compatible with testing (e.g., technology requirements, testing requirements) for some certification exams. Due to various complications associated with COVID-19, the number of certifications and dual credits earned were lower than in previous years.

Certification Trends

The percentage of exams passed continuously increased from 2018 to 2020 (Table 1).

Table 1
Certification exam passing rate was about 10 percentage points higher in 2019-2020 than in 2017-2018.

Year	Passed	Pass rate
2017–2018	2,792	76%
2018–2019	3,574	77%
2019–2020	2,458	85%

Source. AISD records, 2017-2020

Industry-Based Certification

School districts earned points on college, career, and military readiness (CCMR) for state accountability, based on a specified list of components (Appendix C). One CCMR component was the number of scholars who earn industry-based certifications (IBC) approved by the Texas Education Agency (TEA, 2021).

In 2018–2019, there were 77 IBCs on the TEA-approved list; by 2019–2020, the number of IBCs on the list had increased to more than 200. Appendix D provides TEA-approved IBC information for 2019–2022. The number of IBCs on the TEA-approved list made a difference in AISD. For comparison, 104 IBC and 3,470 industry exams were passed during 2018–2019 while 595 IBC and 1,864 industry exams were passed during 2019–2020. IBCs made up about a quarter (24%) of exams passed in 2019–2020, compared with only 3% in 2018–2019.

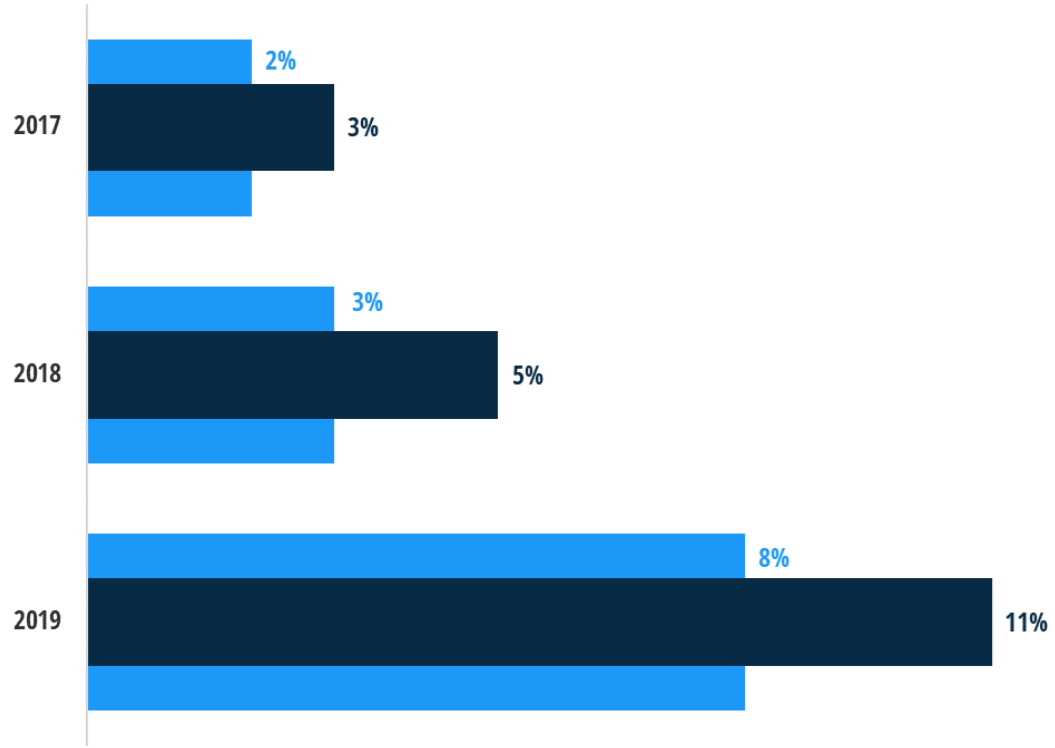
District and State Comparison

The Texas Academic Performance Report (TAPR) and the state accountability system included only IBC from the commissioner approved list; therefore, AISD and state comparisons were based only on earned IBC. The percentage of graduates who earned IBC increased each year though the district rate was below the state.

The percentage of AISD graduates who earned IBC in 2019 (8%) was higher than 2018 (3%). Similarly, the percentage of AISD graduates who earned IBC in 2019 (11%) was higher than 2018 (5%) (Figure 3). At the campus level, the highest percentages of graduates who earned an IBC were from LBJ (18%), Akins (15%), Navarro (13%), and Austin (12%) in 2019 (Figure 4).

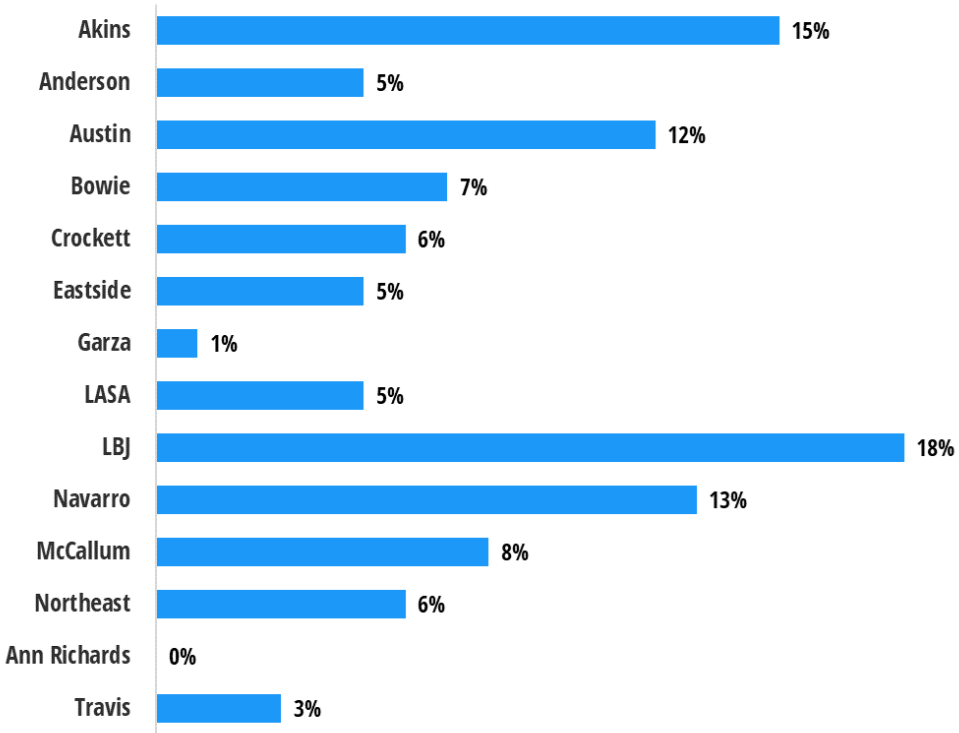
Why was the district below the state? One reason may be due to the approved IBC list which increased significantly between the graduating classes of 2018 and 2019. As a result, most high schools posted gains in IBC earnings for 2019 because program certifications that were well-established in AISD were new additions to the commissioner's list. Some certifications that give scholars a leg up to be life ready were not recognized on the TEA commissioner's approved list. Scholars had an opportunity to take and pass the Occupational Safety and Health Administration (OSHA) and Cardiopulmonary Resuscitation (CPR) exams which are missing from the commissioner's list. IBCs in programs of study that prepare scholars with expertise using specific technologies necessary for employment in automotive and collision in Austin are likewise missing from the commissioner's list. AISD CTE programs closely align to industry for cutting edge technology and training consistent with industry and community need.

Figure 3
The percentage of graduates who earned an IBC increased each year for the District and State.



Source. Texas Academic Performance Reports (TAPR), 2019 and 2020
Note. Includes only Industry-Based Certifications from the Commissioner's approved list.

Figure 4
LBJ (18%) and Akins (15%) earned the highest percentages of IBC among Class of 2019 graduates.



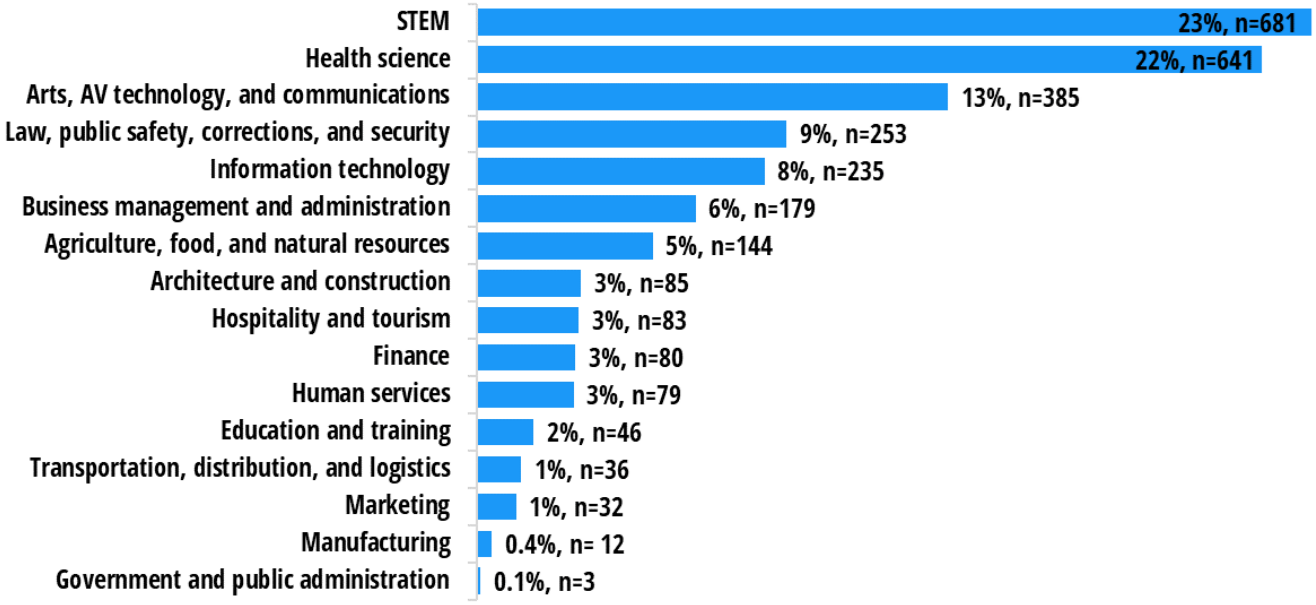
Source. Texas Academic Performance Reports (TAPR), 2019 and 2020
Note. Includes only Industry-Based Certifications from the Commissioner's approved list.

Dual Credit

All career clusters had scholars who earned at least one dual credit. High school scholars enrolled in dual-credit courses to earn academic credits recognized by postsecondary institutions. **Among the 3,396 scholars who earned dual credits in the district, 2,974 (66%) were in CTE career clusters.**

STEM (n = 681) and health science (n = 641) had the greatest numbers of scholars who earned dual credits. Government and public service (n = 3) and manufacturing (n = 12) had the least (Figure 5). The numbers and percentages of CTE scholars who earned dual credit in each career cluster are provided in Figure 5. Career clusters with higher enrollment rates also had higher numbers of scholars who earned dual credits.

Figure 5
STEM (23%) and health science (22%) had the highest percentages of CTE scholars who earned dual credits.



Source. AISD records, 2019–2020
Note. There were 2,974 CTE scholars who earned dual credit. Results were based on data available in September 2019. Dual-credit earnings were impacted by COVID-19.

Quality of Instruction

Did the CTE Program provide teachers with the resources and professional learning opportunities needed to provide high-quality work-based instruction?

High-quality work-based instruction uses innovative, industry-standard resources, curriculum, training, and instruction to provide relevant experiences that prepare all scholars for postsecondary success. During 2019–2020, CTE continued to focus on quality of instruction consistent with the CTE 5YP and elements of the Association for Career and Technical Education's (ACTE) high-quality CTE programs framework (Imperatore & Hyslop, 2014). Elements of the ACTE high-quality CTE programs framework are shown in Figure 6.

Figure 6
Twelve Elements of High-Quality CTE Programs

Source. ACTE

High-Quality CTE Programs

To bring clarity to the burgeoning conversation about high-quality CTE programs and to support CTE administrators and educators in developing and improving CTE programs of study, the ACTE created an evidence-based framework defining high-quality CTE across 12 elements (Figure 6).

CTE at AISD adopted the ACTE framework and worked to elevate all CTE programs to meet all high-quality standards.

Areas of focus in the CTE 5YP and annual program evaluation report (program alignment, quality of instruction, and access and equity) were consistent with the ACTE's high-quality elements.

Specifically, AISD program alignment corresponded to the ACTE's standards-aligned and integrated curriculum and sequencing and articulation, quality of instruction related to ACTE-prepared and effective program staff and engaging instruction, and access and equity applied to ACTE access and equity.

The ACTE framework was used to organize, categorize, and inform program improvement and development of CTE programs.

Click to learn more about ACTE High-Quality CTE programs.

Professional Pathways for Teachers (PPfT)

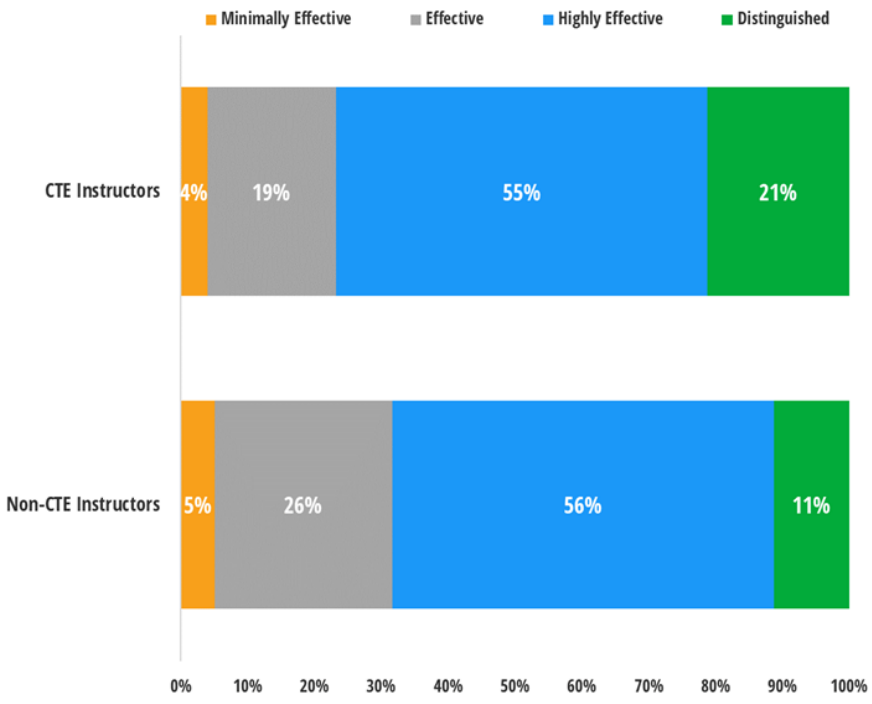
The ACTE high-quality CTE programs framework was used to inform this annual program evaluation report. ACTE framework elements of prepared and effective program staff and engaging instruction and AISD PPfT appraisal components were consistent. To address the question of high-quality work-based instruction provided by the CTE Program, 2018-2019 PPfT results are summarized for quality of instruction program outcomes.

CTE courses and programs reside primarily at the high school level to teach and train scholars in the academic and technical knowledge and skills needed to pursue postsecondary credentials, certifications, and employment in specialized career fields. More CTE instructors taught at high schools (193 instructors) than middle schools (78 instructors), and 21 CTE instructors taught at other schools. Non-CTE instructors taught at high schools (1,108 instructors), middle schools (943 instructors), and other schools (71 instructors). It is expected that more CTE instructors teach at high school campuses.

CTE instructors had significantly higher average summative scores (335.95) than did non-CTE instructors (327.62), and the difference was significant at p < .001 on PPfT performance appraisals. PPfT performance appraisal scores helped to describe quality of instruction. Comparisons between CTE and non-CTE instructors were examined in the context of PPfT's and CTE's overlapping goals of quality instruction and professional learning opportunities.

Twice as many CTE instructors (21%) as non-CTE instructors (11%) earned a distinguished rating on their teaching performance evaluation. Highly effective ratings were comparable between CTE and non-CTE instructors. Effective and minimally effective ratings were lower for CTE instructors, while higher percentages of non-CTE instructors received effective and minimally effective ratings. **Overall, 76% of CTE instructors earned the highest ratings of highly effective (55%) and distinguished (21%) (Figure 7).**

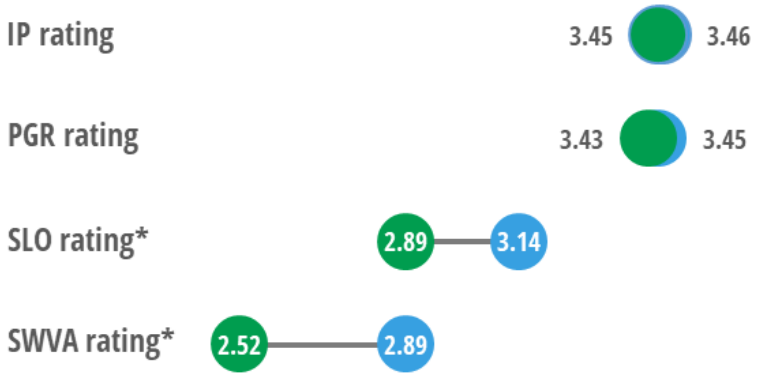
Figure 7
Twice as many distinguished ratings were earned by CTE instructors (21%) compared with non-CTE instructors (11%).



Source. AISD employee effectiveness records, 2018–2019
Note. p < .001. Less than 1% of both CTE and non-CTE instructors received an ineffective or incomplete rating.

CTE instructors had higher scores on scholar growth measures of SLOs and SWVA than did non-CTE instructors. CTE and non-CTE instructors had similar scores on IP and PGR scores (Figure 8).

Figure 8
CTE instructors scored significantly higher on SLO and SWVA components than did non-CTE instructors.



Source. AISD employee effectiveness records, 2018–2019
Note. p < .001. Less than 1% of both CTE and non-CTE instructors received an ineffective or incomplete rating.

Overall, CTE instructors' higher summative scores, distinguished ratings, and SLO and SWVA component scores served as evidence of quality instruction. Based on the ACTE high-quality framework, along with CTE program resources and professional learning opportunities, CTE instructors provided high-quality work-based instruction.

Professional Pathways for Teaching (PPfT)

Professional Pathways for Teaching (PPfT) is designed to empower teachers, guide development, and provide compensation for professionalism and quality of instruction.

PPfT's multi-step appraisal system includes instructional practice (IP), professional growth and responsibilities (PGR), and scholar growth components.

The scholar growth component includes student learning outcome (SLO) and school-wide value-added (SWVA) measures.

PPfT component scores are combined to create an individual teacher's summative score and rating level.

In addition to annual teacher appraisals, PPfT offers opportunities to engage in professional learning opportunities ACTE access and equity.

Click to learn more about AISD PPfT.

Access and Equity

Did the CTE program provide scholars with access to a coherent sequence of courses that met scholars' pathway aspirations?

Scholar enrollment for each career cluster and background characteristic helped to describe accessibility to coherent sequences of courses for scholars to pursue their career interests. Counts by cluster and by scholar group are presented in Table 2. Demographic characteristics (Table 2); career cluster enrollment (Figure 9); and career cluster enrollment by scholars with economic disadvantage (Figure 10), emergent bilingual (Figure 11), and special education status (Figure 12) are also provided.

There were 18,096 scholars taking courses in CTE career clusters. Among those scholars, 51% were CTE concentrators. Demographic characteristics for CTE scholars were comparable to demographics in the overall district for major ethnic/racial and special groups (Table 2). Apart from economic disadvantage and emergent bilingual, all other groups are represented similarly in the district and the CTE Program.

Demographic Characteristics

Table 2
CTE Program participants' characteristics reflected those of the overall district population.

	CTE grades 9-12	District grades pK-12
Gender		
Male	54%	.
Female	46%	.
Race/ethnicity		
Hispanic	56%	55%
White	28%	30%
African American	7%	7%
Asian	5%	.
Two or more races	3%	.
Special populations		
Economic disadvantage	49%	49%
Emergent bilingual	17%	28%
Special education	10%	13%
CTE		
Concentrator	51%	
Course taker	49%	

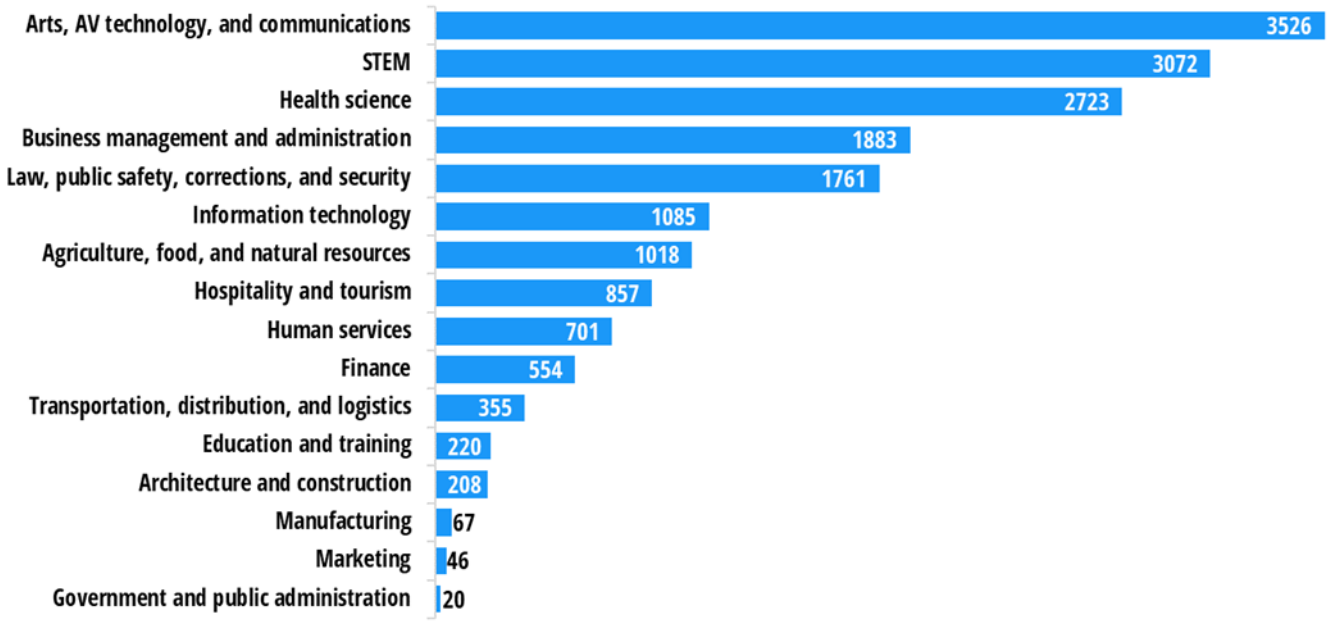
Source. AISD records, 2019–2020; AISD fact book, 2019–2020
Note. For CTE scholars in grades 9–12, n = 18,096. District comparison percentages included all grade levels: 55% Hispanic, 30% White, 7% African American, 53% economically disadvantaged, 28% emergent bilingual, 13% special education.

Career Clusters

Among the 21,914 scholars in grades 9 through 12, 18,096 scholars (85%) enrolled in CTE career clusters (Figure 9). Cluster enrollment for 2019–2020 informed the size and scope of CTE through the number of scholars pursuing specialized programs of study in each cluster. Clusters with the highest numbers of scholars enrolled included Arts, AV technology, and communications (n = 3,526), STEM (n = 3,072), and health science (n = 2,723). Clusters with the lowest numbers of scholars enrolled included manufacturing (n = 67), marketing (n = 46), and government and public administration (n = 20).

The largest and smallest programs in terms of scholar enrollment at the district are comparable to CTE programs nationwide. Consistent with the federal requirements for the Strengthening CTE for the 21st Century Act (Perkins V), changes to career clusters were set to go into effect for the 2020–2021 school year. Planned changes will help to address small programs by combining clusters. For instance, marketing and finance clusters will join business management and administration, and government will join law and public safety (TEA, 2019).

Figure 9
Arts, AV technology, and communications (n = 3,526) had the highest number of scholars enrolled.



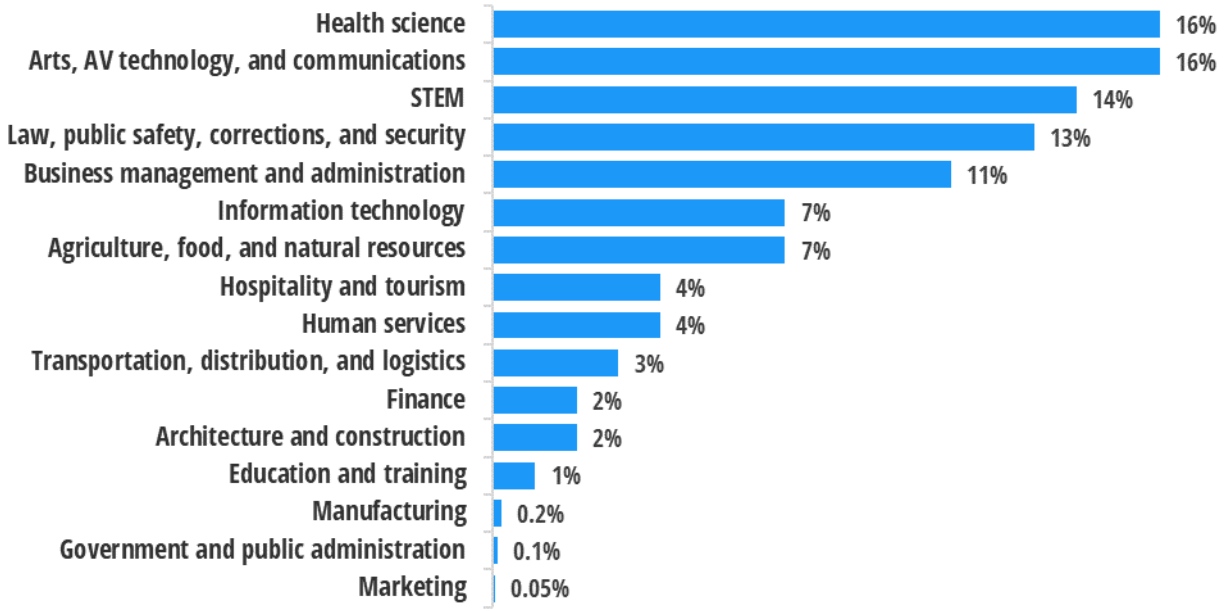
Source. AISD enrollment records, 2019-2020
Note. Total number of scholars enrolled in CTE clusters was 18,096.

Economic Disadvantage

Among CTE scholars, 8,799 (49%) were economically disadvantaged (see demographic characteristics described in Table 2). This percentage was slightly lower than the percentage for the overall district composition (53%), which included 42,507 economically disadvantaged scholars in prekindergarten through grade 12 (Office of Innovation and Development, 2019). The percentages of CTE scholars who were economically disadvantaged in each cluster provides information about program accessibility and enrollment (Figure 10).

The health science and arts, AV technology, and communications clusters had the highest percentages of CTE scholars who were economically disadvantaged, compared with other clusters, which suggests the **CTE Program is promoting and supporting participation of underrepresented student groups on in-demand, high-skill, and high-wage career tracks**. The marketing (.05%) and government and public administration (.1%) career clusters had the lowest percentages (Figure 10). **Results indicate the CTE Program is on track with aligning CTE programs of study to labor market needs, based on Perkins requirements.**

Figure 10
The health science and arts, AV technology, and communications clusters had the highest percentages of CTE scholars who were economically disadvantaged, compared with other clusters.



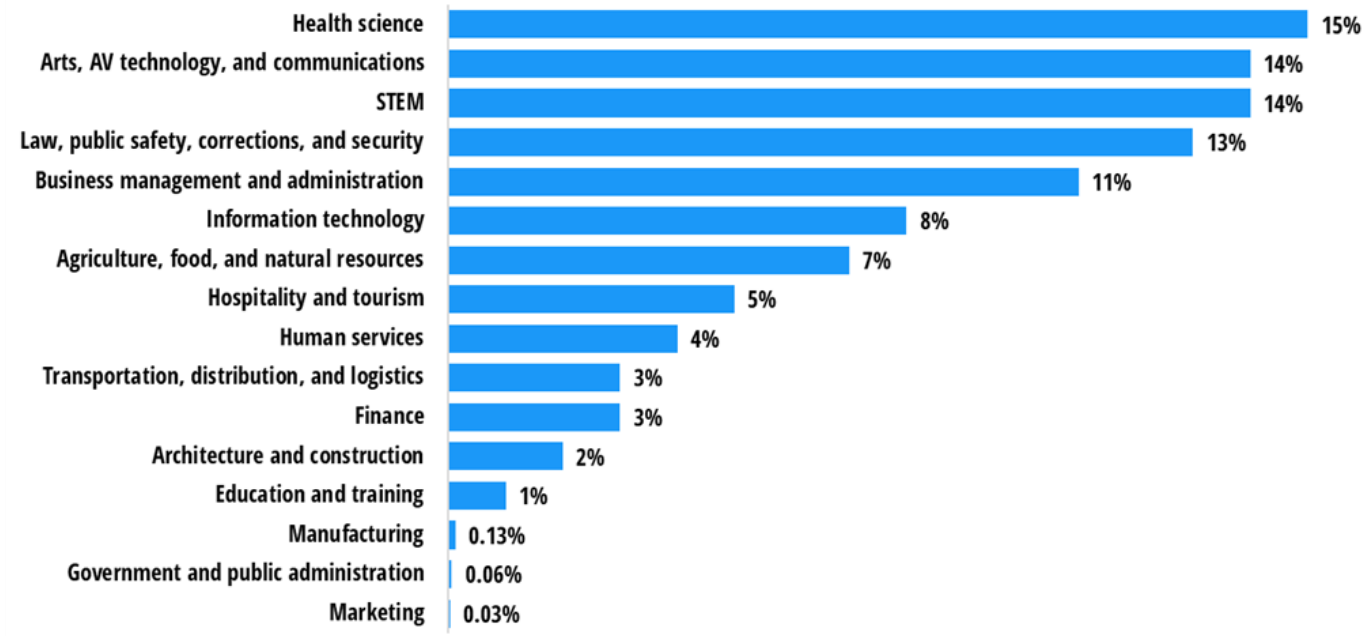
Source. AISD student enrollment records, 2019-2020
Note. Total number of scholars enrolled in CTE clusters was 18,096.

Emergent Bilingual

Among CTE scholars, 3,143 (17%) were emergent bilingual. This percentage was slightly lower than the overall total district composition (28%), which included 22,734 scholars in prekindergarten through grade 12 (Office of Innovation and Development, 2019; see demographic characteristics described in Table 2). The percentage of CTE scholars who were emergent bilingual in each cluster provides information about program accessibility and enrollment (Figure 11).

Health science (15%), arts, AV technology, and communications (14%), as well as STEM (14%) had the highest percentages of scholars who were emergent bilingual, compared with the other clusters. Marketing (.03%), government and public administration (.06%), and manufacturing (.13%) had the lowest percentages.

Figure 11
Health science had the highest percentage (15%) of CTE scholars who were emergent bilingual.



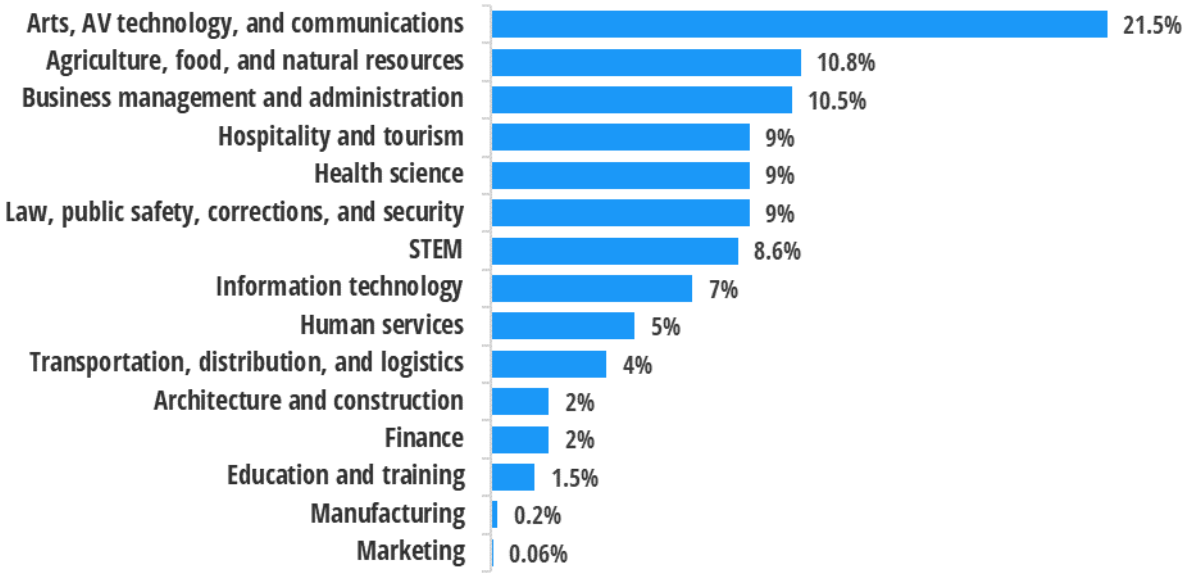
Source. AISD student enrollment records, 2019-2020
Note. Total number of scholars enrolled in CTE clusters was 18,096.

Special Education

Among CTE scholars, 1,784 (10%) received special education services. This percentage is slightly lower than the percentage for the overall district composition (13%), which included 10,459 scholars in prekindergarten through grade 12 receiving special education services (Office of Innovation and Development, 2019; see demographic characteristics described in Table 2). The percentage of CTE scholars who received special education services in each cluster provides information about program accessibility and enrollment (Figure 12).

Arts, AV technology, and communications (21.5%) had the highest percentage of scholars who received special education services, compared with the other clusters. Marketing (0.06%) and manufacturing (0.2%) had the lowest percentages.

Figure 12
Arts, AV technology, and communications had the highest percentage (21.5%) of CTE scholars who received special education services.



Source. AISD student enrollment records, 2019-2020
Note. Total number of scholars enrolled in CTE clusters was 18,096.

Cluster Enrollment, by Student Group

To summarize the availability and accessibility to sequences of courses that met scholar program of study aspirations, the number of scholars enrolled in clusters for each scholar group is listed in Table 3.

Table 3
CTE Enrollment in Career Clusters, by Scholar Group, Converted to Percentages

Cluster	%	Count	Economic disadvantage	Emergent bilingual	Special education
Agriculture, food, and natural resources	6%	1,018	594	238	192
Architecture and construction	1%	208	161	79	32
Arts, AV technology, and communications	19%	3,526	1,394	429	383
Business management and administration	10%	1,883	968	474	187
Education and training	1%	220	123	30	26
Finance	3%	554	176	65	34
Government and public administration	0%	20	12	*	*
Health science	15%	2,723	1,406	448	163
Hospitality and tourism	5%	857	385	137	162
Human services	4%	701	322	99	90
Information technology	6%	1,085	616	232	122
Law, public safety, corrections, and security	10%	1,761	1,130	397	167
Manufacturing	0%	67	14	*	*
Marketing	0%	46	5	*	*
STEM	17%	3,072	1208	362	153
Transportation, distribution, and logistics	2%	355	285	146	68
Total (all)	100%	18,096	8,799	3,143	1,784

Source. AISD records, 2019-2020
Note. * represents less than 5 students

Programs of Study

CTE pathways were termed CTE programs of study in 2019-2020. Within each career cluster, programs of study provided organized sequences of courses in specialized fields. There were 31 unique programs of study in 2019–2020. CTE programs, staff, and scholars were located in 34 campuses, including 14 high schools, 16 middle schools, and four other schools. Each career cluster includes specific programs of study. Thus, the CTE program provided scholars with access to coherent sequences of courses via programs of study in career clusters across the district.

Enrollment and Funding Trends

An additional request to include enrollment and funding trends in the 2019-2020 CTE Program evaluation was made by CTE staff. Program enrollment, calculated by numbers of scholars enrolled in courses, concentrations, and clusters across 3 years, helps to inform the size and scope of the CTE Program over time (Table 4). In 2019-2020, district and high school enrollment decreased slightly while CTE enrollment increased. Along with the implementation of Programs of Study and development of four-year plans in 2019-2020, the CTE Program expanded to include Computer Science. Additional students from Computer Science may have contributed to the increase in CTE enrollment.

Table 4
Enrollment Across 3 School Years

Student Group	2017-2018	2018-2019	2019-2020
Grades 9-12	22,732	22,640	22,591
CTE course takers	14,126	14,772	17,457
CTE concentrators	7,501	8,429	8,460
CTE clusters	16,801	19,617	18,096

Source. AISD records, 2017-2020

New requirements for funding went into effect in 2019-2020. The CTE Program completed a Comprehensive Local Needs Assessment (CLNA) application along with the annual Perkins application to receive Perkins funding. The CLNA involved reviewing data across seven cohorts of CTE students, meeting with industry advisors, and collecting feedback from stakeholders at all levels (TEA, 2019).

AISD CTE received outstanding feedback from TEA regarding their CLNA application based on overall thoroughness with detailed analyses, descriptive information, and applicable examples. TEA requested to use the district's CLNA materials as an example for other districts.

Funding received by Perkins was based on CLNA and Perkins criteria to help meet the growing demand for developing high-quality CTE programs including outcomes-based comprehensive programs of study and opportunities for scholars. Spending for CTE which includes staffing and expenses for program expenditures is outlined to describe expenditures across three years (Table 5).

Table 5
Expenditure Amounts Across 3 School Years

Year	Local Expenditures
2017-2018	$15,850,417
2018-2019	$13,106,060
2019-2020	$15,408,309

Source. AISD records, 2017-2020

Conclusions and Recommendations

This report summarizes program data for the 2019–2020 CTE Program Analysis Scorecard Annual Report. Consistent with goals in the CTE 5YP, the CTE Program development and implementation focused on program alignment, quality of instruction, and equity and access; indicators in the focus areas were evaluated and described for year 2 of the 5YP. The ACTE high-quality CTE programs framework was used to inform this annual program evaluation report. Overall, as evidenced by descriptive results in the annual program evaluation, program outcomes reflected high quality.

Scholar certification and dual-credit earnings helped to measure program alignment. Although the number of certifications earned was lower in 2019–2020, challenges associated with COVID-19 limited the number and type of exams that could be taken. Despite the challenges with COVID-19, the percentage of certification exams passed increased, with passing rates at 85% in 2019–2020, compared with 77% in 2018–2019 and 76% in 2017–2018, This indicated CTE scholars were prepared and ready to take and pass certification exams.

PPfT helped to determine the quality of instruction in CTE. Ratings were positive, as 76% of CTE instructors earned distinguished or highly effective ratings. Based on CTE instructors' and scholars' survey results, CTE provided information about pathways and courses accessible for enrollment so that scholars were able to learn, specialize, and complete requirements in a career pathway. Generally, instructors believed their scholars were informed about their options, and scholars believed interesting courses were available to them in their CTE programs.

Disaggregating scholar enrollment demographics in the career clusters helped to gauge equitable access to the CTE programs offered throughout the district. The demographic characteristics of CTE scholar enrollment varied across clusters. Compared with previous years, scholars with an emergent bilingual status, special education status, or those identified as economically disadvantaged had lower rates of enrollment. In 2019–2020, the health science and the arts, AV, and communications clusters had the highest rates of enrollment for these student groups, which indicates the CTE Program has been promoting and supporting participation of underrepresented student groups on in-demand, high-skill, and high-wage career tracks.

Across the board, CTE showed consistency and growth in focus areas. Overall, data presented in this report indicated that the CTE Program is making progress with respect to its 5YP and state and federal program requirements within the Strengthening CTE for the 21st Century Act (Perkins V). The CTE 5YP highlights steps to fulfill the CTE vision for all AISD CTE scholars to graduate high school ready for college, career, and life, from high-quality, standards-based, industry-aligned programs of study that provide work experience, academic knowledge, technical and professional skills, leadership development, and postsecondary credentials.

Recommendations include continuing to ask questions and have dialogues about comparisons and areas of improvement to get a better understanding of how to continue development, improvement, and implementation. Specifically, more data digs are needed, as well as investigation into ways to exceed the state in earned IBCs. Actionable steps should be planned, designed, and implemented to work more closely with partners and strengthen coherent sequences for CTE courses. Finally, preparation should be continued for proposed programs of study going into effect for the 2020–2021 school year.

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July 2021

Publication 19.59

Appendix A

Evaluation Methodology

AISD DRE staff collected and analyzed quantitative and qualitative data from AISD information systems, CTE instructors, and scholars.

Data Collection

To provide data with which CTE Program staff could measure progress toward its goals and 5YP, quantitative and qualitative data were collected. To address evaluation questions, a variety of measurements were used, including postsecondary credential by cluster, PPfT appraisal, and cluster enrollment In each of the three focus areas (i.e., program alignment, quality of instruction, and access and equity) relevant data were analyzed to inform the evaluation question for the focus area. Analyses were conducted using various forms of data.

Staff used district information systems to obtain demographic information, course enrollment, dual credit, certification, and tests. To describe program enrollment, AISD information systems provided information for the 2019–2020 school year for each career cluster and background characteristic. To measure access and equity, AISD information systems supplied scholars' background characteristics and enrollment information from the 2019–2020 school year.

To describe quality of instruction, DRE staff analyzed performance evaluation scores. Performance evaluation for teachers (i.e., PPfT) included scores in the areas of IP, PGR, SLO, and SWVA. The participants included 300 CTE teachers from PPfT the 2018–2019 school year. Because performance evaluation data are collected throughout the school year on an annual basis, data from the 2019–2020 school year will not be available until 2020–2021. This report used data collected from PPfT evaluations for the 2018–2019 school year.

CTE instructors submitted responses to self-assessment items about their experiences with the CTE Program. Additionally, CTE instructors completed surveys evaluating their professional development activities and needs. They also provided data regarding scholars' participation in industry certification exams.

CTE scholars completed surveys sharing their experiences and perceptions of their CTE courses. DRE staff worked with the CTE Program staff to develop and add items to CTE surveys to measure whether CTE programs were meeting scholars' career and college aspirations. Specifically, CTE surveys, such as the AISD CTE Teacher Survey and AISD CTE Scholar Survey, provided administrators', teachers', and scholars' perceptions of the quality of support they received from the CTE administration. District surveys, such as the AISD High School Exit Survey, provided information to assess scholars' college and career preparation and expectations for postsecondary education.

Data Analysis

As articulated in the CTE 5YP, DRE staff summarized CTE Program data from the 2019–2020 school year. The analysis included career cluster enrollment, certifications earned, and dual credits earned. DRE staff used a mixed-methods approach to provide the evaluation information pertaining to CTE programs. Quantitative data (e.g., course enrollment) were analyzed using descriptive statistics (e.g., numbers and percentages). Data were further explored by disaggregating by endorsement, cluster, campus, race/ethnicity, gender, economic disadvantage status, and special education status. Qualitative data (e.g., open-ended survey responses) were analyzed using content analysis techniques to identify important details, themes, and patterns.

Appendix B

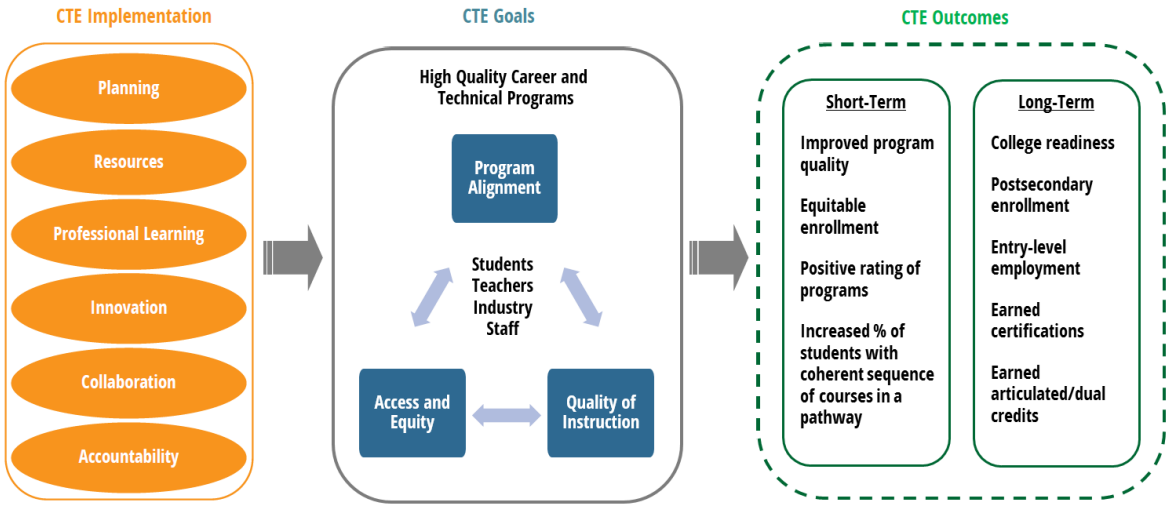
CTE 5YP Goals

CTE was in the second year of the 5YP implementation during the 2019–2020 school year. The 5YP aims to prepare all scholars for high-demand, high-skill, and high-wage careers through industry-aligned pathways built on academic, professional, and technical skills; leadership development; work experiences; and postsecondary credentials. In fulfilling the 5YP, the evaluation team developed the CTE theory of change (Figure 13).

The theory of change depicts a roadmap for change and builds connection between implementation activities and the achievement of short-term and long-term goals. As illustrated by the CTE theory of change, CTE focused on goals in three areas: (a) program alignment, (b) instruction quality, and (c) access and equity to improve short- and long-term outcomes.

- **Program alignment**: CTE staff will align its curriculum to match industry and postsecondary standards and to provide scholars with opportunities to explore different career options
- **Quality of instruction**: CTE staff will provide innovative, industry-standard resources, curriculum, training, and instruction to provide relevant experiences that prepare all scholars for postsecondary success
- **Access and equity**: CTE staff will provide all AISD scholars with opportunities to participate in their choice of CTE program

Figure 13
The CTE theory of change illustrates how CTE works through implementation focused on goals in program alignment, access and equity, and quality of instruction to accomplish short-term and long-term outcomes on.



Source. Coco & Bonazzo (2019), AISD CTE Annual Report, 2017-2018

Appendix C

2021 Texas Education Agency Accountability Manual: CCMR Excerpt

College, Career, and Military Readiness (CCMR) is a measure used by TEA to help determine campus and district ratings under the state accountability system. Students can demonstrate CCMR by demonstrating any one of the indicators listed here. The information provided below is an excerpt from the 2021 TEA Accountability Manual (https://tea.texas.gov/sites/default/files/2021-accountability-manual-chapter-2.pdf).

College, Career, and Military Readiness Component

The CCMR component of the student achievement domain measures graduates' preparedness for college, the workforce, or the military. The student achievement CCMR denominator consists of 2020 annual graduates. Annual graduates are students who graduate from a district or campus in a school year, regardless of cohort. This is separate from and may include different students than the longitudinal graduation cohorts. Annual graduates demonstrate college, career, or military readiness in any one of the following ways:

Chapter 2—Student Achievement Domain

- Meet Texas Success Initiative (TSI) criteria in English language arts (ELA)/reading and mathematics. A graduate must meet the TSI college readiness standards in both ELA/reading and mathematics; specifically, by meeting the college-ready criteria on the TSI assessment, SAT, or ACT, or by successfully completing and earning credit for a college prep course, as defined in TEC §28.014, in both ELA and mathematics. The assessment results considered include TSI assessments through October 2020, SAT and ACT results through the July 2020 administration, and course completion data via TSDS PEIMS. A graduate must meet the TSI requirement for both reading and mathematics but does not necessarily need to meet them on the same assessment. For example, a graduate may meet the TSI criteria for college readiness in ELA/reading on the SAT and complete and earn credit for a college prep course in mathematics.

- Earn dual course credits. A graduate must complete and earn credit for at least three credit hours in ELA or mathematics or at least nine credit hours in any subject.

- Meet criteria on the Advanced Placement (AP)/International Baccalaureate (IB) Examination. A graduate must meet the criterion score on an AP or IB examination in any subject area. The criterion score is 3 or higher for AP and 4 or higher for IB.

- Earn an associate degree. A graduate must earn an associate degree by August 31, immediately following high school graduation.

- Complete an OnRamps Dual Enrollment Course. A graduate must complete an OnRamps dual enrollment course and qualify for at least 3 hours of university or college credit in any subject area.

- Earn an industry-based certification. A graduate must earn an industry-based certification under 19 TAC §74.1003.

- Graduate with a completed individualized education program (IEP) and workforce readiness. A graduate must receive a graduation type code of 04, 05, 54, or 55, which indicates the student has completed their IEP and has either demonstrated self-employment with self-help skills to maintain employment or has demonstrated mastery of specific employability and self-help skills that do not require public school services.

- Enlist in the Armed Forces. A graduate must enlist in the U.S. Army, Navy, Air Force, Coast Guard, or Marines.
- Graduate under an advanced diploma plan and be identified as a current special education student. A graduate must be identified as receiving special education services during the year of graduation and have a graduation plan type identified as a Recommended High School Plan (RHSP), Distinguished Achievement Plan (DAP), Foundation High School Plan with an Endorsement (FHSP-E), or Foundation High School Plan with a Distinguished Level of Achievement (FHSP-DLA).
- Earn a level I or level II certificate. A graduate must earn a level I or level II certificate in any workforce education area.
- 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 for 2017 and 2018 annual graduates, military enlistment data are excluded from accountability calculations until such data can be obtained directly from the United States Armed Forces.

Appendix D

Industry-Based Certification (IBC)

Texas Education Agency (TEA) approved list for 2019-2022

More information on IBC can be found on the TEA website at https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/industry-based-certifications