

THE ANNUAL CONDITION OF SECONDARY CAREER & TECHNICAL EDUCATION

Courses, Programs, Students, and Faculty

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Letter from the Director

Dear Education Stakeholders,

One of the critical functions of the Iowa Department of Education is to provide and interpret educational data. We do this to support accountability, transparency, and the ongoing improvement of our schools. Staff in the Division of Community Colleges and Workforce Preparation continue to refine and improve the methods in which we collect, analyze, and report data to ensure that it is both meaningful and easily understood.



Meaningful educational data reports are essential to Iowans as we strive to improve our schools and prepare students for success. At the district level, data help administrators, teachers, and counselors make important programmatic and operational decisions that impact the success of their students. At the state level, data provide policymakers and educator professionals information about the students, the programs and opportunities offered to them, and metrics regarding how well they are progressing toward their educational goals. At the local level, data enable communities to understand the impact of the opportunities provided through their school districts.

Through the Future Ready Iowa initiative, Governor Reynolds has called for 70 percent of Iowans in the workforce to have postsecondary education or training by 2025. Aligning with the Future Ready Iowa initiative, the Department's goals, as reflected in the State Board of Education's priorities, are to ensure all high school students have consistent and equitable access to high-quality career and technical education (CTE) programs and facilitate efficient delivery of curricula aligned with regional economic demand. Iowa is well-positioned to align the state and federal efforts to create a single cohesive model for secondary CTE.

The information on the trends in secondary CTE courses and programs, enrollment, student characteristics, and instructors uses Iowa Department of Education data from Academic Years (AY) 2014-2018. Additionally, the report briefly describes the four areas of focused policy interest for implementing high-quality CTE throughout the state. More generally, the information provided in the report sets the stage for aligning HF2392 implementation with the development of the State Plan required under Perkins V.

Thank you for taking the time to review this report and for your ongoing support of secondary CTE in Iowa. I look forward to working with you to provide Iowans with quality programs, services, and opportunities to meet their career and educational goals.

Sincerely,

A handwritten signature in black ink that reads "Ryan M. Wise". The signature is written in a cursive, slightly slanted style.

Ryan M. Wise, Ed.L.D.

Director

Iowa Department of Education

Executive Summary

On July 1, 2019, Iowa will begin the implementation of the fifth iteration of the federal Carl D. Perkins Act, known as the Strengthening Career and Technical Education for the 21st Century (called Perkins V). The previous iteration, the Carl D. Perkins Career and Technical Education Act of 2006 (often referred to as Perkins IV), was in place for over 12 years. Since its inception in 1984, the federal Carl D. Perkins Act has been the main driver of secondary and postsecondary CTE across the nation, providing a framework that links programs, budgeting and finance, and accountability.

One of the priorities of the State Board of Education is that: all students will have equal access to robust career and technical education, work-based learning experiences, and community college credit opportunities through an integrated system. This priority came about

because the Iowa Department of Education has the responsibility for implementing HF2392. Signed into law in 2016, HF2392 set forth a forward-looking policy framework for secondary CTE, replacing an archaic vocational education law adopted in 1989 and building off of exceptional practices implemented around the state.

If the state HF2392 requirements are placed against those under Perkins V, many similarities and commonalities are seen. In fact, the HF2392 requirements and the current implementation of the law across the school districts, will form the basis for developing the Perkins V State Plan. The current state effort around the redesign of secondary CTE lays a good foundation for developing the Perkins V State Plan, and its subsequent implementation across school districts.

Report Highlights

From the tables and figures presented in this report, the following can be said for secondary CTE over the five-year period covering AY 2014 through AY2018:

Secondary CTE Courses and Programs

Over a five-year time period:

- » The total number of CTE courses and programs offered and taught, more or less, held steady with only minor shifts occurring up or down. On a year-to-year basis, there has been a small but steady growth over the five-year period.
- » Small- to medium-sized school districts had growth in the average number of CTE programs offered and taught, whereas the larger school districts had flat or negative growth.
- » There was significant growth in the use of college-credit contracted courses in secondary CTE programs, nearly 55 percent over a five-year period, and this growth is related to the size of the school districts with larger ones offering and teaching more college-credit contracted courses.

- » At the service area level, the growth in CTE programs is similar – some areas are increasing, while other areas are decreasing. It is interesting to note that given that Information Solutions is a new service area, programs within it has increased rapidly from 45 in 2016-17 to 75 programs in 2017-18.

Secondary CTE Enrollment

Over a five-year time period:

- » Overall enrollment in secondary CTE and overall secondary CTE participation rates remained steady; nevertheless, more recent participation in CTE courses and programs has shown an upward tick. Students in smaller school districts were participating at relatively higher rates in secondary CTE.
- » There was significant growth in student participation in college-credit contracted CTE courses, with college-credit contracted CTE participation rates were much lower for smaller school districts. The reverse relationship is true for larger school districts.
- » CTE student enrollment by grade level declines after 9th grade, with the lower enrollment seen in subsequent grades.
- » In general, enrollment of students in all service areas showed an upward trend except in the Information Solutions service area.

Characteristics of Secondary Students

Over a five-year time period:

- » White students show a slight decline in secondary CTE participation, while there was a slight increase for minority students.
- » Hispanic and African American students make up about 70 percent of overall minority secondary student CTE participation. CTE participation for different student population groups has held steady.
- » The same can be said of secondary student participation in CTE by gender, with overall participation by male students being higher than female students.
- » The proportion of secondary CTE students who were eligible for the National School Lunch Program remained steady. Of note, there is a not a significant relationship between the proportion of secondary CTE students who were eligible for the National School Lunch Program and those who were not when it came to CTE course-taking.
- » There has been a steady rise in annual CTE course taking across grades 9 – 12.
- » While the average number of CTE courses taken remained steady till AY2017, it rose in AY2018.
- » The proportion of students taking at least two courses remained steady till AY2017. In AY2018, that proportion increased.

Secondary CTE Human Resources

Over a five-year time period:

- » Secondary CTE teacher characteristics have not changed significantly. The secondary CTE teacher is, for the most part, white and, on average, 43 years old.
- » The service areas in which secondary CTE teachers have received the most CTE endorsements are more aligned to those service areas that were in place prior to the reconfiguration as a result of HF2392. As HF2392 reaches full implementation, there should be realignment as secondary CTE teachers focus more on the newer service areas or get endorsements in multiple areas.
- » Secondary CTE teachers have experienced salary increases, but in real terms, there has been very little change in salaries.
- » Characteristics of community college CTE faculty teaching high school students are female, white, working as part-time or adjunct faculty, are close to 50 years old, and (adjusting for inflation) have annual year-to-year increases of 4.1 percent.

Career and Technical Student Organizations (CTSO)

Over a five-year time period:

- » Secondary CTSSO membership has remained steady over the five-year period, around 25,000 students every year. Some CTSSOs are seeing memberships decline, while others have had memberships rise.
- » DECA, FBLA, and FFA have had a steady rise in memberships: BPA, HOSA, SkillsUSA, and TSA have memberships fluctuating, and FCCLA memberships declining over the five-year period.

Secondary Career and Academic Planning

- » In AY2018, all districts reported that a district team with the required membership, collaborated with internal and external stakeholders to write the district plan.
- » Compared to AY2017, stakeholder engagement increased in AY2018 with districts reporting an 11 percent increase engaging with chambers of commerce and a six percent increase in developing relationships with business and industry.
- » Three-hundred and fourteen (314) school districts reported using a career information system (CIS). District tool use had increased from 65 percent in AY2016, to 94 percent in AY2017, to 96 percent in AY2018.
- » Individual Career and Academic Plan (ICAP) completions increased by an average of nine percent for students in grades 9 – 12. Grade 8 completions decreased by two percent from AY2017.

Work-Based Learning

Over a five-year time period:

- » Between AY2014-AY2017, the number of work-based learning courses rose steadily. However, in AY2018, the number offered increased significantly. The same can be said about college-credit contracted courses. There has been double-digit annual growth in work-based learning courses for every school district size.
- » More school districts are offering work-based learning courses in AY2018 than they were in AY2014. Other than the very largest school districts, there has been an increase in the number offering work-based learning courses.
- » Other than the Information Solutions service area, there was growth in the number of work-based courses in all other service areas (including the unassigned category).
- » Participation in work-based learning courses by grade level increases as students move from grade 9 to grade 12 and this has not changed over the five-year period.
- » Categorizing participation in work-based learning courses by gender, ethnicity, and eligibility for national free and reduced-cost lunch programs, the figures are consistent with the general secondary CTE student population, except for gender. While in the secondary CTE student population, male participation in the general CTE coursework is higher, female students participated a higher rate in work-based learning courses.

Regional Centers

- » Regional centers are clustered around the major metropolitan areas in Iowa, which typically have the larger school districts and the higher high school populations to make the regional center viable. Nevertheless, regional centers are also established where school district sizes are small and located in the rural parts of Iowa. However, there are many regions of Iowa where regional centers have not yet been established.
- » With the implementation of HF2392, regional planning partnerships (RPPs), through their strategic planning, have begun to explore the viability of regional centers in offering expanded options for students and ensuring equitable access to a variety of high-quality CTE programs, which also meet the needs of the regional workforce.
- » In FY2018, there were 17 regional centers providing 139 career academy programs to 3,192 high school students from 113 school districts. Among the 17 regional centers, eight are located on community college campuses.
- » Applied Science, Technology, Engineering, and Manufacturing was the most significant service area with 57 career academy programs being offered, followed by Health Sciences (25), and Information Solutions (18). Agriculture, Food, and Natural Resources was the smallest service area with only five career academy programs being offered within a regional center.

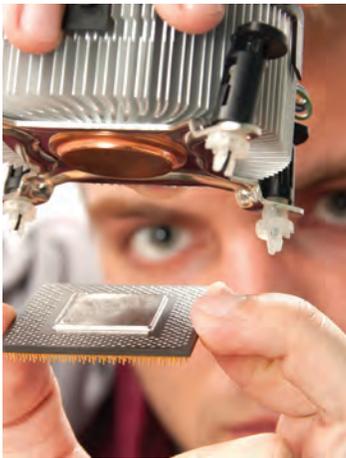


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Chapter 1: Introduction and Overview

On July 1, 2019, Iowa will begin the implementation of the fifth iteration of the federal Carl D. Perkins Act, known as the Strengthening Career and Technical Education for the 21st Century (and called Perkins V). The previous iteration, the Carl D. Perkins Career and Technical Education Act of 2006 (often referred to as Perkins IV), was in place for over 12 years. Since its inception in 1984, the federal Carl D. Perkins Act has been the main driver of secondary and postsecondary CTE across the nation, providing a framework that links programs, budgeting and finance, and accountability. As Iowa begins the process of developing a new state plan under Perkins V, the aforementioned linkages are expected to become even more intricate.

The Perkins V law defines career and technical education (CTE) as:

An educational option that provides learners with the knowledge and skills they need to be prepared for college and careers, giving purpose to learning by emphasizing real-world skills and practical knowledge within a selected career focus.

CTE in Iowa includes organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in employment in current or emerging occupations. These programs include competency-based, applied learning which contributes to an individual's academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, and occupational-specific skills.

At the secondary level, CTE programs are organized within six broad service areas: agriculture, food, and natural resources; arts, communications, and information systems; applied sciences, technology, engineering, and manufacturing, including transportation, distribution, logistics, architecture, and construction; health sciences; human services; and business, finance, marketing, and management. Programs within these service areas are further aligned with the National Career Clusters™ Framework. CTE programs at the postsecondary (community college) level are also organized by the Career Clusters™ framework. This report focuses on secondary CTE courses, programs, students, and faculty, drawing on five years of data (AY2014-AY2018).

CTE in Iowa is funded and measured by both state and federal appropriations, policy, and procedures. In a sweeping effort to redesign secondary CTE in Iowa, HF2392 was signed into law on May 26, 2016. This legislation builds upon recommendations released by the Secondary Career and Technical Education (CTE) Task Force, marks the first major revision to secondary CTE policy in Iowa since 1989, and shifts a reliance on federal policy to a more focused state effort to capitalize on secondary CTE programs for making Iowa Future Ready. As Iowa gets ready to implement Perkins V, early discussions point towards aligning the federal effort to the progress that has already been made under HF2392 implementation.

Implementing Federal CTE Legislation in Iowa

Under Perkins IV, Iowa receives over \$11 million annually in federal funds, an amount that has not changed since 2006. The Iowa Department of Education has been designated as the state eligible agency (SEA) and is responsible for distributing these funds to 89 local eligible agencies (LEAs), which includes the 15 community colleges, 44 Perkins consortia, with each consortium made up of multiple school districts, and 30 individual school districts. Of the total funds received by Iowa under Perkins IV, 85 percent is distributed to LEAs while 15 percent is used for state CTE leadership and administration. The basis for how these funds are to be allocated, distributed, and expended is outlined in Iowa's state plan as a requirement under Perkins IV. The state plan was approved by the State Board of Education when it was initially written in 2007, and has been periodically reviewed and updated.

A key feature in meeting the requirements under Perkins IV are a set of accountability indicators (prescribed in the law itself). Secondary CTE programs are measured by six accountability indicators:

- 1S1: Academic Attainment in Reading/ Language Arts
- 1S2: Academic Attainment in Mathematics
- 2S1: Technical Skills Attainment
- 3S1: Secondary School Completion
- 4S1: Student Graduation Rate
- 5S1: Secondary Placement
- 6S1: Nontraditional Participation
- 6S2: Nontraditional Completion

For each of these indicators, Iowa negotiates an annual performance target with the U.S. Department of Education. State and local indicator performance is then measured each year in relation to the set target.

TABLE 1.1: STATE-LEVEL SECONDARY PERKINS ACCOUNTABILITY INDICATORS: TARGET AND PERFORMANCE

Academic	1S1		1S2		2S1		3S1	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
2014	76.8%	80.6%	77.4%	80.2%	90.0%	92.4%	95.0%	92.9%
2015	79.0%	79.4%	78.0%	84.6%	91.0%	92.5%	93.0%	93.3%
2016	80.0%	99.0%	80.0%	99.0%	92.0%	93.0%	93.0%	97.0%
2017	80.0%	81.7%	83.0%	80.1%	92.0%	93.0%	93.0%	99.0%
2018	80.0%	81.0%	85.0%	80.6%	92.5%	92.1%	93.5%	89.0%
Academic	4S1		5S1		6S1		6S2	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
2014	93.9%	92.3%	87.8%	88.3%	45.0%	40.0%	36.0%	33.4%
2015	93.0%	92.7%	88.0%	87.9%	45.0%	38.0%	36.0%	29.5%
2016	93.0%	97.0%	88.0%	93.0%	40.0%	38.0%	34.0%	34.0%
2017	93.0%	98.0%	88.0%	94.0%	38.0%	41.0%	30.0%	32.0%
2018	93.0%	88.8%	89.0%	86.8%	38.5%	42.3%	29.5%	34.5%

Table 1.1 shows how Iowa has performed relative to the annual targets since AY2014. During the past three years, Iowa secondary CTE has met or exceeded nearly all of the targets.

Under Perkins V, states, including Iowa, will have to submit performance information on fewer secondary indicators:

- » Graduation rate
- » Academic attainment
- » Percentage of CTE concentrators who, in the second quarter after exiting from secondary education, are in postsecondary education or advanced training, military service or a national service program, or are employed.
- » Percentage of concentrators in programs/ programs of study that lead to non-traditional fields.

An additional secondary indicator focuses on program quality. States would have to submit performance on at least one indicator of program quality and these are:

- » attainment of recognized postsecondary credentials;
- » attainment of postsecondary credit in the CTE program; and
- » participation in work-based learning.

As this report will show, Iowa has already made significant strides in collecting information for each of the three program quality indicators.

Perkins V brings a greater focus on data and accountability, with a few notable shifts in this area. It begins with explicitly defining who is included in the accountability system. Then it requires changing the process for setting performance targets, arrived at through wide consultation of stakeholders. Finally, Perkins V adds a new purpose of the Act about increasing opportunities for special populations, and there is also a greater emphasis on disaggregating data to identify the gaps and disparities in performance between groups of students and addressing them.

These are several things to note about Perkins accountability under Perkins V. One, a secondary CTE concentrator is explicitly defined. Two, except for the non-traditional indicator, all other indicators are based on the accountability framework laid out under the Every Student Succeeds (ESSA) Act. Three, for every indicator, performance has to be measured for different sub-populations, and these are the same listed in ESSA, with a couple of exceptions. Four, states consult with stakeholders to develop target levels of performance for each indicator, and all four years (AY2020 to AY2024) of target levels of performance be included in the state plan for implementing Perkins V. Five, states will need to address performance gaps for all indicators, as well as gaps among the different sub-populations for each indicator, and target federal funds to develop strategies for addressing these gaps. The longitudinal data used for this report places Iowa in a favorable position to complete the accountability requirements under Perkins V.

[Implementing State CTE Legislation in Iowa and Moving Towards Perkins V Implementation](#)

One of the priorities of the State Board of Education is the following: all students will have equal access to robust career and technical education, work-based learning experiences, and community college credit opportunities through an integrated system. This priority came about because the Iowa Department of Education has the responsibility for implementing HF2392. Signed into law in 2016, HF2392 set forth a forward-looking policy framework for secondary CTE, replacing an archaic vocational education law adopted in 1989 and building off of exceptional practices implemented around the state.

HF2392, the state law to redesign CTE, had its roots in the five broad directional recommendations of the legislatively-mandated statewide Secondary CTE Task Force – career guidance; high-quality CTE programming; work-based learning; teacher preparation and professional development; and regional partnerships and/or regional centers. Implementing HF2392 focuses on the individual career and academic plans (ICAP), district-wide career guidance and development, regional planning partnerships (RPPs), multi-year plans, program approval, fiscal responsibility, and budgeting. If the state HF2392 requirements are placed against those under Perkins V, many similarities and commonalities are seen. In fact, the HF2392 requirements, and the current implementation of the law across the RPPs, will form the basis for developing the Perkins V State Plan.

Perkins V introduces a comprehensive needs assessment, which needs to be completed once every two years by the local recipients of the federal funds. The needs assessment includes a review of CTE student performance, program quality, labor market needs, educator development, and special populations' access to programs of study. The driving force at the local level is data-driven decision-making requiring school districts to review student performance, including those students who fall into the different special population categories. What is new is the fact that school districts need to consult a wide variety of stakeholders when developing the accountability framework under Perkins V. In turn, the accountability framework needs to be connected to the local needs assessment, the results of which need to be included within the local application for federal funds. In this regard, Perkins V builds upon Perkins IV by connecting more planning, payment, program and performance – the four Ps. The current state effort around the redesign

of secondary CTE lays a good foundation for developing the four Ps within the Perkins V State Plan, and its subsequent implementation across school districts.

Methodology

Data from multiple sources were used to generate this report. The data source used for Chapters 2-5 include Student Reporting in Iowa (SRI), the Iowa Basic Educational Data Survey (BEDS), the Iowa Board of Educational Examiners (BOEE) database, and the Iowa Department of Education Community College Management Information System (MIS). SRI in Iowa provides data on courses a student took or was taking in a given academic year, as well as student demographics. Data from the BEDS, along with data from the BOEE database, provide information on K-12 CTE teachers. The MIS was used to gather information of community college faculty teaching college-credit contracted CTE courses to high school students.

Chapter 6 presents data on the Career and Technical Student Organizations (CTSOs) and data used in that chapter comes from the Iowa Department of Education and the national CTSO organization. Chapter 7 uses career planning data from the Consolidated Accountability and Support Application and the Comprehensive School Improvement Plan. With SRI data, Chapter 8 summarizes work-based learning courses and students who took these courses. This report also utilizes data gathered from a survey administered by the Division of Community Colleges and Workforce Preparation, Iowa Department of Education, for the purposes of obtaining information on regional centers (see Chapter 9).

The School Courses for the Exchange of Data (SCED) and the Classification of Instructional

Programs (CIP) were used to calculate the number of secondary CTE courses and programs offered. The SCED code provides information about course topic and course subject area. For example, in Chapter 8, work-based learning courses are identified by the last two digits of the five-digit SCED code. If the last two digits of a SCED code is 98, this course is usually a work-based learning course. Similar to the SCED code, the CIP indicates what instructional program a CTE course belongs to. In this report, a unique SCED in a given school district was identified as a secondary CTE course instance. A similar approach was used to identify secondary CTE program instances. The number of unique state student IDs was employed to indicate unduplicated secondary CTE enrollment.

The Report Layout

The report is divided into two main sections: Section I presents five-year longitudinal data (AY2014 to AY2018) on participation in secondary CTE courses and programs, secondary CTE enrollment patterns, CTE student characteristics, and secondary CTE teacher resources. Section II briefly describes four aspects of CTE programming – career and technical student organizations (CTSOs); career guidance; work-based learning; and regional centers – which are coming to the forefront as HF2392 moves to full implementation across public school districts in Iowa.



Section I: Trends in Secondary Career and Technical Education

Courses and Programs, Enrollment, Student Characteristics, and Instructors

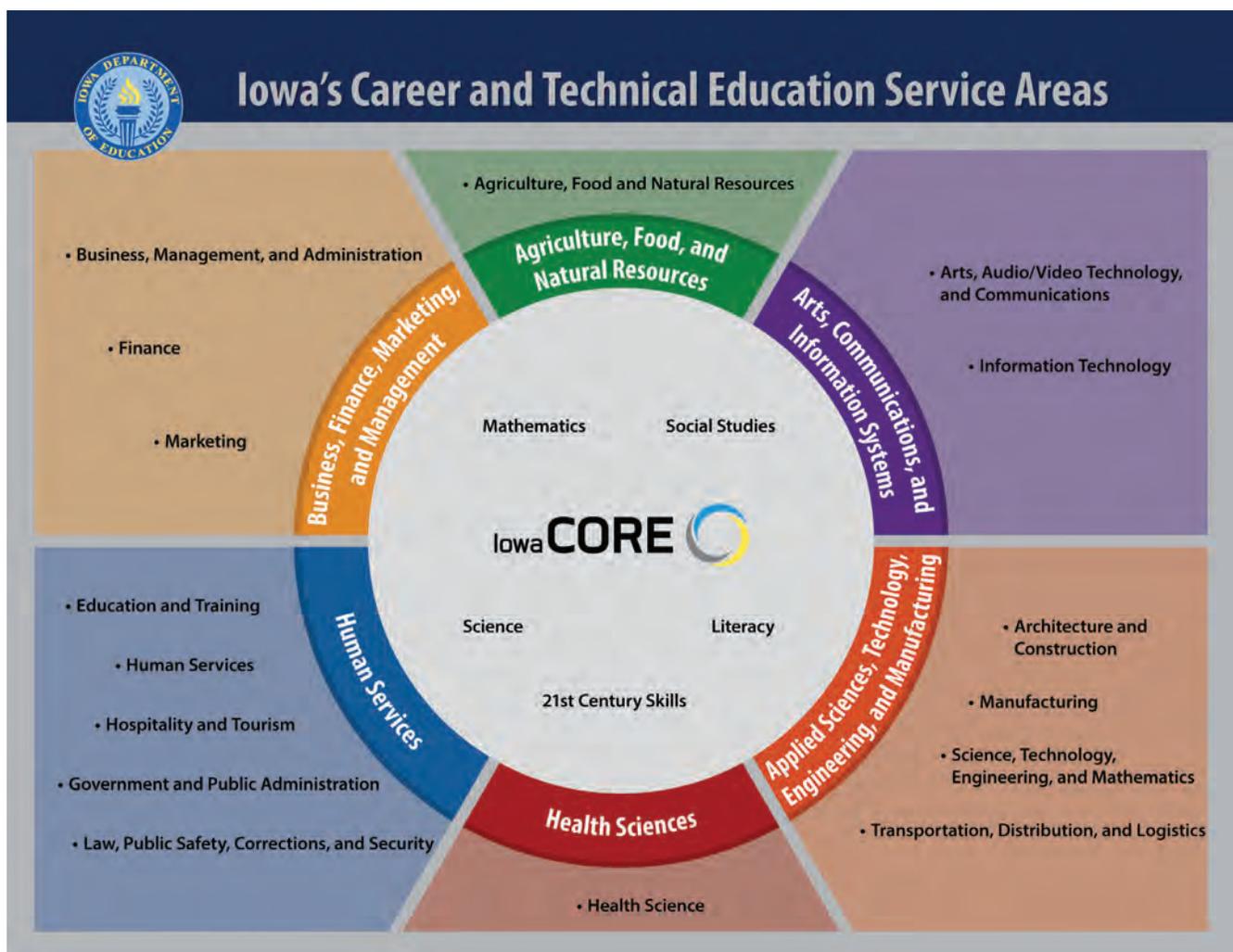


Chapter 2. Secondary CTE Courses and CTE Programs

Career and technical education's (CTE) direct and explicit focus on preparing students for specific ranges of occupations has resulted in a long history of interest and involvement in educational, occupational, and industrial classification systems. The National Career Clusters™ Framework provides a way for schools to organize instruction and student experiences around 16 broad categories that together encompass all occupations from entry through professional levels. The clusters are groupings of careers with similar skills or common themes based on industry groups. They assist students,

parents, employers, and those in the educational system understand how curriculum relates to the career opportunities from which students will choose and for which schools must prepare them.

At the secondary level in Iowa's public school districts, CTE programs are organized within six service areas, as defined in Iowa Code section 256.11(5) (h). Iowa has made a conscious effort to align these service areas to the National Career Clusters™ Framework as shown in the graphic below.



Realigned in 2016, the six service areas broadly define the career pathway focus the student may have when s/he determines what courses and programs s/he might choose to enroll. Also, the six service areas now being used by school districts to meet the requirement to offer and teach CTE programs have a much broader span and scope than what existed before the implementation of HF2392. There were three changes to these original six services areas:

- 1) Business and marketing were combined into one service area;
- 2) Family and consumer sciences were reconfigured as Human Services to include a more extensive array of programs, and
- 3) Information Solutions was introduced as a new service area to reflect the importance of the corresponding career clusters to current and future workforce needs.

Secondary CTE Courses and Programs

Iowa Code (Chapter 12) requires that every public school district offer and teach a minimum of three sequential CTE units within at least four of the six service areas. Each unit may consist of one or more courses depending on classroom and lab time. However, the most common configuration is a (Carnegie) unit comprised of two 0.50 unit courses; three consecutive “Carnegie” CTE units equates to a basic CTE program. This report defines a course as a combination of a particular SCED code and a specific school district, a course instance. Similarly, a program is obtained by combining a particular CIP code and a specific school district, a program instance.

Additionally, secondary students in Iowa have access to college-credit coursework through a variety of means, most of which are at no (or low) cost to the student/family. Reported throughout this document are the data for college-credit CTE courses contracted through one (or more) of Iowa’s community colleges. This section summarizes all of the CTE courses and CTE programs taught during AY2014 – AY2018 for students in grades 9 – 12 in Iowa.



FIGURE 2.1: NUMBER OF CTE COURSES AND PROPORTION OF COLLEGE-CREDIT CONTRACTED CTE COURSES: AY2014-AY2018

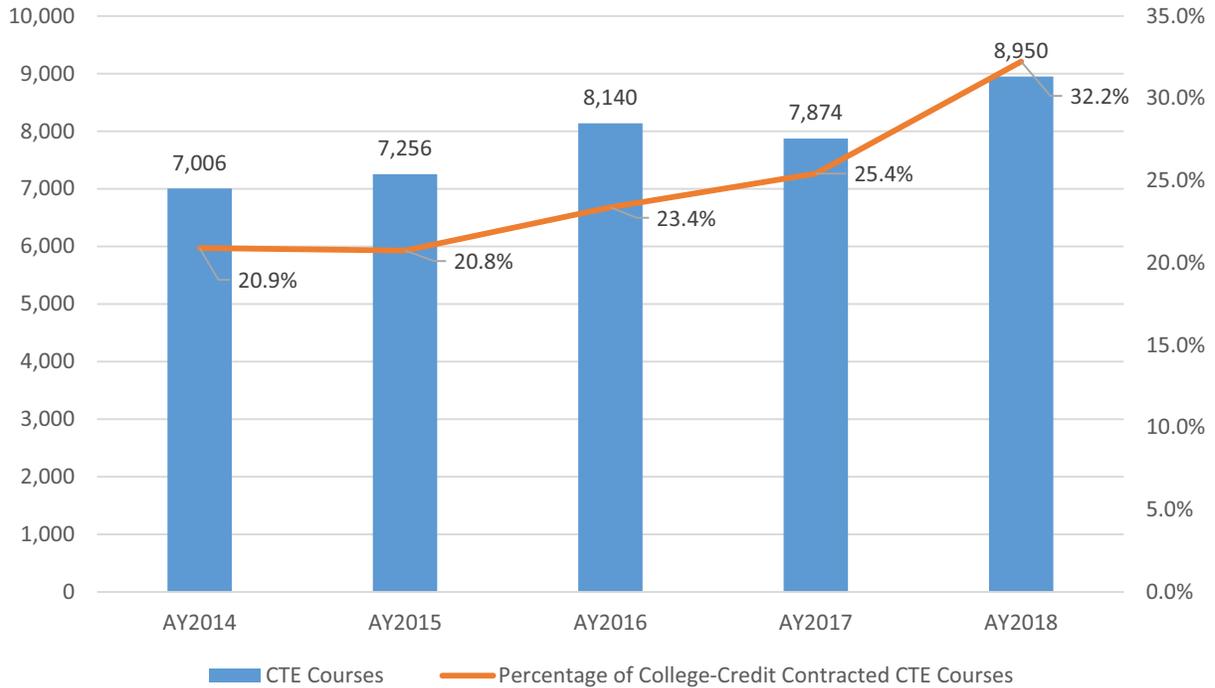


Figure 2.1 reports secondary CTE courses taught since AY2014. In AY2018, 8,950 secondary CTE courses were offered in Iowa, which is a 13.7 percent increase from the year before, with the compound annual growth rate of 6.3 percent over a five-year period (AY2014-AY2018). Figure 2.1 also reports the change of college-credit contracted CTE courses. The

proportion of college-credit contracted CTE courses increased steadily. In AY2014, these courses only accounted for 20.9 percent of the total secondary CTE courses, whereas in AY2018, 32.2 percent of all secondary CTE courses were college-credit contracted courses, a little over a 54 percent increase.

TABLE 2.1: AVERAGE NUMBER OF CTE COURSES BY SCHOOL DISTRICT SIZE: AY 2014-AY2018

High School Student Enrollment	AY2014	AY2015	AY2016	AY2017	AY2018	CAGR*
<100	14.9	15.4	17.9	16.2	19.0	6.3%
100-299	19.5	20.5	23	22.8	25.5	6.9%
300-499	25.3	26.5	29.5	28.3	33.6	7.4%
500-1249	26.5	27.6	30.7	30.8	35.2	7.4%
1250-3999	33.1	33.1	36.8	36.3	42.0	6.1%
>4000	72.7	63.5	70.0	65.8	62.8	-3.6%
Total	22.4	23.4	26.3	25.7	29.4	7.0%

Note: * CAGR=Compound Annual Growth Rate

Table 2.1 displays the average number of CTE courses offered by school district size. Table 2.2 shows the average number of college-credit contracted CTE courses by school district size. In this report, school district size was indicated by high school student enrollment. More information on high school enrollment can be obtained at <https://www.educateiowa.gov/education-statistics>.

Compared to AY2017, the average number of CTE courses increased in all school districts except for those with more than 4,000 high school students. In terms of compound annual growth rate, school

districts with a high school enrollment of 300-499 and districts with a high school enrollment of 500-1249 have grown by 7.4 percent. School districts with a high school enrollment of 4,000 or more have decreased by 3.6 percent. As to the average number of college-credit contracted CTE courses, it increased for every school size. The number of CTE courses and the number of college-credit contracted CTE courses were positively correlated to school district size, as larger schools taught more of both high school and college-credit contracted CTE courses (see Tables 2.1 and 2.2).

TABLE 2.2: AVERAGE COLLEGE-CREDIT CTE COURSES BY SCHOOL DISTRICT SIZE: AY2014-AY2018

High School Student Enrollment	AY2014	AY2015	AY2016	AY2017	AY2018	CAGR*
<100	1.8	1.7	2.9	2.5	5.8	34.0%
100-299	3.0	3.2	4.2	4.7	7.9	27.4%
300-499	5.7	6.1	7.2	7.2	13.6	24.3%
500-1249	6.7	6.7	8.5	9.4	12.8	17.6%
1250-3999	10.9	10.4	12.7	13.7	19.3	15.4%
>4000	35.7	30.8	34.0	34.3	38.0	1.6%
Total	4.7	6.0	6.1	6.5	10.5	22.3%

Note: * CAGR=Compound Annual Growth Rate

Figure 2.2 displays the total number of secondary CTE programs (at least three units of sequential CTE coursework aligning with a CIP code) taught since AY2014. As shown in Figure 2.2, the number of CTE programs peaked in AY2016 (1,857). Although there was a slight decrease compared to AY2017, the number of secondary

CTE programs in AY2018 has grown, on a CAGR basis, by 0.6 percent since AY2014. It is worth noting that in AY2016, the Department began using a different electronic platform for school district reporting related to CTE course and program offerings

FIGURE 2.2: NUMBER OF SECONDARY CTE PROGRAMS: AY2014-AY2018

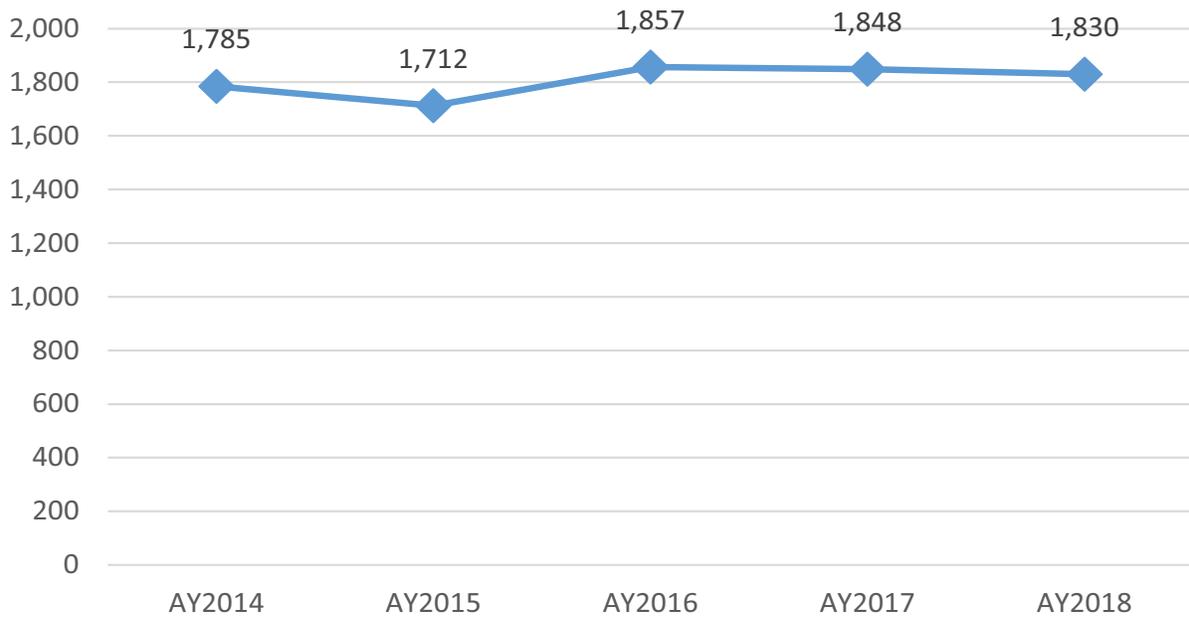


TABLE 2.3: AVERAGE NUMBER OF CTE PROGRAMS BY SCHOOL DISTRICT SIZE

High School Student Enrollment	AY2014	AY2015	AY2016	AY2017	AY2018	CAGR*
<100	4.4	4.4	4.7	4.6	4.6	1.1%
100-299	4.8	4.7	5.1	5.2	5.1	1.5%
300-499	6.2	5.9	6.3	6.3	6.4	0.8%
500-1249	7.0	6.7	7.3	7.4	7.3	1.1%
1250-3999	9.4	8.7	9.7	9.7	9.4	0.0%
>4000	15.0	14.0	14.5	15.0	14.2	-1.4%
Total	5.7	5.5	6.0	6.0	6.0	1.3%

Note: * CAGR=Compound Annual Growth Rate

Table 2.4 breaks down CTE programs by service area and shows that Applied Science, Technology, Engineering, and Manufacturing was the most common service area, with 672 programs taught in AY2018. By contrast, Information Solutions was the smallest service area, with 75 programs provided in the same year. On a CAGR basis, Information Solutions has grown

by 11.8 percent, followed by Applied Science, Technology, Engineering, and Manufacturing (4.3 percent); Human Services (1.4 percent); and Business, Finance, Marketing, and Management has decreased by 6.2 percent.

TABLE 2.4: NUMBER OF CTE PROGRAMS BY SERVICE AREAS: AY2014 - AY2018

Career Cluster	AY2014	AY2015	AY2016	AY2017	AY2018	CAGR *
Business, Finance, Marketing, and Management	423	393	406	391	327	-6.2%
Agriculture, Food & Natural Resources	255	252	261	263	252	-0.3%
Information Solutions	48	41	45	45	75	11.8%
Applied Science, Technology, Engineering, and Manufacturing	568	550	640	630	672	4.3%
Health Sciences	137	132	144	152	130	-1.3%
Human Services	354	344	361	367	374	1.4%
Total	1,785	1,712	1,857	1,848	1,830	0.6%

Note: * CAGR=Compound Annual Growth Rate



Chapter Highlights

Over a five-year time period:

- » The total number of CTE courses and programs offered and taught, more or less held steady with only minor shifts occurring up or down. On a year-to-year basis, there has been a small but steady growth over the five year period.
- » Small- to medium-sized school districts had growth in the average number of CTE programs offered and taught, whereas the larger school districts had flat or negative growth.
- » There was significant growth in the use of college-credit contracted courses in secondary CTE programs, nearly 55 percent over a five-year period, and this growth is related to the size of the school districts with larger ones offering and teaching more college-credit contracted courses.
- » At the service area level, the growth in CTE programs is similar – some areas are increasing, while other areas are decreasing. It is interesting to note that given that Information Solutions is a new service area, programs within it has increased rapidly from 45 programs in 2016-17 to 75 programs in 2017-18.



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Chapter 3. Secondary CTE Enrollment

This chapter summarizes secondary CTE enrollment since AY2014. The high school students that took at least one CTE course in a given academic year were identified as CTE students. It should be noted that while school

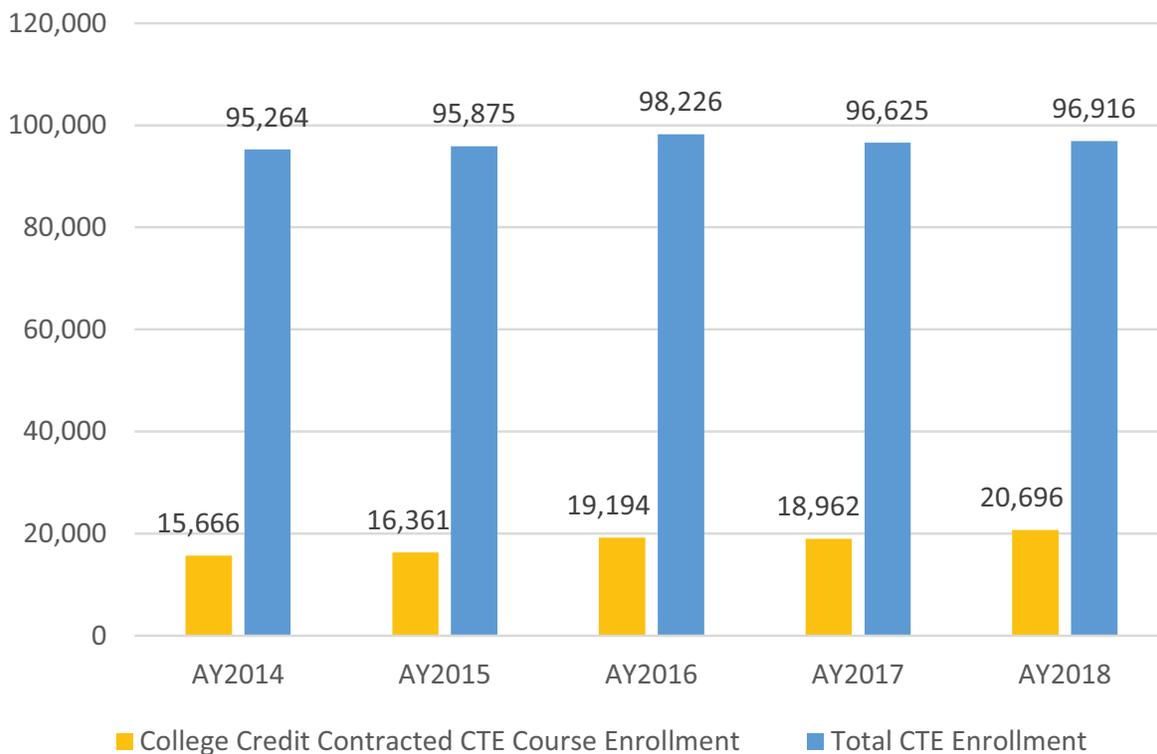
districts are required to offer and teach a minimum of three units in at least four of the six service areas, high school students are free to determine the extent to which they will enroll and complete CTE courses and programs.

Trends in Secondary CTE Enrollment

Figure 3.1 displays secondary CTE enrollment since AY2014. The number of students enrolled in secondary CTE courses peaked in AY2016 (98,226). In AY2018, there were 96,916 students enrolled in at least one CTE course, a 0.3 percent increase from the year before. Students who took at least one college-credit contracted CTE course were identified as college-credit CTE students. Figure 3.1 also presents the number

of college-credit contracted CTE students during the past five years. Between AY2014 and AY2017, students in college-credit contracted CTE accounted for less than 20 percent of total secondary CTE enrollment. In AY2018, 20,696 students took at least one college-credit contracted CTE course, which accounted for 21.3 percent of total CTE enrollment.

FIGURE 3.1: SECONDARY CTE ENROLLMENT: AY2014 - AY2018



Over the past five years, the secondary CTE participation rate in Iowa was approximately 66 percent. As shown in Figure 3.2, the proportion of CTE enrollment in grades 9-12 increased from 65.4 percent in AY2014 to 68.2 percent in AY2018. The change in secondary CTE participation rate follows the change in total secondary CTE enrollment.

Figure 3.3 displays CTE enrollment by school district size. In this report, school district size was indicated by high school student enrollment. It appears that, on average, school districts with an enrollment of 100-299 high school students had the largest secondary CTE enrollment. For instance, school districts where the high school enrollment is 100-299, students have a total CTE enrollment of 22,616 in AY2018.

FIGURE 3.2: SECONDARY CTE PARTICIPATION RATE: AY2014 - AY2018

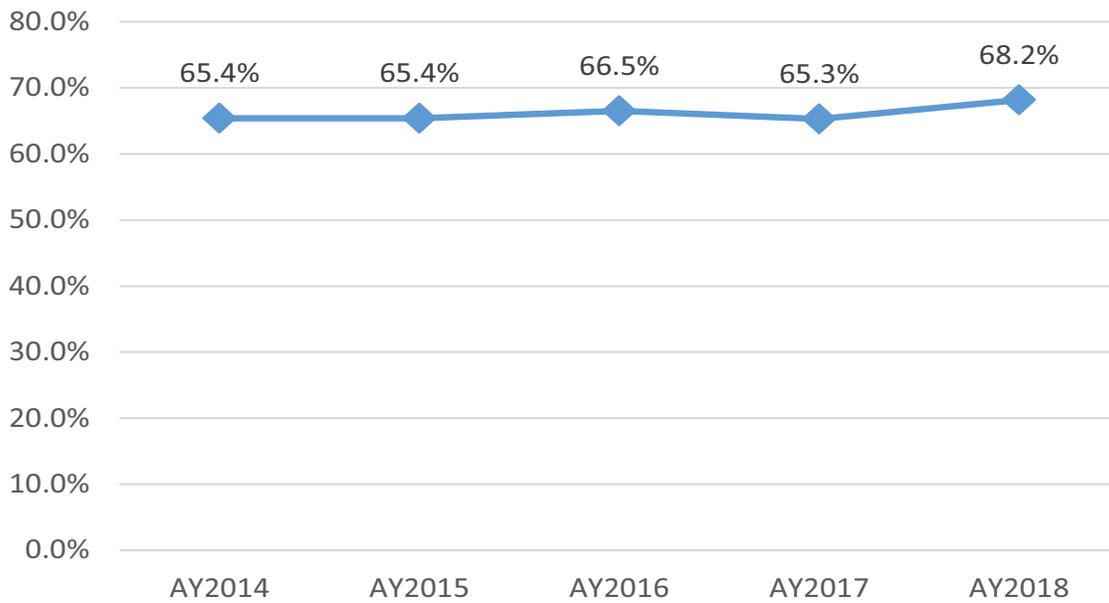


FIGURE 3.3: SECONDARY CTE ENROLLMENT BY SCHOOL DISTRICT SIZE: AY2014 - AY2018

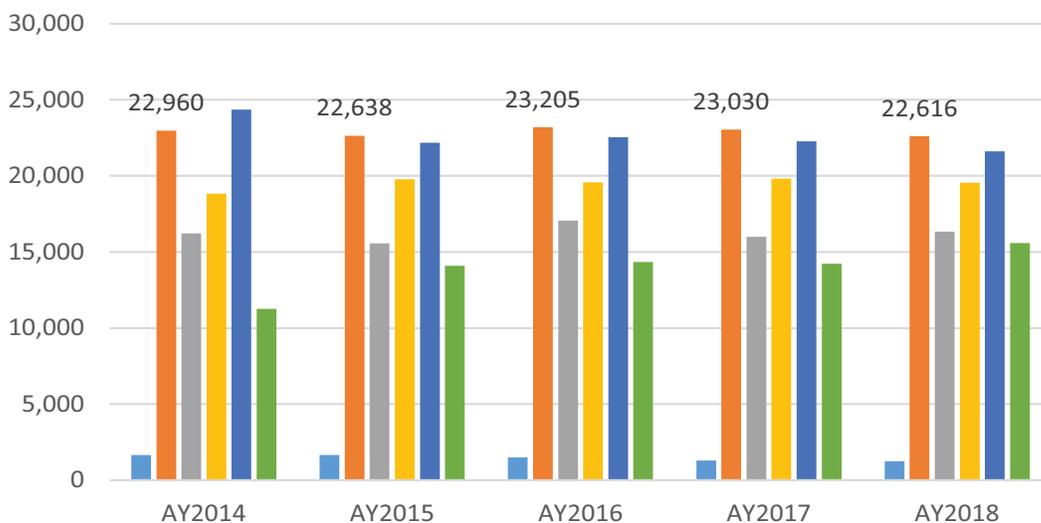


Figure 3.4 and Table 3.1 summarize CTE participation rate by school district size. In AY2018, school districts with an enrollment of fewer than 100 students had the highest participation rate, 78.6 percent. When observing the year-to-year average over the five-year period, school districts with an enrollment of 100-299 high school students had the highest

secondary CTE participation rate. Comparatively, schools districts with a high school enrollment of 1,250-3,999 had the lowest CTE participation rate with a five-year average of 57.7 percent, even though this group contributed approximately 22 percent of the total secondary CTE enrollment statewide.

FIGURE 3.4: SECONDARY PARTICIPATION RATE BY SCHOOL DISTRICT SIZE: AY2014 - AY2018

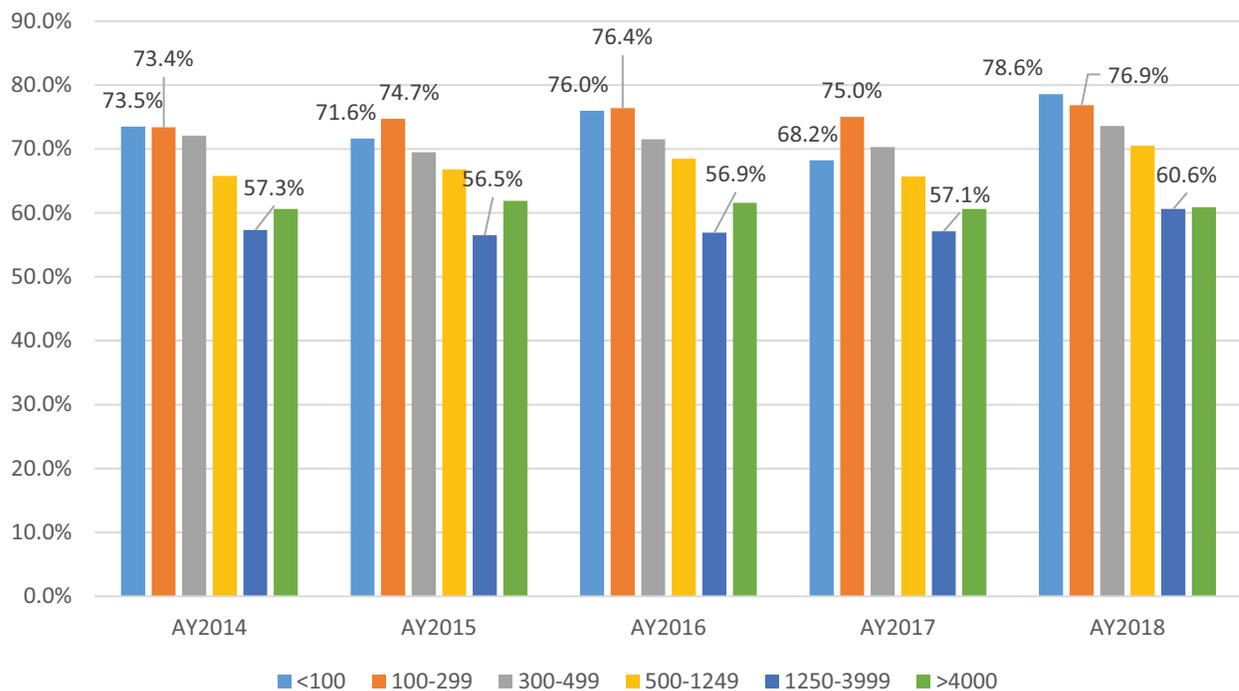


TABLE 3.1: SECONDARY CTE PARTICIPATION RATE BY SCHOOL DISTRICT SIZE: AY2014-AY2018

High School Student Enrollment	AY2014	AY2015	AY2016	AY2017	AY2018	Five-Year Average
<100	73.5%	71.6%	76.0%	68.2%	78.6%	73.6%
100-299	73.4%	74.7%	76.4%	75.0%	76.9%	75.3%
300-499	72.1%	69.5%	71.5%	70.3%	73.6%	71.4%
500-1249	65.8%	66.8%	68.5%	65.7%	70.5%	67.5%
1250-3999	57.3%	56.5%	56.9%	57.1%	60.6%	57.7%
>4000	60.6%	61.9%	61.6%	60.6%	60.9%	61.1%
Total	65.4%	65.4%	66.5%	65.3%	65.3%	65.6%

Table 3.2 summarizes the percentage of college-credit CTE students out of the total secondary CTE enrollment by school district size. It appears that this percentage is positively correlated to school district size: students in larger school districts were more likely to have taken college-credit contracted CTE courses. For example, in AY2018, school districts with fewer than 100 high school students saw only 11.7 percent of secondary CTE students enrolled in at least one college-credit contracted CTE course, compared to 29.6 percent of CTE students in school districts with an enrollment of more than 4,000

high school students. It is also worth mentioning that, statewide, the percentage of college-credit contracted CTE students increased from 16.4 percent in AY2014 to 21.4 percent in AY2018.

Figure 3.5 presents secondary CTE enrollment by grade level. The pattern of CTE enrollment by grade level held steady over the past five years: 9th graders were the largest group averaging 28.7 percent, followed by 10th graders averaging 25.7 percent; and students in grades 11 and 12 accounted for 23.4 percent and 22.3 percent of total secondary CTE enrollment respectively.

TABLE 3.2: PERCENTAGE OF COLLEGE-CREDIT CTE STUDENTS BY SCHOOL DISTRICT SIZE: AY2014-AY2018

High School Student Enrollment	AY2014	AY2015	AY2016	AY2017	AY2018	Five-Year Average
<100	10.3%	8.6%	12.1%	12.1%	11.7%	11.0%
100-299	9.2%	10.0%	12.3%	13.3%	15.5%	12.1%
300-499	13.0%	15.2%	16.3%	15.8%	19.2%	15.9%
500-1249	17.6%	16.9%	19.9%	19.1%	20.7%	18.8%
1250-3999	21.2%	20.9%	24.6%	23.6%	24.2%	22.9%
>4000	24.7%	25.7%	27.4%	29.4%	29.6%	27.4%
State Total	16.4%	17.1%	19.5%	19.6%	21.4%	18.8%

FIGURE 3.5: SECONDARY ENROLLMENT BY GRADE LEVEL: AY2014 - AY2018

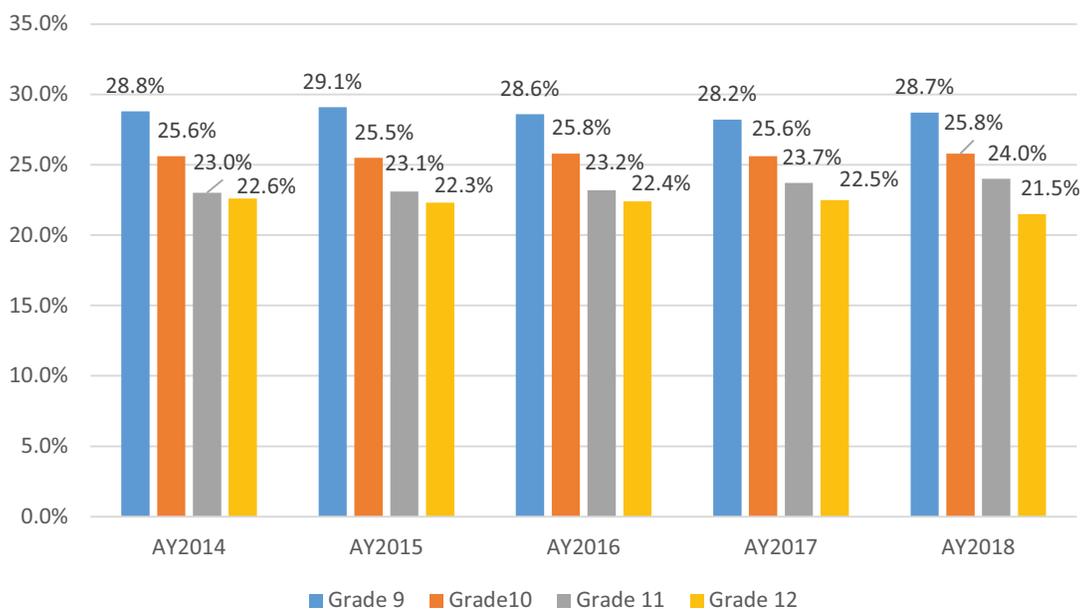


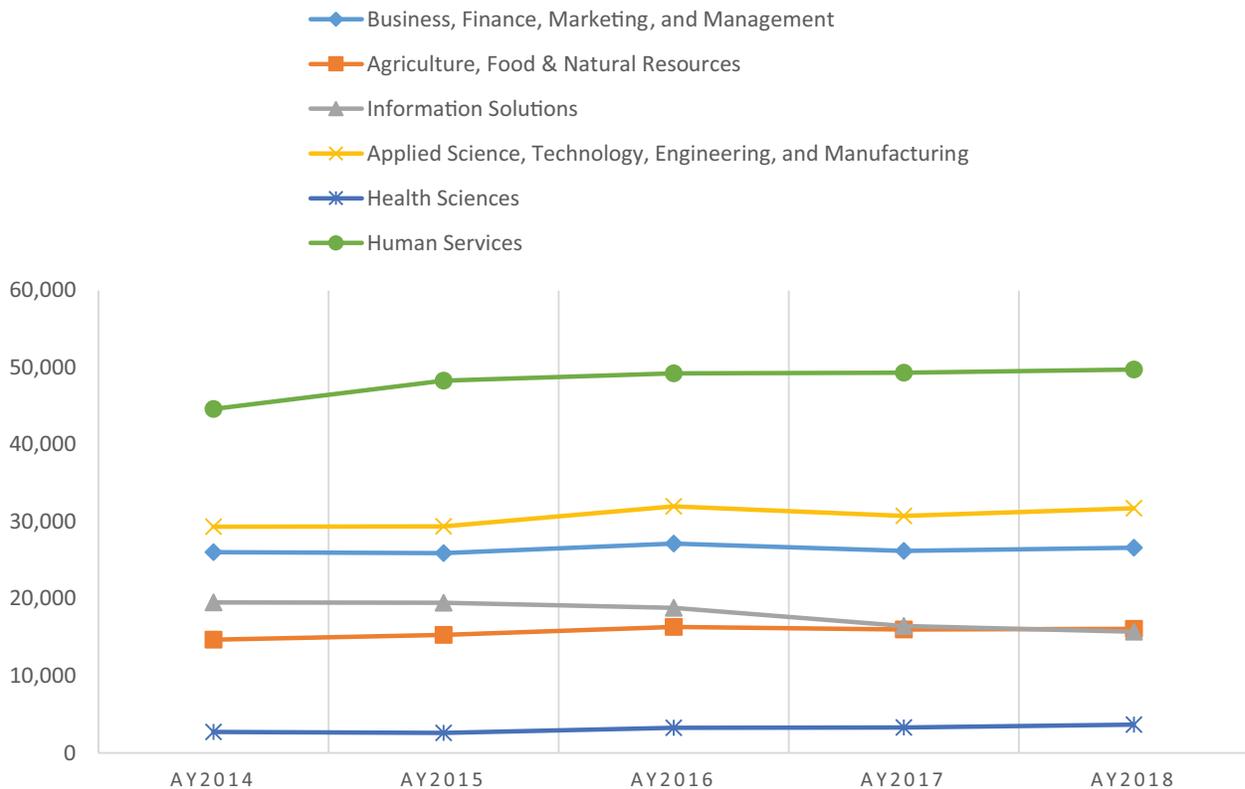
TABLE 3.3: SECONDARY CTE ENROLLMENT BY SERVICE AREA: AY2014 - AY2018

Service Area	AY2014	AY2015	AY2016	AY2017	AY2018	CAGR *
Business, Finance, Marketing, and Management	26,077	25,932	27,165	26,239	26,632	0.5%
Agriculture, Food and Natural Resources	14,703	15,315	16,360	16,033	16,134	2.3%
Information Solutions	19,538	19,488	18,833	16,475	15,746	-5.3%
Applied Science, Technology, Engineering, and Manufacturing	29,375	29,425	32,023	30,787	31,763	2.0%
Health Sciences	2,726	2,628	3,285	3,314	3,684	7.8%
Human Services	44,649	48,313	49,257	49,340	49,767	2.8%

Note: Students can take CTE courses across different service areas and thus may be counted multiple times.

* CAGR=Compound Annual Growth Rate

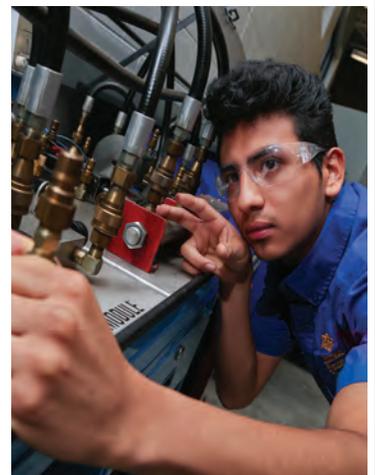
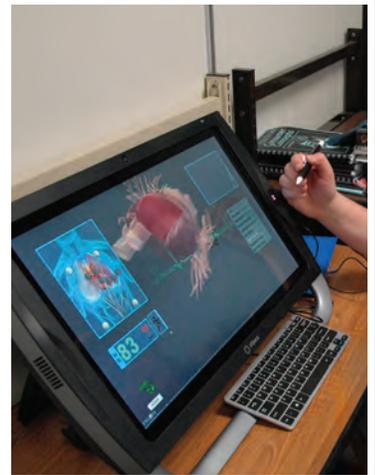
FIGURE 3.6: ENROLLMENT CHANGE IN SERVICE AREAS: AY2014 - AY2018



Chapter Highlights

Over a five-year period:

- » Overall enrollment in secondary CTE and overall secondary CTE participation rates remained steady, Nevertheless, more recent participation in CTE courses and programs has shown an upward tick. Students in smaller school districts were participating at relatively higher rates in secondary CTE.
- » There was significant growth in student participation in college-credit contracted CTE courses, with college-credit contracted CTE participation rates were much lower for smaller school districts. The reverse relationship is true for larger school districts.
- » CTE student enrollment by grade level declines after 9th grade, with the lower enrollment seen in subsequent grades.
- » In general, enrollment of students in all service areas showed an upward trend, except in the Information Solutions service area.



Chapter 4. Characteristics of Secondary CTE Students

Who are the students that take CTE coursework in Iowa’s high schools? What are the demographics? How many are National School Lunch Program eligible? This chapter describes the characteristics of secondary CTE students.

This chapter also covers the distributions and demographics of secondary CTE students across grades 9 – 12, as well as the number of CTE courses take, over the past five academic years.

Demographics of Secondary CTE Students

Among all secondary CTE students, white students made up 79 percent of the student body. Figure 4.1 displays the proportion of white students and the proportion of minority students enrolled in secondary CTE programs. The percentage of minority secondary CTE students increased steadily from 17.7 percent

in AY2014 to 20.6 percent in AY2018. Hispanic students comprised the largest minority group, averaging 46.9 percent, followed first by African-American students, averaging 25.1 percent, and then by students who reported more than one race, averaging 13.5 percent (see Table 4.1).

FIGURE 4.1: PROPORTION OF WHITE VS MINORITY SECONDARY CTE STUDENTS: AY2014 - AY2018

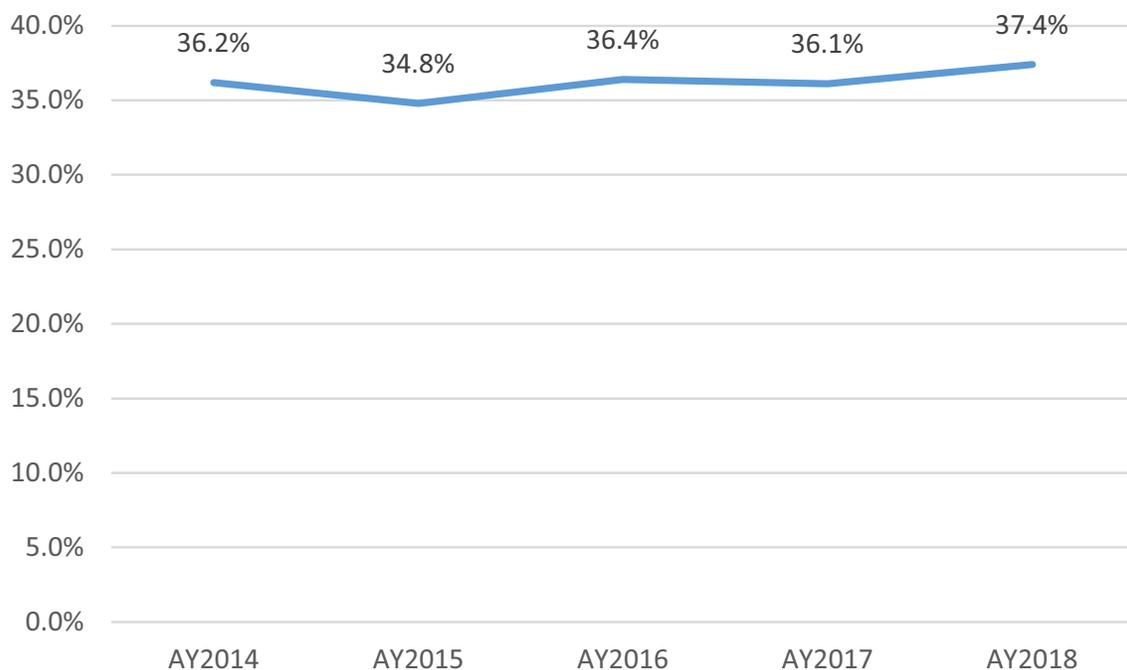


TABLE 4.1: DISTRIBUTION OF MINORITY SECONDARY CTE STUDENTS: AY2014 - AY2018

Race/Ethnicity	AY2014		AY2015		AY2016		AY2017		AY2018	
	N	%	N	%	N	%	N	%	N	%
Hispanic	7,771	46.2	8,221	46.4	8,844	47.2	9,157	47.4	9,531	47.7
Black	4,340	25.8	4,573	25.8	4,638	24.8	4,818	24.9	4,836	24.2
More than one	2,241	13.3	2,336	13.2	2,595	13.9	2,603	13.5	2,761	13.8
Asian	1,951	11.6	2,099	11.8	2,146	11.5	2,193	11.4	2,306	11.5
American Indian/Alaskan Native	390	2.3	343	1.9	341	1.8	340	1.8	325	1.6
Pacific Islanders	127	0.8	151	0.9	162	0.9	201	1.0	224	1.1
State	16,820		17,723		18,726		19,312		19,983	

Figure 4.2 summarizes the enrollment of secondary CTE students by gender. Over the past five years, there were more male CTE students than female CTE students. Although the number of female students enrolled in CTE courses increased slightly from 43,165 in AY2014 to 43,277 in AY2018, the proportion of female students in secondary CTE enrollment slightly decreased from 45.3 percent to 44.7 percent.

The proportion of secondary CTE students who were eligible for the National School Lunch Program is shown in Figure 4.3. The percentage of students eligible for the National School Lunch Program fluctuated between 34.8 percent and 37.4 percent during the past five years.

FIGURE 4.2: PROPORTION OF MALE AND FEMALE SECONDARY CTE STUDENTS: AY2014 - AY2018

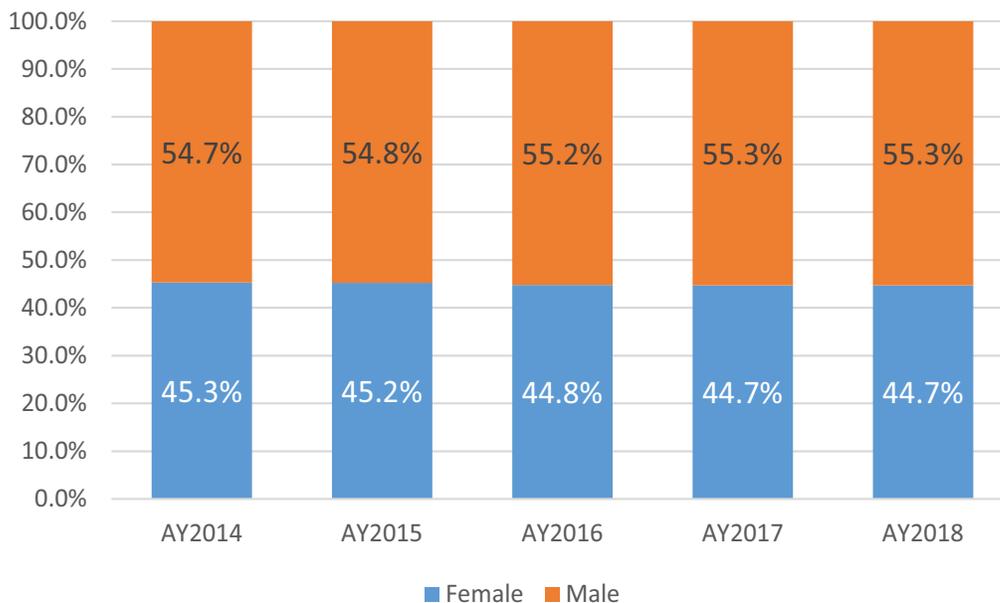
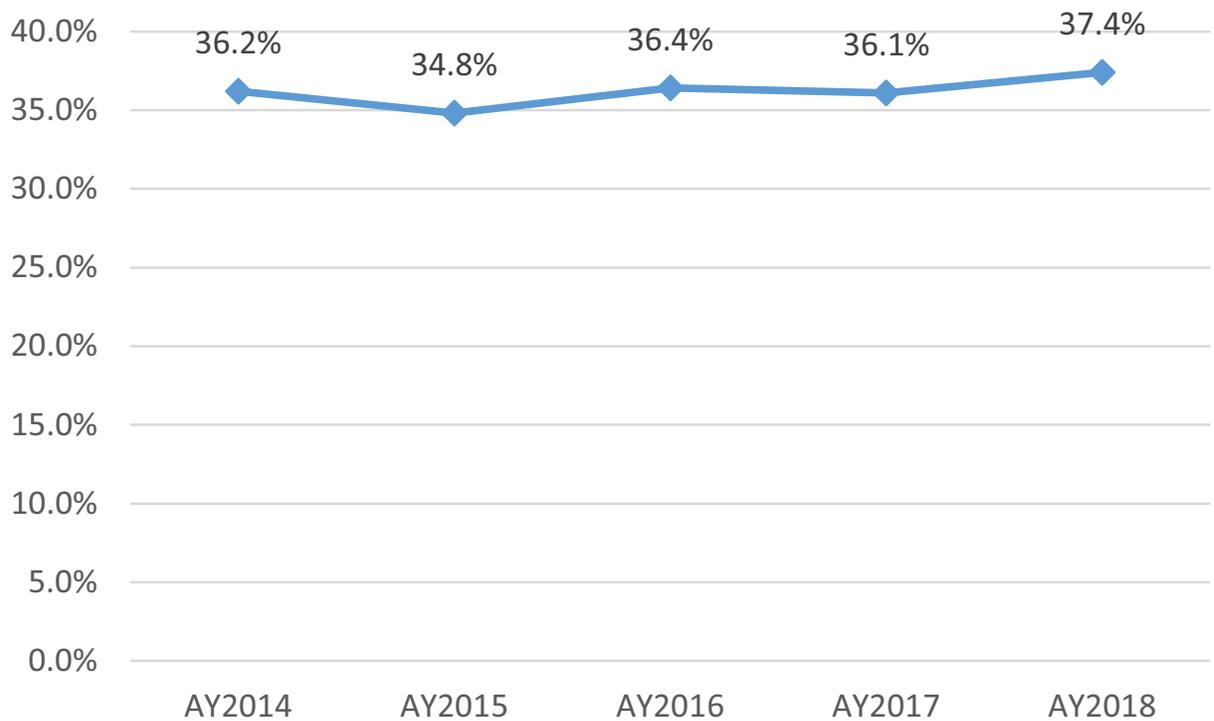


FIGURE 4.3: PROPORTION OF SECONDARY CTE STUDENTS WHO WERE ELIGIBLE FOR NATIONAL SCHOOL LUNCH PROGRAM: AY2014 - AY2018



Trends in CTE Course-Taking by Secondary Students

Figure 4.4 displays the distribution of CTE course-taking (both secondary and college-credit contracted) per student since AY2014. Between AY2014 and AY2017, approximately 44 percent of students who participated in the CTE program took one CTE course in an academic year. In AY2018, this group of students dropped to 33.8 percent. The proportion of students who took two CTE courses in an academic year was steady in the past five years, approximately 30 percent.

Over 35 percent of students took three or more CTE courses in AY2018, compared to less than 25 percent between AY2014-AY2017.

With regard to an average number of CTE courses taken per student, it has grown by 6.7 percent (compound annual growth rate). In AY2018, on average, secondary students enrolled in 2.36 CTE courses per academic year, compared to 1.86 in AY2014 (Figure 4.5).

FIGURE 4.4: DISTRIBUTION OF SECONDARY STUDENTS BY NUMBER OF CTE COURSES:
AY2014 - AY2018

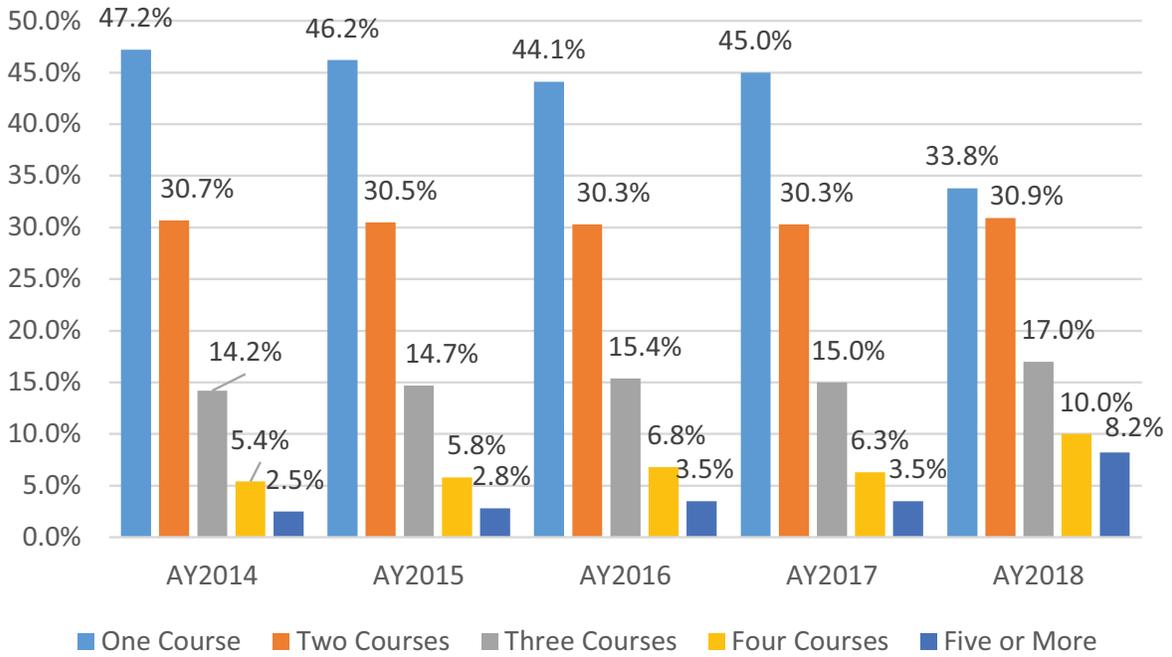
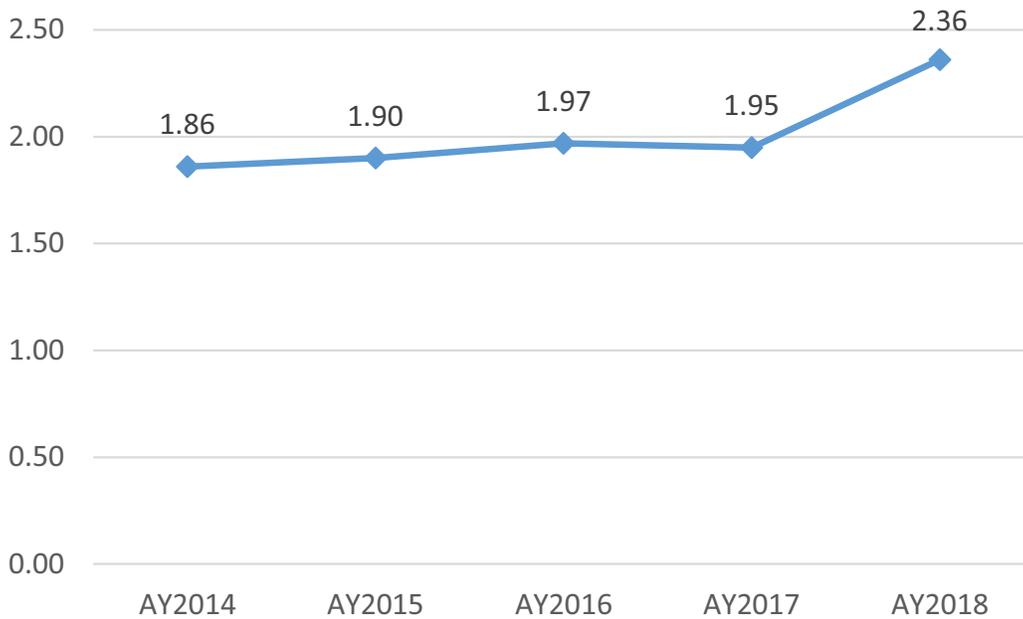


FIGURE 4.5: AVERAGE NUMBER OF CTE COURSES TAKEN BY
SECONDARY STUDENTS: AY2014 - AY2018



On average, students in 12th grade appeared to take more CTE courses per academic year than students in other grades (Figure 4.6).

Figures 4.7 – 4.9 demonstrate the following: Male secondary students took more CTE courses than female students; White secondary students took more CTE courses than minority students; and the difference between secondary CTE students who were eligible for free and reduced-price meals and those who were not eligible was not salient.



FIGURE 4.6: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY GRADE LEVEL: AY2014 - AY2018

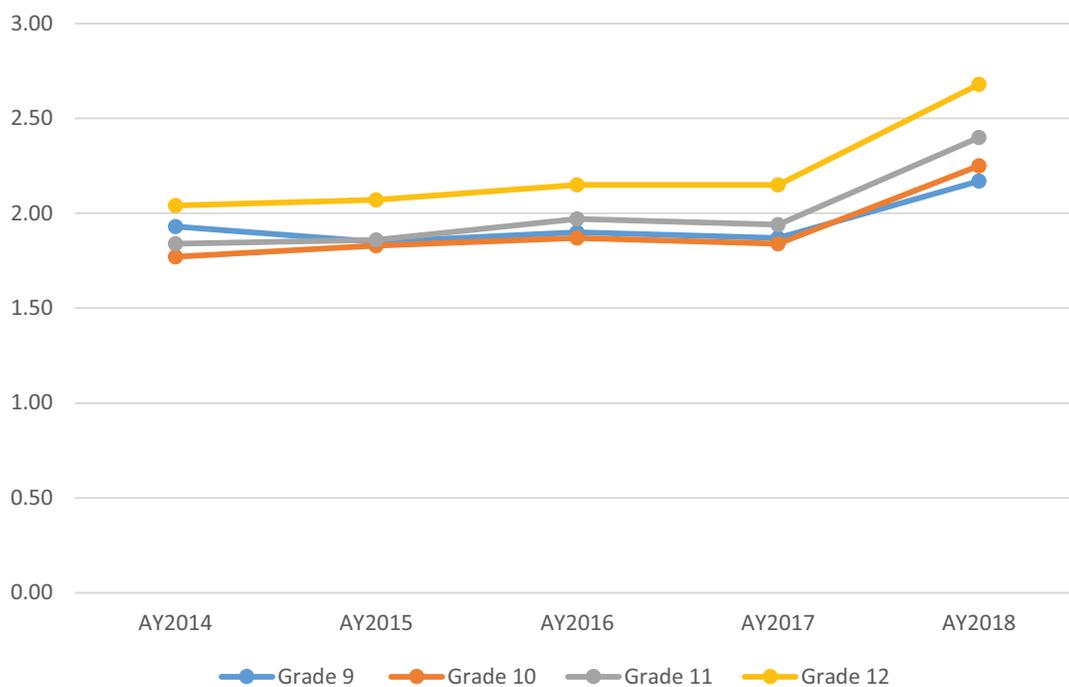


FIGURE 4.7: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY GENDER: AY2014 - AY2018

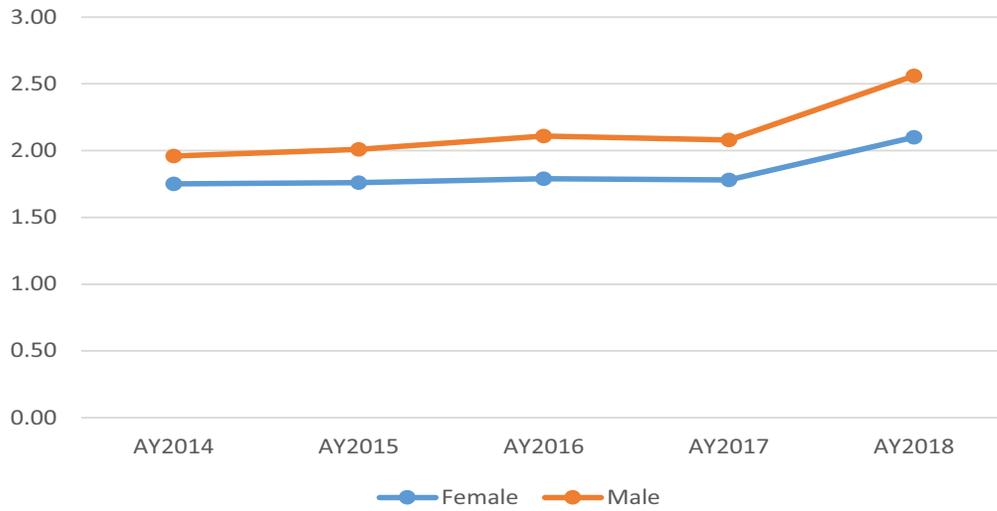


FIGURE 4.8: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY RACE/ETHNICITY: AY2014 - AY2018

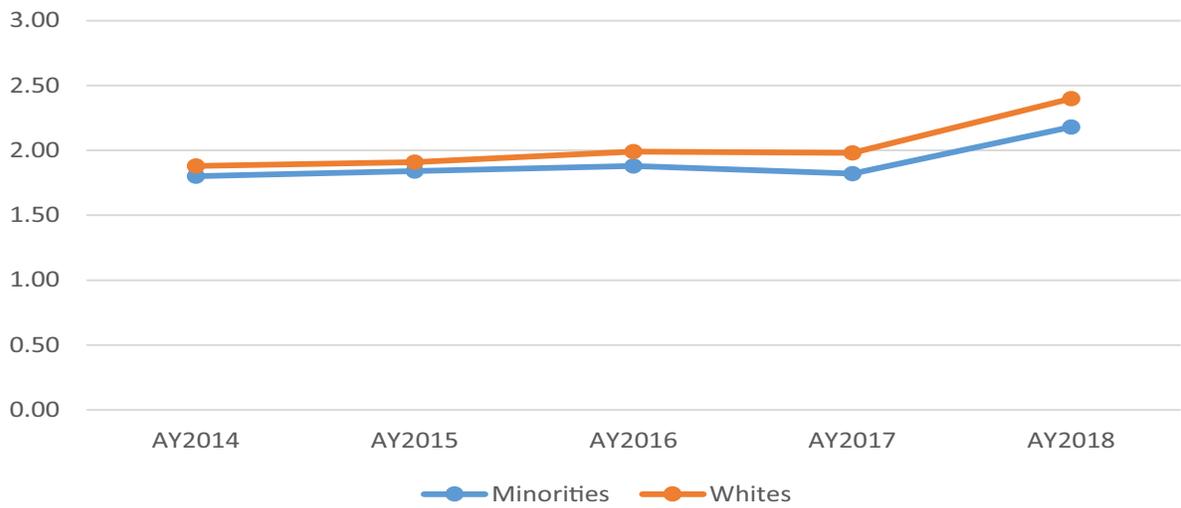
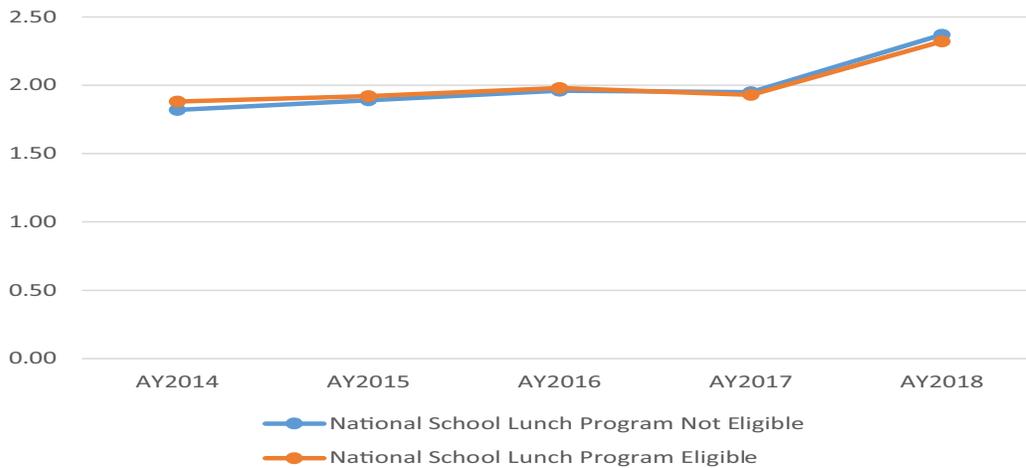


FIGURE 4.9: COMPARISON OF AVERAGE NUMBER OF CTE COURSES BY FREE OR REDUCED-PRICE MEAL PROGRAM ELIGIBILITY: AY2014 - AY2018





Chapter Highlights

Over a five-year time period:

- » White students show a slight decline in secondary CTE participation, while there was a slight increase for minority students.
- » Hispanic and African American students make up about 70 percent of overall minority secondary student CTE participation. CTE participation for different student population groups has held steady.
- » The same can be said of secondary student participation in CTE by gender, with overall participation by male students being higher than female students.
- » The proportion of secondary CTE students who were eligible for the National School Lunch Program remained steady. Of note, there is not a significant relationship between the proportion of secondary CTE students who were eligible for the National School Lunch Program and those who were not when it came to CTE course-taking.
- » There has been a steady rise in annual CTE course-taking across grades 9 – 12.
- » While the average number of CTE courses taken remained steady till AY2017, it rose in AY2018.
- » The proportion of students taking at least two courses remained steady till AY2017. In AY2018, that proportion increased.

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Chapter 5. Secondary CTE Human Resources

This chapter reports on secondary teachers and community college faculty responsible for teaching secondary CTE students. The first part of this chapter summarizes data available regarding secondary CTE teachers employed by school districts. Information on K – 12 staff is collected from Iowa’s public school districts through the Licensed Staff Detail report on the Basic Educational Data Survey (BEDS) at the beginning of each school year. For this report, the following information on CTE teachers for grades 9 – 12 from AY2014 to AY2018 was extracted from BEDS: race/ethnicity, gender, age, years of experience, base salaries, and type of employment. This data was also matched with the data from the Iowa Board of Educational Examiners to cross-reference teaching endorsements. Both full- and part-time secondary CTE teachers are reported.

The second part of this chapter reports information of CTE faculty employed by Iowa’s community colleges who teach college-credit contracted CTE courses for high school students. The Community College Management Information System (MIS) was used to report on this data. Community college faculty who had at least one high school student in their college-credit CTE classes in an academic year are identified as college-credit contracted CTE teachers in this report. These instructors may be full-time, adjunct, or part-time. For differentiating purpose, faculty employed by school districts are referred to as secondary CTE teachers, and faculty employed by community colleges are referred to as college-credit contracted CTE faculty in this chapter.

Secondary CTE Teacher Characteristics

Figure 5.1 displays the number of full- and part-time CTE teachers employed by school districts since AY2014. The number of CTE teachers has grown by 1.9 percent (compound annual growth) from 1,784 in AY2014 to 1,925 in AY2018. The number of full-time CTE teachers increased from 1,678 to 1,806, also a 1.9 percent compound annual growth. The number of part-time CTE teachers increased from 106 in AY2014 to 119 in

AY2018, a 2.9 percent compound annual growth. In terms of gender, male CTE teachers have traditionally outnumbered females (Figure 5.2); however, in AY2018, females accounted for 50.5 percent of CTE teachers. The number of female CTE teachers increased by 6.0 percent (compound annual growth) from AY2014 to AY2018, while the number of male CTE teachers dropped 1.5 percent (compound annual growth).

FIGURE 5.1: NUMBER OF SECONDARY CTE TEACHERS BY EMPLOYMENT TYPE: AY2014 - AY2018

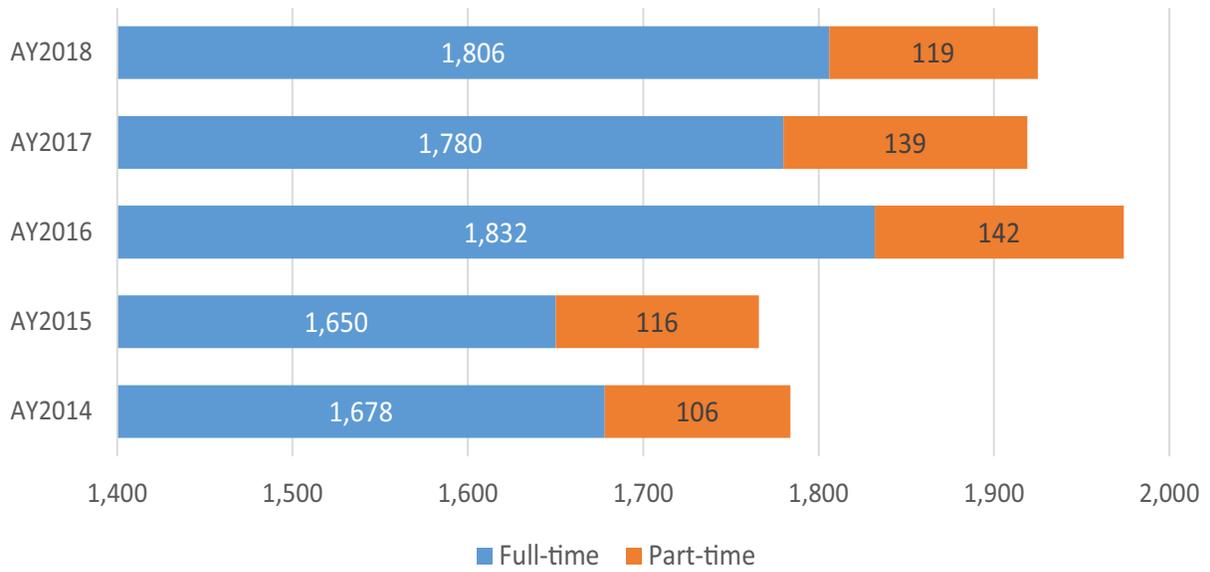
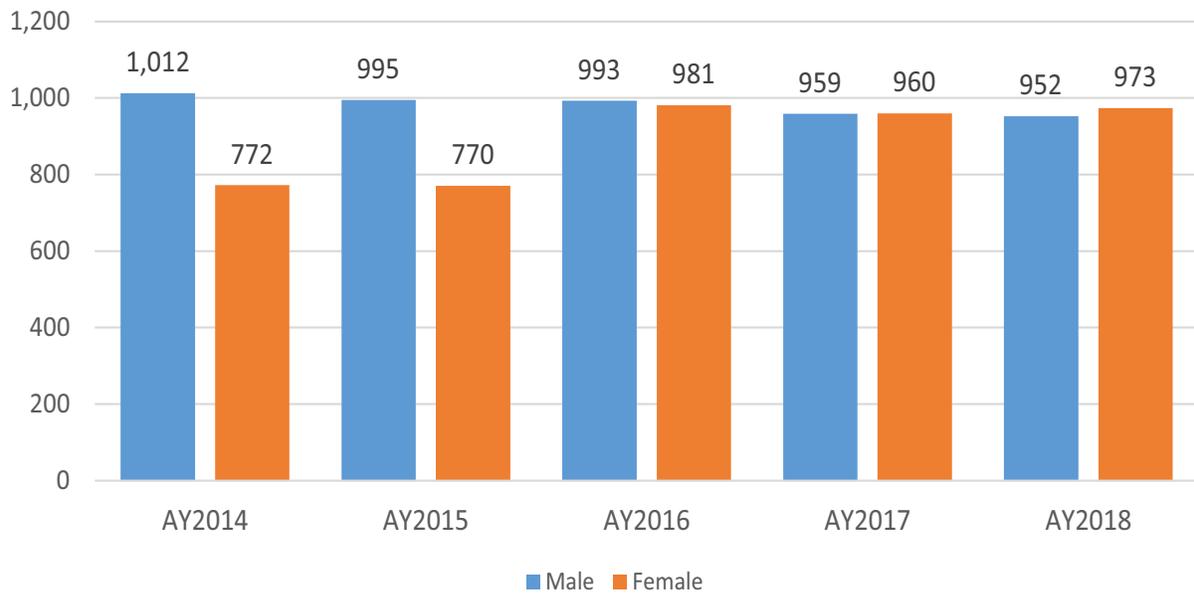


FIGURE 5.2: NUMBER OF SECONDARY CTE TEACHERS BY GENDER: AY2014 - AY2018



As to race/ethnicity, the proportion of white and minority teachers stayed about the same, with minorities accounting for less than two percent of the CTE teacher population (Table 5.1). There is little variation regarding the average age, average district experience, and average total experience among secondary CTE teachers during the past five years (Table

5.2). The average base salary of CTE teachers (including part-time teachers) has increased by 2.2 percent (compound annual growth) from \$50,258 in AY2014 to \$54,872 in AY2018. For full-time CTE teachers, the average base salary has also increased by 2.2 percent (compound annual growth) from \$51,372 to \$56,128. When adjusted for inflation, the increase is 0.76 percent in terms of compound annual growth.

TABLE 5.1: SECONDARY CTE TEACHERS BY RACE/ETHNICITY: AY2014 - AY2018

Race/Ethnicity	AY2014	AY2015	AY2016	AY2017	AY2018
	%	%	%	%	%
Asian	0.2	0.2	0.2	0.2	0.2
Black	0.8	0.6	0.7	0.6	0.7
Hispanic	0.1	0.1	0.2	0.3	0.4
More than one	0.1	0.1	0.1	0.1	0.1
American Indian/ Alaskan Native	0.1	0.1	0.1	0.1	0.1
White	98.7	98.8	98.7	98.9	98.5
Total	100	100	100	100	100

TABLE 5.2: AGE, BASE SALARY, TOTAL EXPERIENCE, AND DISTRICT EXPERIENCE OF SECONDARY CTE TEACHERS: AY2014-AY2018

Year	Age (Years)	Base Salary	Total Experience (Years)	District Experience (Years)
AY2014	43.0	\$50,258	14.7	10.7
AY2015	43.1	\$51,854	14.7	10.6
AY2016	43.4	\$52,724	14.7	10.5
AY2017	43.2	\$54,229	14.7	10.5
AY2018	43.1	\$54,872	14.6	10.5

Secondary CTE Teachers in Six Service Areas

High school teachers are required to obtain relevant CTE endorsements (certificates) or authorizations to teach secondary CTE courses. Each teacher can obtain multiple certificates. For reporting purposes, secondary CTE endorsements are categorized based on six service areas. Teachers with 5-12 Multi-Occupations, 5-12 Work Experience Coordinator, Post Secondary Multi-Occupation Preparatory, or Vocation (9-12) endorsements can teach secondary courses applicable to all service areas (noted in Figure 5.3 as Applicable to All Service Areas).

As shown in Figure 5.3, in AY2018, teachers with endorsements in Business, Finance, Marketing, and Management (894) was the largest group, followed by Human Services (632), Applied Science Technology, Engineering, and Manufacturing (474), and Agriculture, Food, and Natural Resources (433). Noticeably fewer secondary CTE teachers have endorsements in Information Solutions (31) or Health Sciences (26), while 109 teachers have endorsements applicable to all service areas.

FIGURE 5.3: NUMBER OF SECONDARY CTE TEACHERS BY ENDORSEMENT TYPE: AY 2018

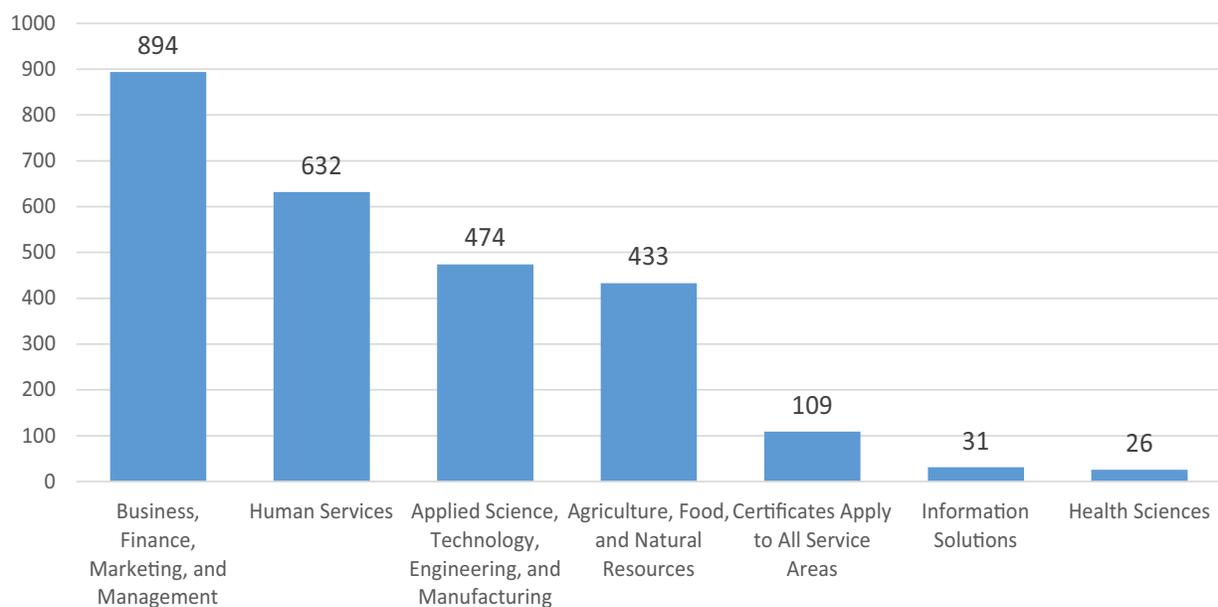
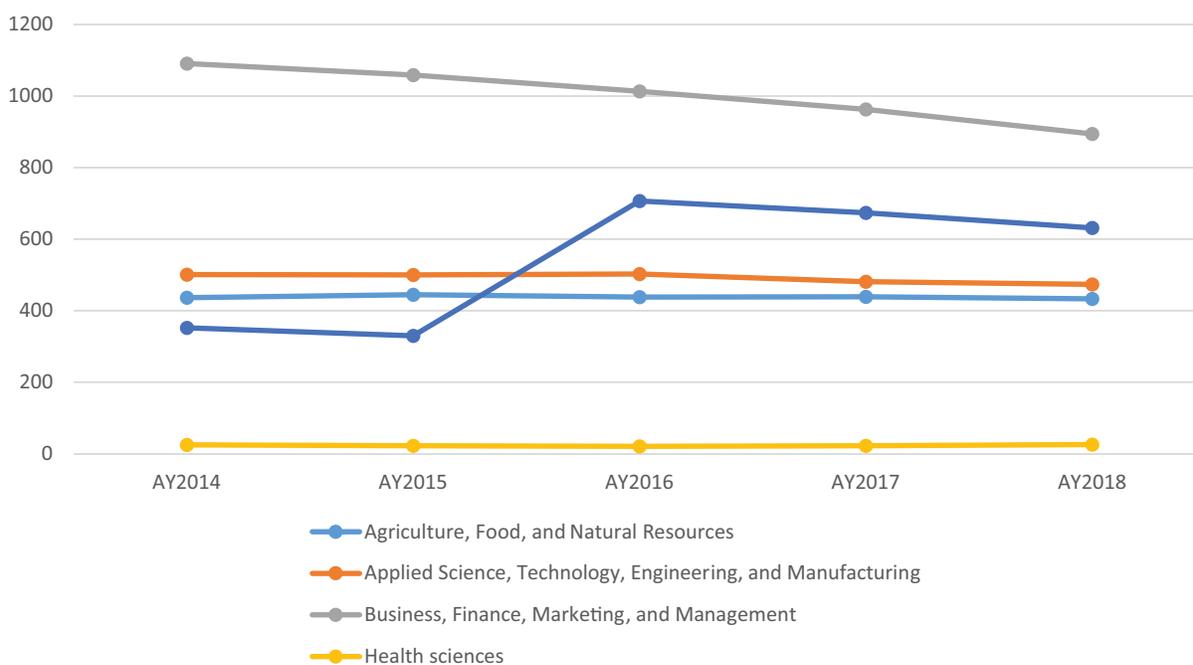


Figure 5.4 demonstrates the change in the number of endorsements in different service areas over the past five years. In terms of compound annual growth rate, the number of teachers with an endorsement in Human Services, Information Solutions, and Health Science has increased by 15.8 percent, 6.6 percent, and 1.0 percent respectively. Although teachers with endorsements in Business, Finance, Marketing, and Management was the largest group, this group of teachers has decreased by 4.9 percent. The number of

teachers with an endorsement in Applied Science, Technology, Engineering, and Manufacturing has decreased by 1.4 percent over the five years. The number of teachers with an endorsement in Agriculture, Food, and Natural Resources did not fluctuate dramatically over the years.

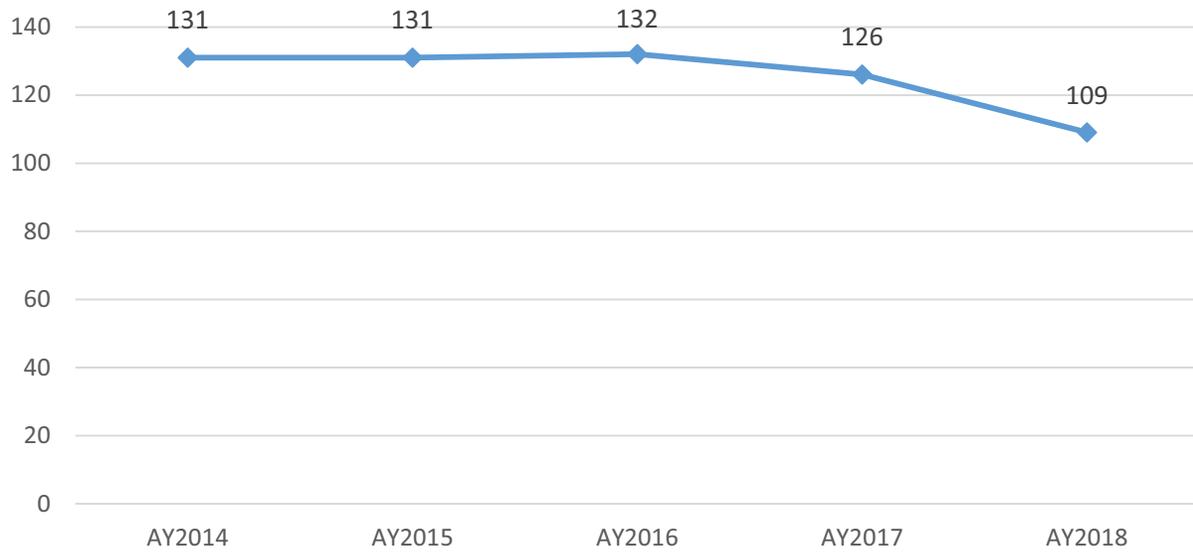
Figure 5.5 displays the change of a number of teachers with endorsements applicable to all service areas. It appeared that this group decreased by 4.5 percent.

FIGURE 5.4: NUMBER OF TEACHERS WITH CTE ENDORSEMENTS BY SERVICE AREA: AY2014-AY2018



Note: Historical information is not available for Information Solutions since it is a new endorsement for K-12 teachers in AY2018.

FIGURE 5.5: NUMBER OF TEACHERS WITH AN ENDORSEMENT APPLICABLE TO ALL SERVICE AREAS: AY2014-AY2018



Community College CTE Faculty Characteristics

Figure 5.6 displays the number of full-time, adjunct and part-time CTE faculty employed by community colleges and teaching college-credit contracted CTE courses since AY2014. The number of community college CTE faculty teaching high school students increased by 1.4 percent (annualized) from 1,897 in AY2014 to 2,001 in AY2018. Unlike secondary CTE teachers employed by school districts where they were mainly full-time, approximately 70 percent of community college CTE faculty teaching high school students were adjunct or part-time. Although the proportion of full-time community college CTE faculty was less than one third, the number of full-time CTE faculty increased by 1.9 percent from 563 in AY2014 to 606 in AY2018.

In terms of gender, females have outnumbered males (Figure 5.7). The number of female and male community college CTE faculty teaching high school students increased from AY2014 to AY2018 with compound annual growth rates of 1.8 percent and 0.9 percent. While 2.5 percent did not report their race/ethnicity, White faculty were the largest group teaching college-credit contracted CTE courses (see Table 5.3). There is little variation regarding age, averaging 49 years old, of community college CTE faculty teaching high school students. The average salary of these CTE faculty (including part-time instructors) increased with a compound annual rate of 5.7 percent from \$24,322 in AY2014 to \$30,340 in AY2018. When adjusting for inflation, the five-year growth in salary, on a year-to-year basis, is a little over 4.1 percent.

FIGURE 5.6: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY BY EMPLOYMENT TYPE:
AY2014-AY2018

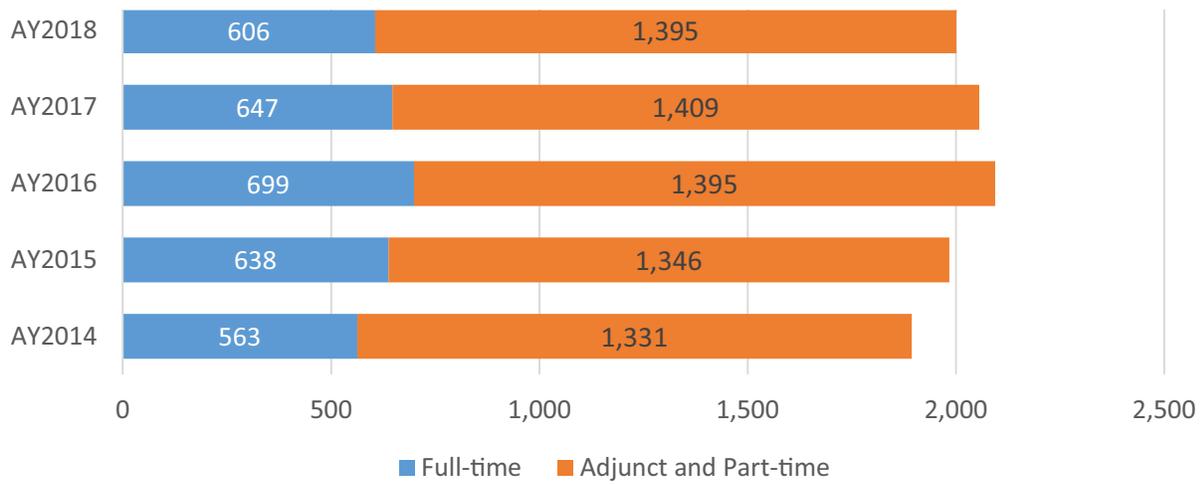


FIGURE 5.7: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY BY GENDER:
AY2014 - AY2018

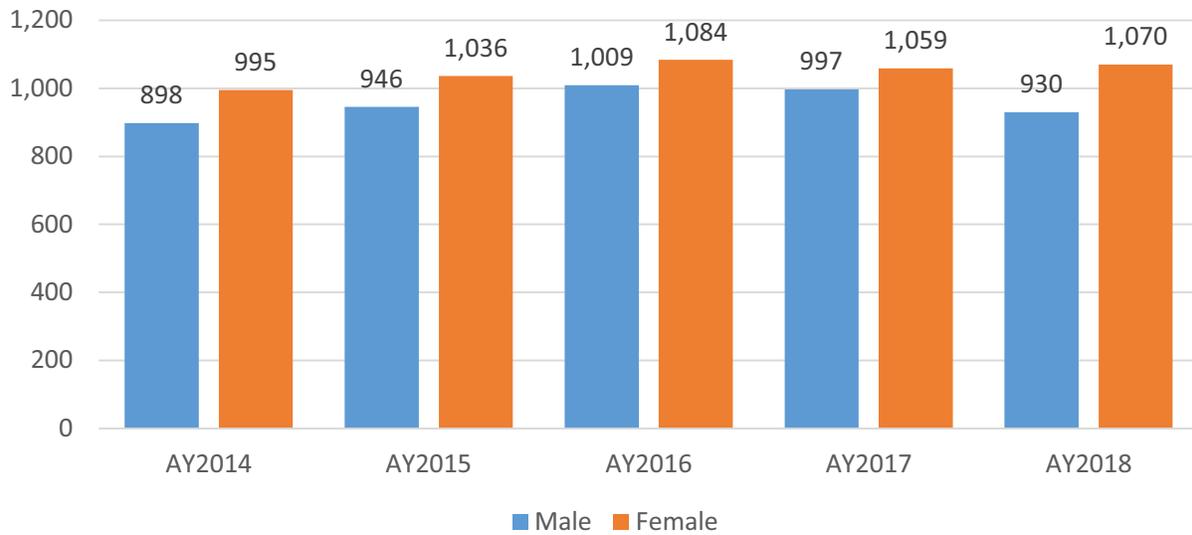


TABLE 5.3: COLLEGE-CREDIT CONTRACTED CTE FACULTY BY RACE/ETHNICITY: AY2014-AY2018

Race/Ethnicity	AY2014	AY2015	AY2016	AY2017	AY2018
	%	%	%	%	%
Asian	1.7	1.8	1.8	2.0	1.5
Black	1.4	1.9	2.0	2.0	1.7
Hispanic	1.2	0.9	1.2	1.4	1.4
More than one	1.1	0.8	0.5	0.9	0.8
American Indian/ Alaskan Native	0.1	0.3	0.3	0.4	0.2
White	94.5	94.3	94.2	93.3	94.0
Total	100	100	100	100	100

College-Credit Contracted CTE Faculty in the Six Service Areas

Figure 5.8 displays the unduplicated count of community college CTE instructors teaching high school students by service area. Community college faculty who taught courses in more than one service area are categorized under the heading “More than One,” which was the largest community college faculty group teaching secondary students (879 instructors) in AY2018.

The second largest community college CTE faculty group teaching high school students were Human Services (341), followed by Health Sciences (311). In contrast, only 51 CTE faculty taught courses solely in Agriculture, Food, and Natural Resources, indicating the school districts relied more heavily on the community colleges for CTE instruction in other service areas.

FIGURE 5.8: COLLEGE-CREDIT CONTRACTED CTE FACULTY BY SERVICE AREA IN AY2018

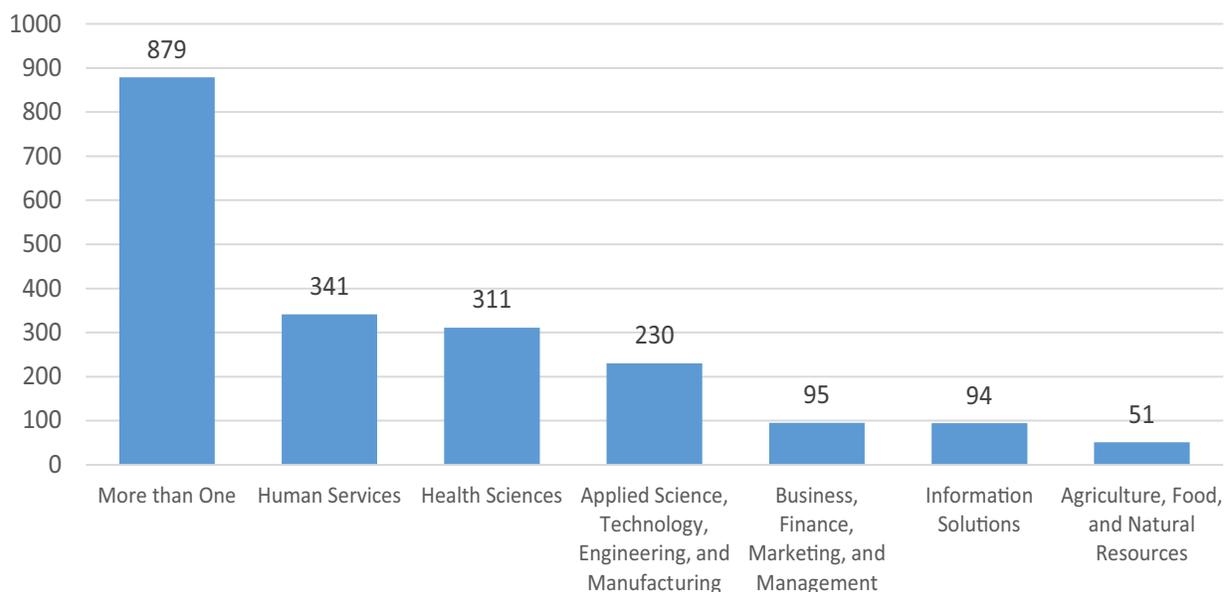


Figure 5.9 demonstrates the change in a number of community college CTE faculty teaching secondary students in the six service areas over the past five years. Regarding compound annual change, the number of faculty in four service areas increased: Health Sciences (6.1 percent), Agriculture, Food, and Natural Resources (2.1 percent), Business, Finance, Marketing, and Management (0.3 percent), and Applied Science,

Technology, Engineering and Manufacturing (0.2 percent). Faculty who taught courses in more than one service area also increased by 1.1 percent. In Human Services and Information Solutions, there was a slight decrease, less than 1.0 percent. The number of faculty teaching high school students in multiple service areas increased by 1.1 percent.

FIGURE 5.9: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY BY SERVICE AREA: AY 2014 - AY2018

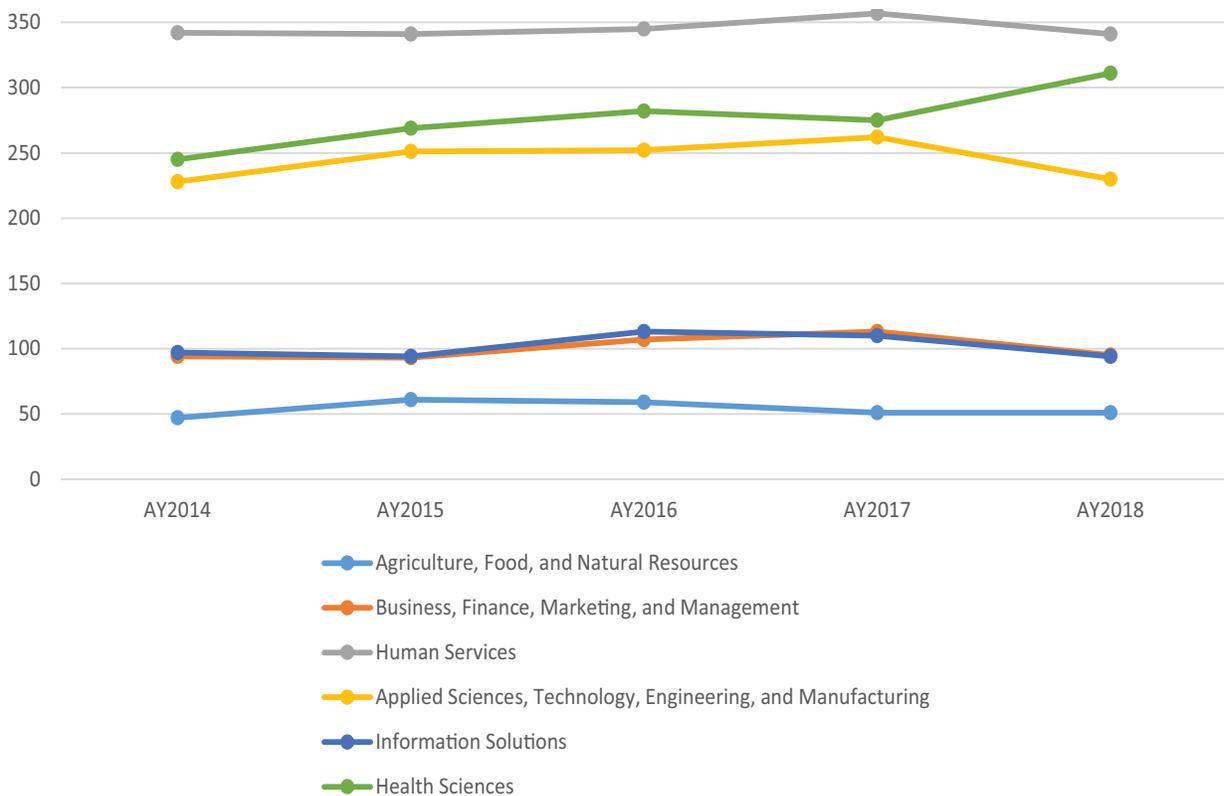
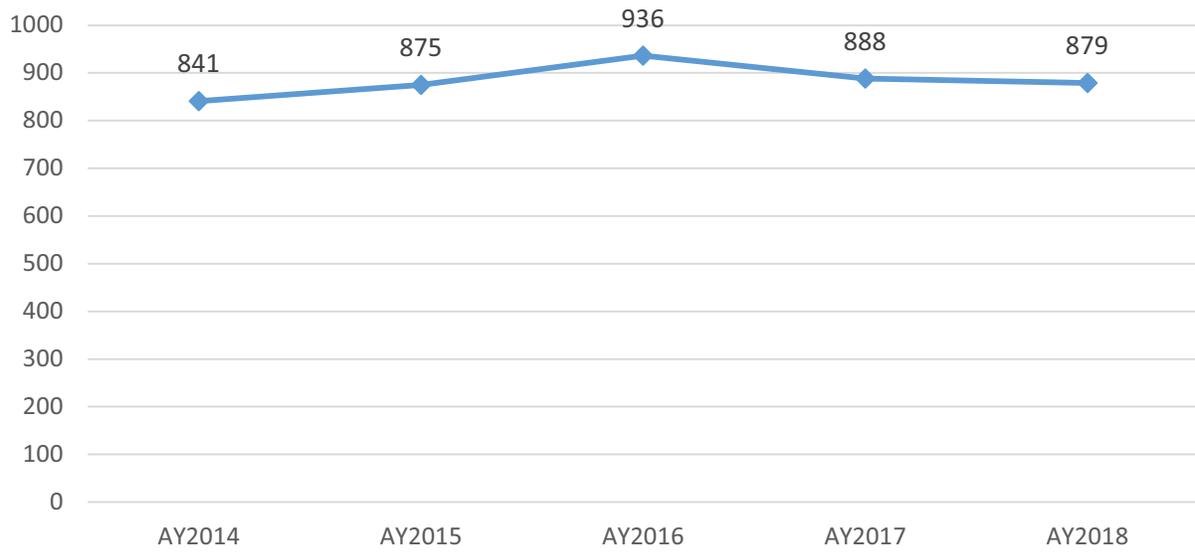


FIGURE 5.10: NUMBER OF COLLEGE-CREDIT CONTRACTED CTE FACULTY
IN MORE THAN ONE SERVICE AREA: AY2014 - AY2018



Chapter Highlights

Over a five-year time period:

- » Secondary CTE teacher characteristics have not changed significantly. The secondary CTE teacher is, for the most part, white and, on average, 43 years old.
- » The service areas in which secondary CTE teachers have received the most CTE endorsements are more aligned to those service areas that were in place prior to the reconfiguration as a result of HF2392. As HF2392 reaches full implementation, there should be realignment as secondary CTE teachers focus more on the newer service areas or get endorsements in multiple areas.
- » Secondary CTE teachers have experienced salary increases, but in real terms there has been very little change in salaries.
- » Characteristics of community college CTE faculty teaching high school students are female, white, working as part-time or adjunct faculty, are close to 50 years old, and (adjusting for inflation), have annual year-to-year increases of 4.1 percent.



Section II:

Four Emerging Areas of Focus for Implementing High-Quality Career and Technical Education



Chapter 6: Career and Technical Student Organizations

Career and technical student organizations (CTSOs) enhance career and leadership development of secondary and post-secondary students through contextual instruction, applied learning, and real-world application. CTSOs are not “clubs,” but rather are an integral component of the classroom curriculum and instruction. CTSOs are referred to as co-curricular activities, in which students are engaged in hands-on demonstrations and real life and work experiences related to a particular career interest. The national CTSO website (CTSOs.org) states the following:

As student organizations, CTSOs guide students in developing a career path, (and) a program of study, and provide opportunities in gaining the skills and abilities needed to be successful in those careers through classroom/laboratory instructions, competitive events and other student organization activities. Also, CTSOs offer students opportunities to hold leadership positions at the local, state, and national level and organize leadership development conferences, in which students can network with other students as well as business and industry partners.

CTSOs in Iowa

Table 6.1 describes the participant outcomes, CTE program focus, and AY2017 membership for the secondary CTSOs supported by the Iowa Department of Education by providing limited financial support through Carl D. Perkins funding. The Department holds the state charter for each CTSO established within the state and provides technical assistance to them as needed. Active secondary CTSOs in Iowa include:

- » Business Professionals of America (BPA)
- » DECA
- » Family, Career, and Community Leaders of America (FCCLA)
- » Future Business Leaders of America/Phi Beta Lambda (FBLA-PBL)
- » National FFA Organization
- » HOSA – Future Health Professionals
- » SkillsUSA
- » Technology Students Association (TSA)

Students participating in CTSOs have the opportunity to develop and enhance their leadership and citizenship skills within the context of career and program interests which also enhances their occupational skills and future employability. These organizations provide students opportunities in a caring, secure environment to participate in leadership initiatives, and to enhance their awareness of the role of community service and responsibility to governmental affairs.

As Table 6.1 describes in the participant outcomes column, activities are designed to provide opportunities for student achievement in sound decision-making, positive professional appearances, and skill attainment. These experiences are enhanced through the involvement of business, industry, and labor in a climate of positive interaction and cooperation. For many CTE students, this is the only leadership opportunity they will experience

during their educational careers. Communities, states, and the nation benefit, as well as the individual and their families.

CTSO Membership in Iowa

CTSOs in Iowa currently serve over 25,000 students at the secondary levels. Table 6.2 displays the total number of CTSO membership for the last four academic years. The total number

of CTSO membership increased by 1,566 (6.6 percent) during the AY2017 to AY2018 period. In the AY2015 to AY2018 period, FFA had the largest increase in membership, a total of 2,004 additional student members. During the same period, DECA saw a 52.6 percent increase in membership, the largest of all CTSOs in Iowa. FCCLA decreased in membership by 799 members, or 66.4 percent during the AY2015-AY2018 (see Table 6.1).

TABLE 6.1: SECONDARY CTSO MEMBERSHIP IN IOWA: AY 2015 - AY 2018

Year	BPA	DECA	FBLA	FCCLA	FFA	HOSA	SkillsUSA	TSA	Total
AY2015	552	488	1,148	2,378	13,458	287	267	6,572	25,150
AY2016	703	535	1,247	1,739	14,346	273	248	5,853	24,944
AY2017	502	761	1,293	1,577	14,754	378	221	4,267	23,753
AY2018	528	745	1,337	1,579	15,462	240	248	5,180	25,319
Trend									

FIGURE 6.1: SECONDARY CTSO MEMBERSHIP IN IOWA: AY 2015 - AY 2018

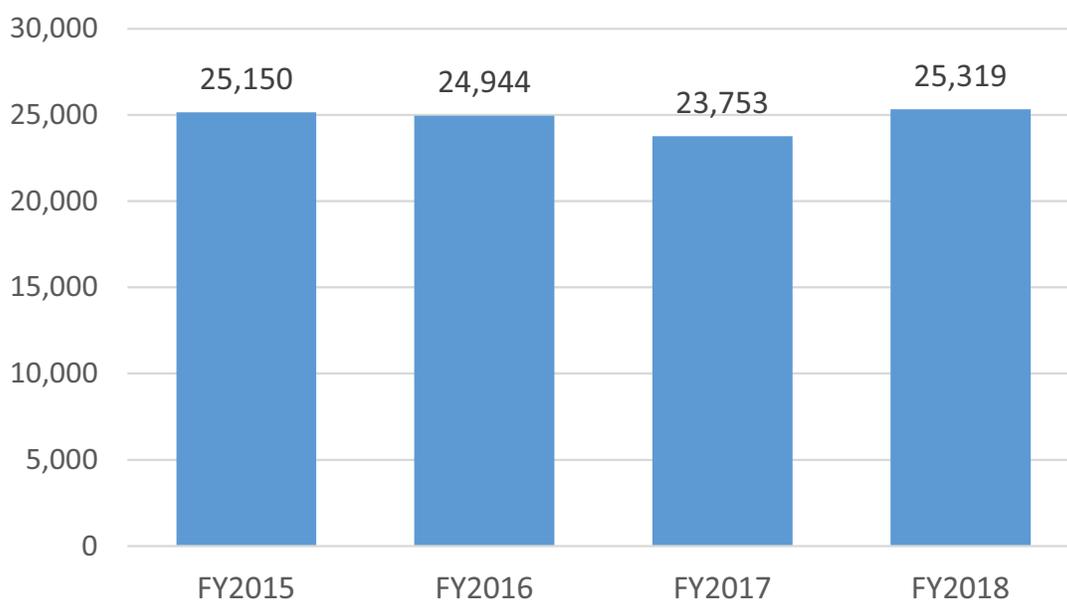


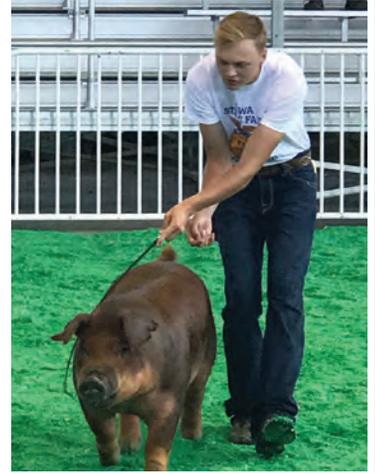
TABLE 6.2: MEMBERSHIP FOR EACH CTSO AT THE SECONDARY LEVEL IN FY2018

Student Organization	Participant Outcomes	CTE Programs	FY 2018 Membership
	<p>FFA develops students' leadership, promotes personal growth and career success, and encourages excellence in scholarship through agricultural education programs and services.</p>	<p>Agriculture, Food, and Natural Resources</p>	<p>15,462</p>
	<p>Technology Student Association (TSA) aims to enhance personal development, leadership, and career opportunities in STEM through intra-curricular activities, competitions, and related programs.</p>	<p>Manufacturing Science, Technology, Engineering, and Mathematics</p>	<p>5,180</p>
	<p>Family, Career and Community Leaders of America (FCCLA) promotes personal growth and leadership development through family and consumer sciences education. Members develop skills for life through character development, creative and critical thinking, interpersonal communication, practical knowledge, and career preparation.</p>	<p>Education and Training Hospitality and Tourism Human Services</p>	<p>1,579</p>
	<p>Future Business Leaders of America (FBLA) brings business and education together in a positive working and career development programs which focus on leadership development, academic competitions, and community service.</p>	<p>Business, Management and Administration Finance Information Technology</p>	<p>1,337</p>
	<p>DECA prepares emerging leaders and entrepreneurs in marketing, finance, hospitality and management in high schools and colleges around the world.</p>	<p>Hospitality and Tourism Marketing</p>	<p>745</p>
	<p>Business Professionals of America (BPA) contributes to the preparation of global professionals through the advancement of leadership, citizenship, academic, and technological skills.</p>	<p>Business, Management and Administration Finance Information Technology</p>	<p>528</p>
	<p>HOSA – Future Health Professionals promotes career opportunities in the health care industry and enhances the delivery of quality health care to all people.</p>	<p>Health Science</p>	<p>40</p>
	<p>SkillsUSA empowers its members to become world-class workers, leaders, and responsible American citizens. It improves the quality of our nation's future skilled workforce through personal, workplace, and technical skills grounded in academics.</p>	<p>Architecture/Construction Arts, AV/Technology and Communications, Human Services, Law, Public Safety, Corrections and Security, Transportation, Distribution and Logistics</p>	<p>248</p>

Chapter Highlights

Over a five-year time period:

- » Secondary CTSO membership has remained steady over the five-year period, around 25,000 students every year. Some CTSOs are seeing memberships decline, while others have had memberships rise.
- » DECA, FBLA, and FFA have had a steady rise in memberships; BPA, HOSA, SkillsUSA, and TSA have memberships fluctuating; and FCCLA memberships declined over the five-year period.



Chapter 7. Secondary Career and Academic Planning

A Redesign Career and Academic Planning Model: HF2392, Division I

Implementation of career planning is reported annually on or before September 15 of the subsequent year. Assurances are reported via the Consolidated Accountability and Support Application (CASA). Completion data are reported via the Comprehensive School Improvement Plan (CSIP) reporting process.

- » Three hundred and thirty-three (333) public school districts operated in Iowa during AY 2017; of those districts:
- » Thirty-nine (39) districts were involved in whole grade sharing agreements;
- » Twenty-seven (27) districts did not have a high school within their district and provided the high school program through an agreement with another district;
- » Three hundred and twenty (320) districts reported career-planning outcomes for students in grades 8 through 12; and,
- » Thirteen (13) districts, all involved in tuition and/or whole grade sharing agreements with other school districts, appropriately reported no participation with career planning requirements.

Career and Academic Planning Outcomes

One hundred percent (100%) of Iowa's 314 (N = 314*) school districts reported career-planning outcomes for 2018.

**Iowa has 330 school districts; 16 of which whole grade share with other districts who reported career planning outcomes for 2018.*

Iowa's Vision of High-Quality Career and Academic Planning

District Plan	District Tool	Individual Career and Academic Plan (ICAP)
The district team writes the plan	The district team chooses the CIS	The District team ensures the completion of the ICAP

District team includes administrators, counselors, teachers, CTE teachers, worked-based learning coordinators. The team serves as a liaison between the internal District Team and counselors, instructors, and work-based learning coordinators outside of the district team.

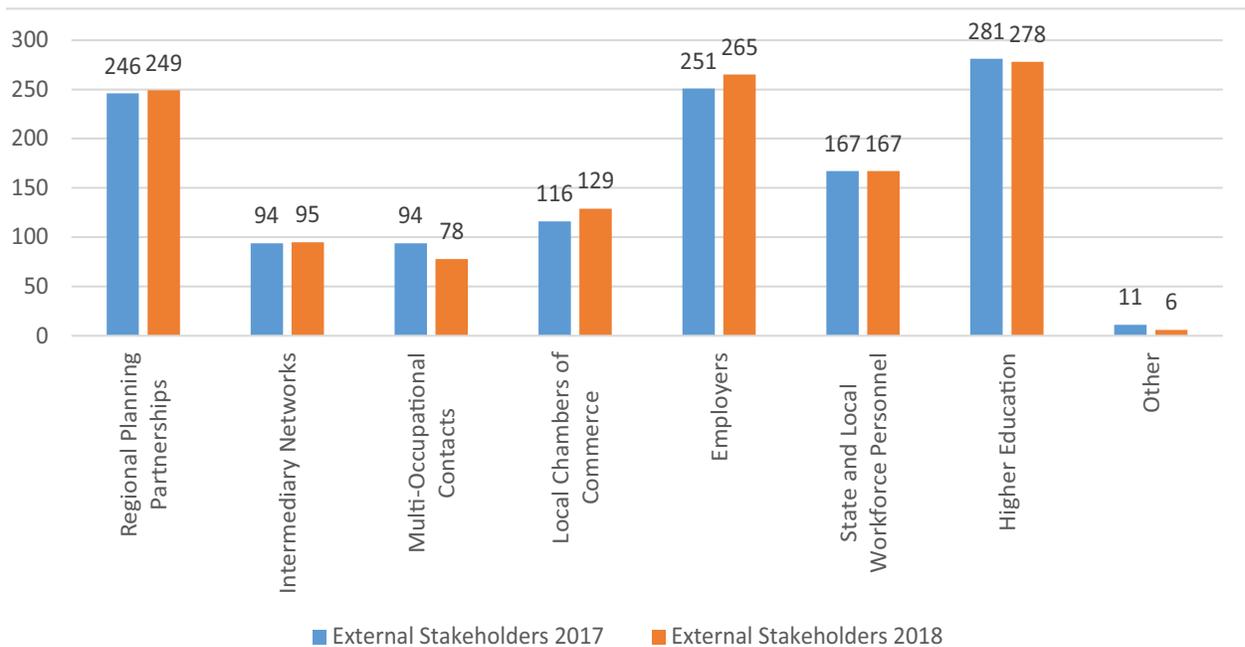
The District Team

The district team is tasked with writing and implementing the district plan, choosing the district tool career information system (CIS) and ensuring students complete the 11 individual career and academic plan (ICAP) elements. Convening a district team with the required school representatives is the critical first step to building and implementing effective career planning programs. Highly effective teams have defined roles and strong administrative support. Team members engage internally and externally to ensure feedback is relevant, timely, and may be used to update the district plan. Team members

work with school district colleagues in similar positions to keep internal district staff engaged.

In AY 2018, all districts reported that a district team, with the required membership, collaborated with internal and external stakeholders to write the district plan. Stakeholder engagement increased in 2018 with districts reporting an 11 percent increase engaging with chambers of commerce and a six percent increase in developing relationships with business and industry.

FIGURE 7.1: EXTERNAL STAKEHOLDER ENGAGEMENT: 2017-2018



District Plan

The district plan serves as a roadmap and provides context for high-quality career programming in grades 8 – 12. The plan is a dynamic document that describes who is expected to do what, when, and how.

Teams created district plans in 313 out of 314 Iowa’s school districts, reporting for the academic year ending June 2018. As school districts come to the end of the first three-year cycle, it is evident that districts have worked to build and maintain strong relationships with an external partner to increase high-quality career planning exposure to students.

The District Tool: Career Information Systems (CIS)

The district team selects the district tool, a career information system (CIS) that best meets the needs of students, team members, and the school district. A set of minimum requirements, state standards, are determined by the State Board of Education and systems are reviewed to ensure minimum standards are met. School districts had nine CIS options that met state standards. Three-hundred and fourteen (314) school districts reported using a CIS. District

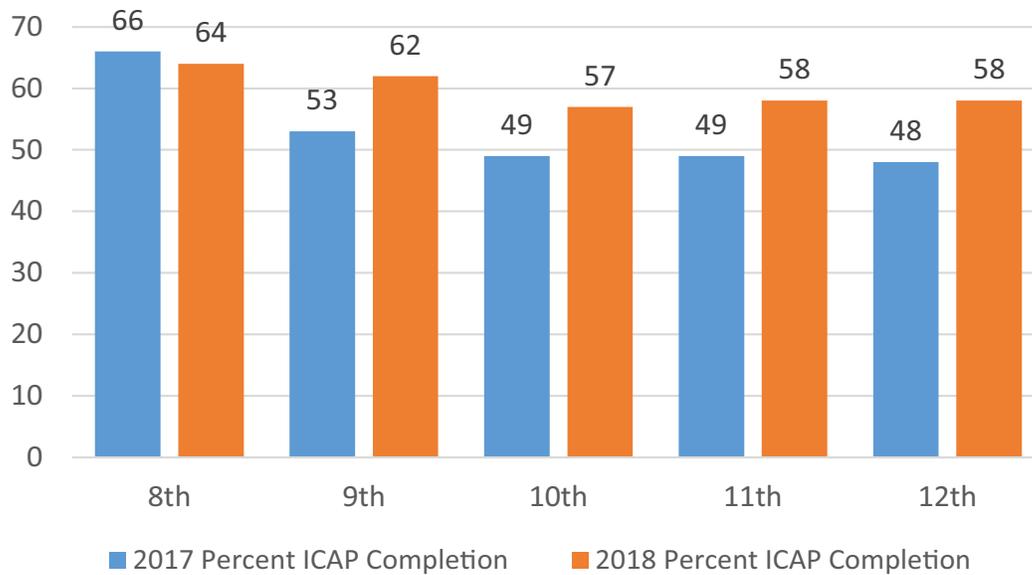
tool use had increased from 65 percent in 2016, to 94 percent in 2017 and 96 percent in 2018. While the CIS is an essential component of the career planning process and has the capability of delivering all components, school districts are encouraged to continue using high-quality career and technical education (CTE) curriculum and to collaborate with external organizations that offer high-quality career planning opportunities.

The Individual Career and Academic Plan (ICAP)

The ICAP is a series of 11, high-quality, career-related activities that students complete in grades 8 – 12. Completed data elements establish students’ progress through the ICAP experience. Activities include a four-year core curriculum plan, parent engagement, face-to-face meetings between students and team members,

identification of career and postsecondary goals, alignment of coursework to career goals, and annual completion of five essential components. ICAP completions increased by an average of nine percent for students in grades 9 – 12. Grade 8 completions decreased by two percent from AY2017.

FIGURE 7.2: PERCENTAGE OF ICAP COMPLETION: 2017 - 2018



High-Quality Career Programming in 2020 and Beyond

Based upon feedback and annual district reporting, Iowa will provide professional development and training to address reported challenges. The Iowa Department of Education (Department) will provide training to districts in order to move them from a compliance reporting mindset to implementation of 11 high-quality career activities. This transition includes substantial collaboration with CIS vendors to ensure intuitive and easy reporting for career planning activities that occur outside of the CIS. The transition also includes providing districts and vendors with definitions that

clarify data elements and the data indicators used to determine activity completion. The Department will work with districts, vendors, and external representatives to report high-quality career activities delivered to students by external organizations. Deeper dives will include clarifying the roles and responsibilities of district team members, providing examples of quality district plans, and strategies that increase engagement at all levels from counselors, instructors, CTE instructors, and work-based learning coordinators to students, parents, and external stakeholders.



Chapter Highlights

- » In AY2018, all districts reported that a district team with the required membership, collaborated with internal and external stakeholders to write the district plan.
- » Compared to AY2017, stakeholder engagement increased in AY2018 with districts reporting an 11 percent increase engaging with chambers of commerce and a six percent increase in developing relationships with business and industry.
- » Three-hundred and fourteen (314) school districts reported using a career information system (CIS). District tool use had increased from 65 percent in AY2016 to 94 percent in AY2017 to 96 percent in AY2018.
- » Individual Career and Academic Plan (ICAP) completions increased by an average of nine percent for students in grades 9 – 12. Grade 8 completions decreased by two percent from AY2017.

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Chapter 8. Work-Based Learning (WBL)

This chapter reports the number of work-based learning courses offered and the characteristics of students who took these courses over the past five academic years. In order to identify work-based learning courses, the SCED code was used. Work-based learning courses are identified by the last two digits of the five-digit SCED code. If the last two digits of a SCED code are 98, this course is usually a work-based learning course. All SCED codes ending with digits “98” were selected and screened; any that did not meet the criteria were deleted and not included in the counts. Also selected were all courses with titles containing work experience, work-based learning, internship, OJT, Multi-Occupations and Careers, On-the-Job [training], and WBL. It should be noted that other CTE courses may

have a work-based learning component but these are not accounted in the data presented below. In that sense, the data provided below of work-based learning activity within Iowa school districts should be considered as baseline.

Figure 8.1 presents the number of work-based learning courses since AY2014. The number of work-based learning courses has grown by 22.2 percent (compound annual growth rate) from 65 courses in AY2014 to 145 courses in AY2018. Figure 8.1 also shows the percentage of college-credit contracted work-based learning courses out of all work-based learning courses. In AY2014, only 18.5 percent are college-credit contracted work-based learning courses, but this percentage has doubled in AY2018.

FIGURE 8.1: NUMBER OF WORK-BASED LEARNING COURSES AND PROPORTION OF COLLEGE-CREDIT CONTRACTED WORK-BASED LEARNING COURSES: AY 2014-AY2018

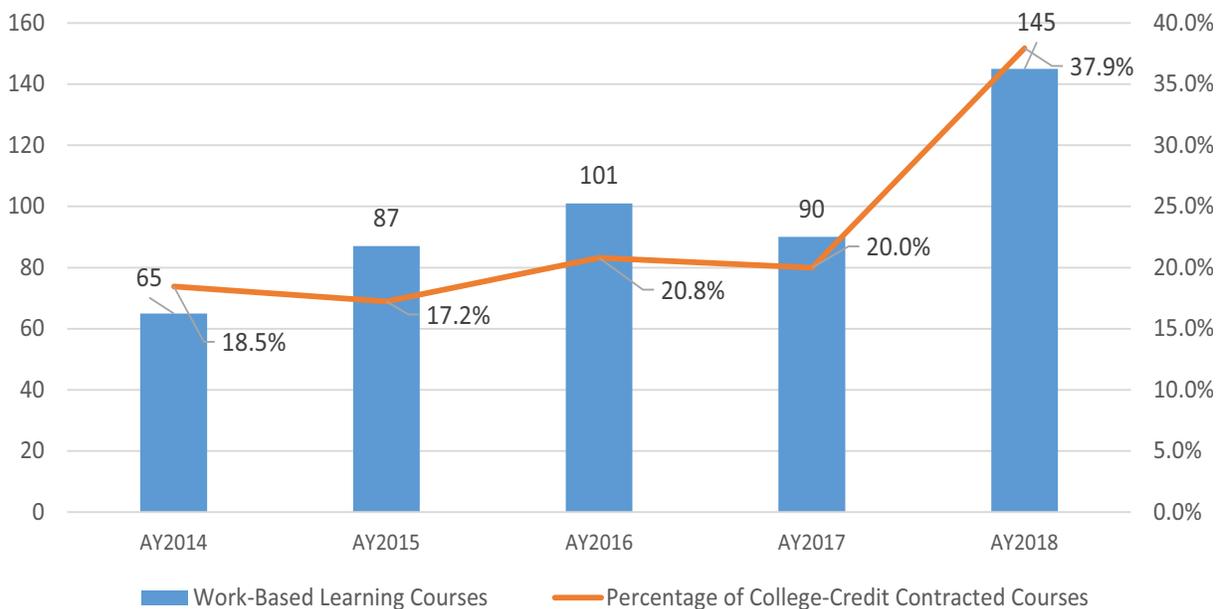


Table 8.1 displays the number of schools that offered work-based learning courses by district size. It appeared that approximately one-third of the work-based learning courses were offered in districts with a high-school enrollment between 100-299 high students. Another group of districts that offered a good portion of work-based learning courses is those with an enrollment between 300-499 high school students. In terms

of compound annual growth rate, districts with a high-school enrollment between 100-299 also have the highest growth rate (28.5 percent), followed by school districts with fewer than 100 high school students at 25.7 percent, and school districts with more than 4000 students at 23.6 percent. School districts with an enrollment between 300-400 high school students have also grown over 20 percent.

TABLE 8.1: NUMBER OF WORK-BASED LEARNING COURSES
BY SCHOOL DISTRICT SIZE: AY2014 - AY2018

High School Student Enrollment	AY 2014	AY 2015	AY 2016	AY 2017	AY 2018	CAGR *
<100	2	3	5	3	5	25.7%
100-299	18	24	28	27	49	28.4%
300-499	15	20	21	17	32	20.9%
500-1249	15	16	21	22	29	17.9%
1250-3999	12	16	19	17	23	17.7%
>4000	3	8	7	4	7	23.6%
Total	65	87	101	90	145	22.2%

Note: Students can take CTE courses across different service areas and thus may be counted multiple times.

** CAGR=Compound Annual Growth Rate*

Table 8.2 summarizes the number of school districts that offered work-based learning courses since AY2014. In AY2014, only 42 school districts in Iowa offered work-based learning courses, whereas this number has increased to 100 school districts; a 24.2 percent compound

annual growth. Specifically, school districts with an enrollment of 100-299 have the highest compound annual growth rate (30.8 percent), followed by school districts with an enrollment of 300-499 (at 29.8 percent), and school districts with an enrollment of 1,250-3,999 (at 23.6 percent).

TABLE 8.2: NUMBER OF SCHOOL DISTRICTS THAT OFFERED WORK-BASED LEARNING: AY2014 - AY2018

High School Student Enrollment	AY 2014	AY 2015	AY 2016	AY 2017	AY 2018	CAGR *
<100	2	3	5	3	4	18.9%
100-299	13	21	21	20	38	30.8%
300-499	8	16	15	12	22	28.8%
500-1249	11	12	15	15	19	14.6%
1250-3999	6	9	10	9	14	23.6%
>4000	2	4	4	3	3	10.7%
Total	42	65	70	62	100	24.2%

Note: Students can take CTE courses across different service areas and thus may be counted multiple times.

* CAGR=Compound Annual Growth Rate



Table 8.3 summarizes a number of work-based learning courses by service area. In the course file, some work-based learning courses cannot be determined by service area, as the course titles for these courses are general and vague, such as MOC, OJT, internship, etc. The Department of Education designates these courses as “unassigned service area” for analysis purposes. As shown in Table 8.3, courses that cannot be assigned to a service area was the largest group

over the past five years. For courses that can be assigned to a service area, courses in Business, Finance, Marketing, and Management was the largest group. In terms of compound annual growth rate, the number of courses in Health Sciences has grown the fastest (86.1 percent), followed by Human Services (48.3 percent) and Agriculture, Food & Natural Resources (45.6 percent). The number of courses in Applied Science, Technology, Engineering, and Manufacturing grew by more than 40 percent.

TABLE 8.3: NUMBER OF WORK-BASED LEARNING COURSES BY SERVICE AREA: AY2014 - AY2018

Service Area	AY 2014	AY 2015	AY 2016	AY 2017	AY 2018	CAGR *
Business, Finance, Marketing, and Management	24	30	28	26	29	4.8%
Agriculture, Food & Natural Resources	2	3	5	5	9	45.6%
Information Solutions	1	4	4	1	1	0.0%
Applied Science, Technology, Engineering, and Manufacturing	2	2	9	6	8	41.4%
Health Sciences	2	3	4	4	24	86.1%
Human Services	6	12	12	11	29	48.3%
Unassigned Service Area	28	33	39	37	45	12.6%
Total	65	87	101	90	145	22.2%

Note: Students can take CTE courses across different service areas and thus may be counted multiple times.

* CAGR=Compound Annual Growth Rate

An analysis as to who are taking work-based learning course covered AY2014 – AY 2018 and included grade level, gender, race/ethnicity, and eligibility for the national school lunch program. Each year, over two-thirds of all students who have taken work-based learning courses were 12th graders (Figure 8.2). Students in 11th grade were the second largest group. Although not many 9th and 10th graders participated in work-based learning, the number of students at 9th and 10th grades has grown substantially over the past five years. Though male students traditionally outnumbered female students in general CTE courses, it was interesting to discover that among all students who took

work-based learning courses, more than half were female (Figure 8.3). Regarding race and ethnicity, findings were consistent with the general secondary CTE student population; over 80 percent are white students (Figure 8.4). Figure 8.5 shows the proportion of work-based learning students who were eligible for the National School Lunch Program. For general secondary CTE population, more than 35 percent were eligible for the National School Lunch Program (see Chapter 4). However, this group accounted for less than one-third of the work-based learning student population (Figure 8.5). For more information about the comparison of work-based learning students and overall CTE students, please refer to Figure 8.6 to Figure 8.8.

FIGURE 8.2: WORK-BASED LEARNING STUDENTS BY GRADE LEVEL: AY2014 - AY2018

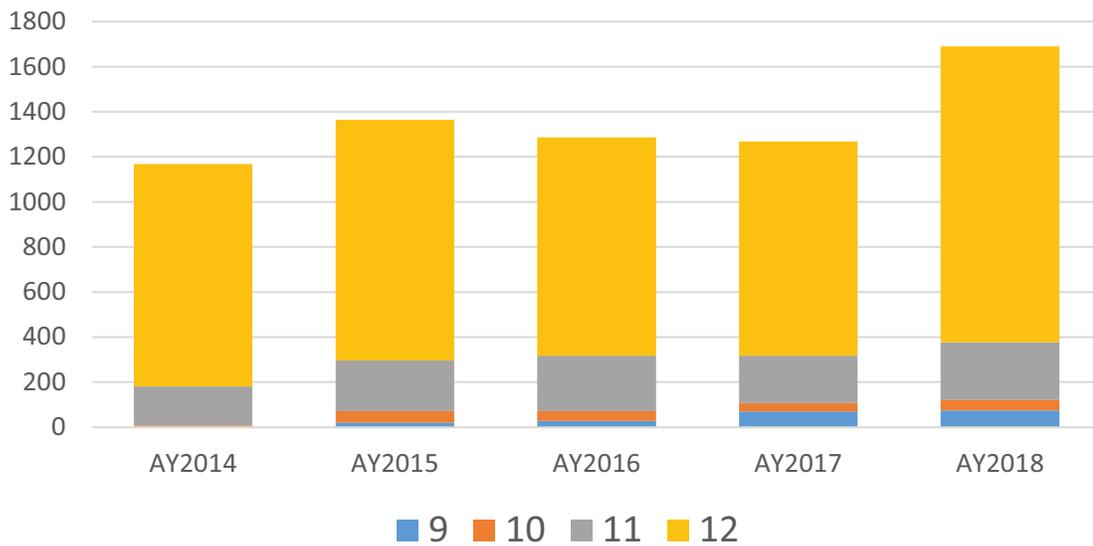


FIGURE 8.3: WORK-BASED LEARNING STUDENTS BY GENDER: AY2014 - AY2018

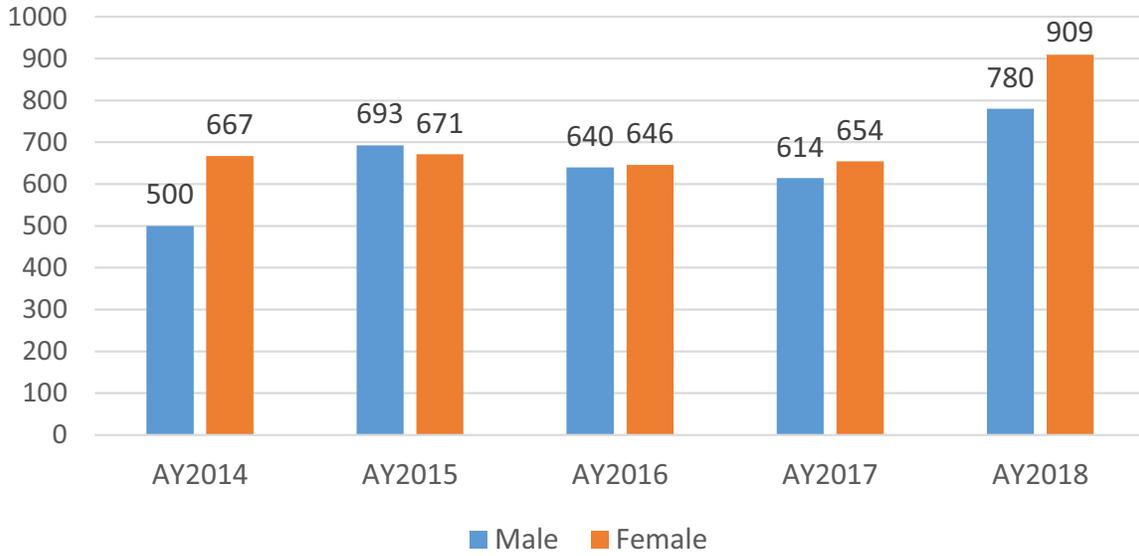


FIGURE 8.4: WORK-BASED LEARNING STUDENTS, WHITE VS MINORITY: AY2014 - AY2018



FIGURE 8.5: WORK-BASED LEARNING STUDENTS BY ELIGIBILITY FOR NATIONAL SCHOOL LUNCH PROGRAM: AY2014 - AY2018

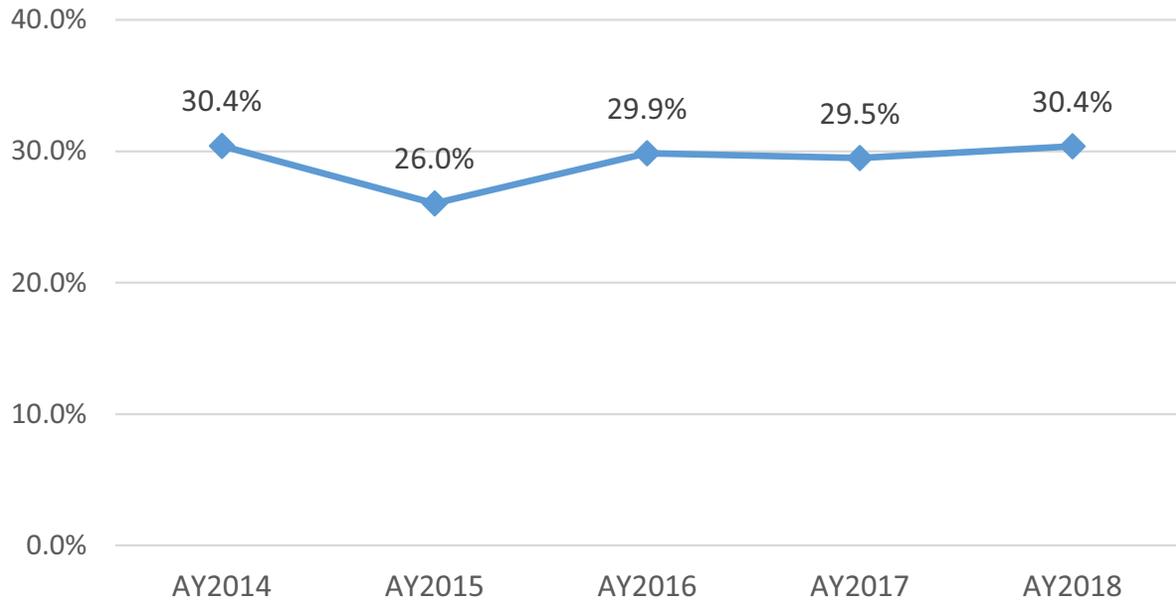


FIGURE 8.6: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS GENDER DISTRIBUTION: AY2014 - AY2018

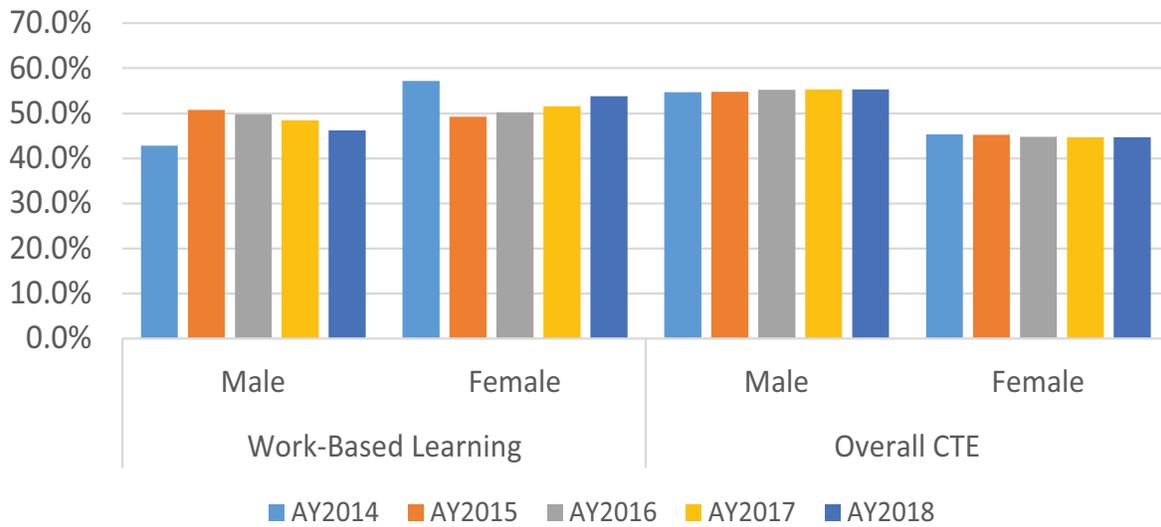


FIGURE 8.7: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS:
DISTRIBUTION OF WHITE AND MINORITY STUDENTS: AY2014 - AY2018

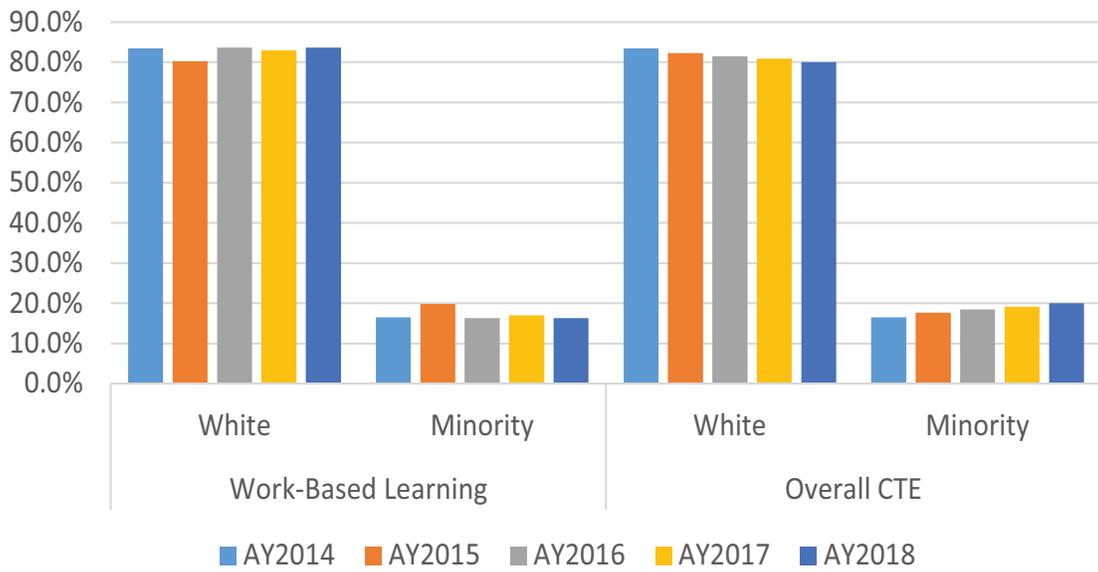
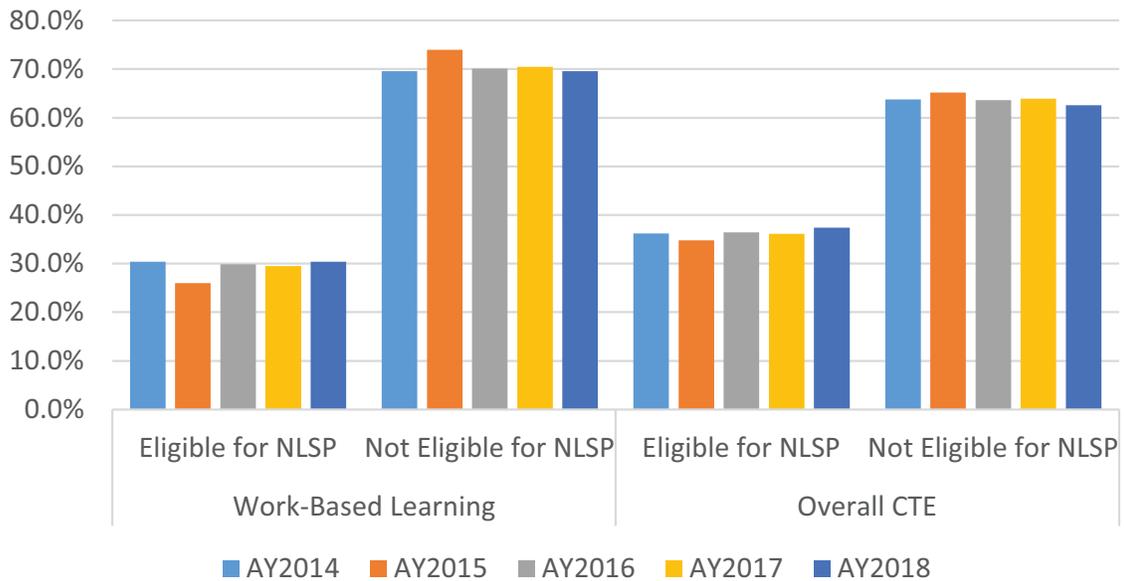


FIGURE 8.8: COMPARISON OF WORK-BASED LEARNING AND OVERALL CTE PARTICIPANTS:
DISTRIBUTION OF STUDENTS' ELIGIBILITY FOR NATIONAL
SCHOOL LUNCH PROGRAM (NLSP): AY2014 - AY2018



Chapter Highlights

Over a five-year time period:

- » Between AY2014-AY2017, the number of work-based learning courses rose steadily. However, in AY2018, the number offered increased significantly. The same can be said about college-credit contracted courses. There has been double-digit annual growth in work-based learning courses for every school district size.
- » More school districts are offering work-based learning courses in AY2018 than they were in AY2014. Other than the very largest school districts, there has been an increase in the number offering work-based learning courses.
- » Other than the Information Solutions service area, there was growth in the number of work-based courses in all other service areas (including the unassigned category).
- » Participation in work-based learning courses by grade level increases as students move from grade 9 to grade 12 and this has not changed over the five-year period.
- » Categorizing participation in work-based learning courses by gender, ethnicity, and eligibility for national free and reduced-cost lunch programs, the figures are consistent with the general secondary CTE student population, except for gender. While in the secondary CTE student population, male participation in the general CTE coursework is higher, female students participated a higher rate in work-based learning courses.



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Chapter 9 Regional Centers

The Secondary Career and Technical Education Task Force made the following recommendation:

Through collaboration and regional partnerships, provide for increased and equitable access to high-quality CTE through a statewide system of regional centers.

Following up on the above recommendation, HF2392 included language to have the CTE Regional Planning Partnerships (RPPs) focus on exploring the ways to build, expand, and sustain regional centers. As established in HF2392, regional centers must include at least four career academy programs and meet one of two participation requirements: 1) two school districts, with a combined total of 120 participating students; or 2) a total of four school districts, with no minimum enrollment expectation. In essence, a regional center becomes a physical location where high school students may access numerous high-quality CTE programs.

In Iowa, the regional center structure has its basis in the many partnerships that currently exist between school districts and community colleges when delivering high-quality CTE programs. These partnerships typically use the college-credit contracted course policy structure to put in place one or both of the above regional

center conditions that are now in place within HF2392. It should be noted that not all such partnerships lead to the establishment of a regional center, but many have already done so.

To gauge the current state of how regional centers are distributed across Iowa, in spring 2019, a survey was administered by the Department to the 15 community colleges which gathered data regarding current regional center structure, the CTE programs offered within them, and the student enrollment. In FY2018, there were 17 regional centers providing 139 career academy programs to 3,192 high school students from 113 school districts. Among the 17 regional centers, eight are located on community college campuses.

Figure 9.1 displays a map of Iowa's current regional centers coded by RPP, which each mirrors the 15 community college regions. Figure 9.2 shows the distribution of career academy programs by service area. Applied Science, Technology, Engineering, and Manufacturing was the most significant service area with 57 career academy programs being offered, followed by Health Sciences (25), and Information Solutions (18). Agriculture, Food, and Natural Resources was the smallest service area with only five career academy programs being offered within a regional center; Table 9.1 provides more details on each of the regional centers.

FIGURE 9.1: LOCATIONS OF REGIONAL CENTERS



Legend

-  Regional Centers
-  Partnership Areas
-  Participating Districts

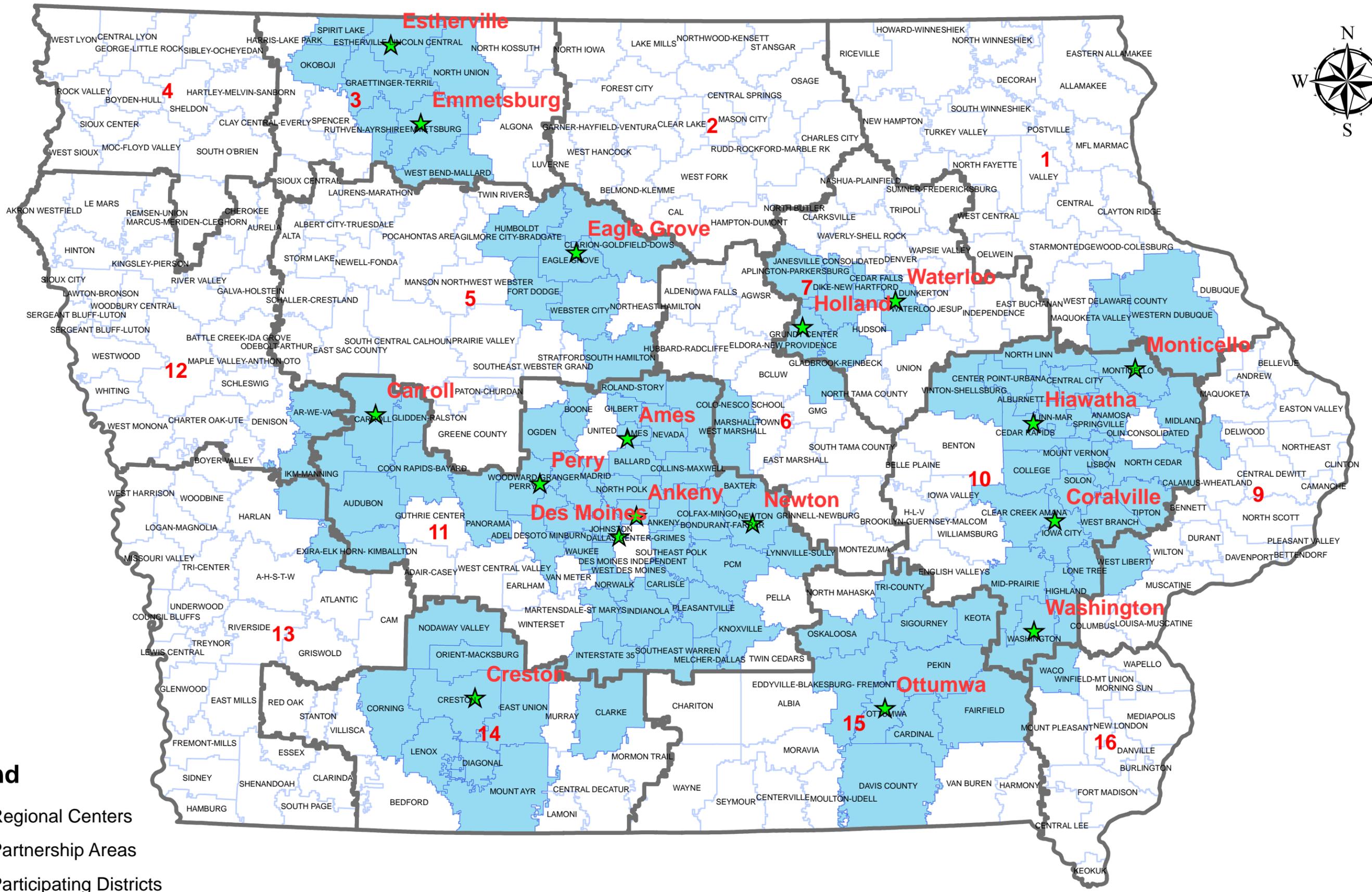


FIGURE 9.2: DISTRIBUTION OF CAREER ACADEMY PROGRAMS BY SERVICE AREA IN FY 2018

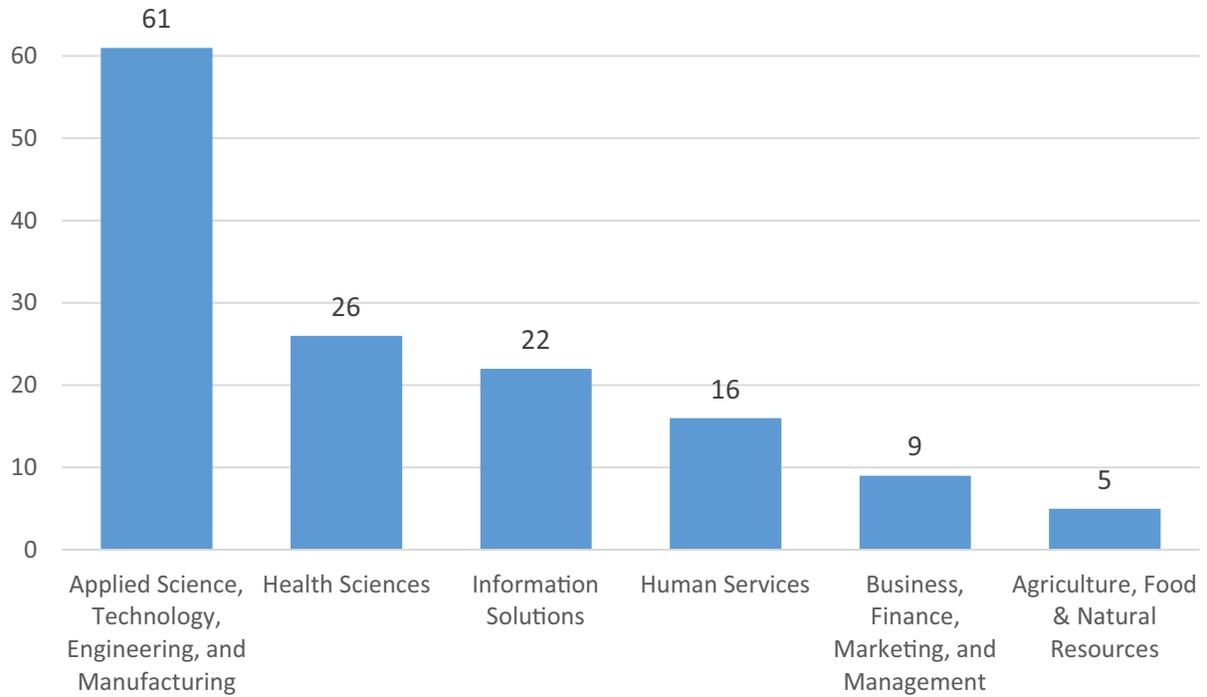


TABLE 9.1: SUMMARY OF REGIONAL CENTERS IN FY2018

RPP Region	Location	Number of K-12 Partners	Career Academy Programs Offered	Student Enrollment
14	SWCC-Creston*	9	Carpentry & Building Trades, Health Science, Electrical Technology, Automotive Repair Technology, Information Technology Systems Networking	64
11	DMACC-Ames	13	Building Trades, Auto Collision Repair, Auto Mechanics, Culinary Arts, Health Occupations/C.N.A, Criminal Justice, Welding, Pre-Education, Engineering, Renewable Energy/Bio-Science, Business Communications	350
	DMACC-Perry	9	Auto Mechanics, Health Occupations/C.N.A, Criminal Justice, Welding, Pre-Education, Business	130
	DMACC-Ankeny*	9	Diesel Mechanic, Auto Collision Repair, Auto Mechanics, Culinary Arts, Health Occupations/C.N.A, Criminal Justice, Graphic Design, EMT/Fire Science, Accounting, Business Administration, Advanced Manufacturing, CAD Tech, Cyber-Security, Computer Programming	375
	DMACC-Southridge*	9	Welding, Auto Collision Repair, Auto Mechanics, Health Occupations/C.N.A, Criminal Justice, Computer Programming	210
	DMACC-Newton*	5	Welding, Auto Collision Repair, Building Trades Health Occupations/C.N.A, Criminal Justice, Culinary Arts, Pre-Education	150
	DMACC-Carroll*	7	Applied Engineering, Auto Mechanics, Building Trades, Business Administration, Health Occupations/C.N.A., Welding	125
15	IHCC-Ottumwa *	10	Auto Tech, Bioprocessing, Business Specialist, Computer Software, Computer Science, Electronics Core, Industrial Maintenance, Interactive Media, Nutrition/Dietary, Phlebotomy	50
7	HCC-Waterloo	2	Advanced Manufacturing, Construction, Digital Graphics, Digital Interactive Media, Early Childhood Education, Health Sciences, Information Technology, Marketing, Management, Web Programming	113
	HCC - Western Outreach Center	4	Agriculture, Business, CNC Machining, Health	132
3	ILCC - Emmetsburg*	6	Ag Technology, Powersports & Power Equipment Technology, Welding Technology, Farm Equipment Technology, Automotive Technology, Hotel & Restaurant Management, Marine Technology, Auto Collision & Paint Repair Technology, Construction Technology	25
	ILCC - Esterville	5	Criminal Justice, Computer Technology, Electrical Technology, Environmental Studies, Engineering Technology, HVAC, Human Services & Disabilities, Graphic Design, Water Quality	20
5	ICCC-Eagle Grove	5	Bio-process Technology, Business, Engineering Technology, Manufacturing Technology, Teacher Academy	114

*Indicates community college main campus

The information presented in this chapter leads to the following conclusions. First, regional centers are clustered around the major metropolitan areas in Iowa, which typically have the larger school districts and the higher high school populations to make the regional center viable. Second, regional centers are also established where school district sizes are small and located in the rural areas of Iowa. Third, there are many regions of Iowa where regional centers have not as yet been established. With

the implementation of HF2392 beginning to take a foothold across Iowa, the expectation is that the RPPs, through their strategic planning, will begin to explore the viability of regional centers in offering expanded options for students and ensuring equitable access to a variety of high-quality CTE programs which also meet the needs of the regional workforce.



Chapter Highlights

- » Regional centers are clustered around the major metropolitan areas in Iowa, which typically have the larger school districts and the higher high school populations to make the regional center viable. Nevertheless, regional centers are also established where school district sizes are small and located in the rural parts of Iowa. However, there are many regions of Iowa where regional centers have not yet been established.
- » With the implementation of HF2392, regional planning partnerships (RPPs), through their strategic planning, have begun to explore the viability of regional centers in offering expanded options for students and ensuring equitable access to a variety of high-quality CTE programs which also meet the needs of the regional workforce.
- » In FY2018, there were 17 regional centers providing 139 career academy programs to 3,192 high school students from 113 school districts. Among the 17 regional centers, eight are located on community college campuses.
- » Applied Science, Technology, Engineering, and Manufacturing was the most significant service area with 57 career academy programs being offered, followed by Health Sciences (25), and Information Solutions (18). Agriculture, Food, and Natural Resources was the smallest service area with only five career academy programs being offered within a regional center.

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