

**Career Technical Education:
An Alternative to the Traditional
College Prep Experience**

2018-2019 Nevada County Grand Jury

Career Technical Education: An Alternative to the Traditional College Prep Experience

Summary

“Career Technical Education [(CTE)] is an education strategy designed to prepare students for ongoing education, long-term careers, citizenship, and entry into the work place.”¹

Strong, effective CTE programs are necessary to fill skilled positions in agriculture, the automotive industry, construction, the business sector, medicine, and many other industries. They are vital for the development of rewarding careers for Nevada County (County) non-college-prep high school students and for the economic growth of the County.

Business representatives, especially in the construction fields, expect basic vocational programs that prepare individuals for entry into trades. However, a conflict exists because schools are required to adhere to the more complex 2005 State Board of Education CTE model that includes college entry-level courses.

Nevada Joint Union High School District (District) has developed a robust CTE program encompassing numerous industry sectors and pathways. Throughout the District, there are more than 1,200 students enrolled in CTE classes in 16 pathways. The District’s report on its 2020 strategic plan includes an aggressive strategy for continuing CTE development, business partnerships, and community outreach.

Significant steps taken by the District Board of Trustees in the 2018-2019 school year include approval of new CTE classes, memorandums of understanding with other counties for collaboration and CTE teacher training, and CTE facility modernization projects to be completed over the next two years. Currently there are four capital development projects underway: construction, culinary, and two agricultural.

Other resources that are being utilized to develop the District CTE industry sectors are internship and work experience programs, the Strong Workforce and Get Focused Stay Focused programs, career technical student organizations, and dual enrollment with Sierra College, a community college.

Critical links between the business community and the District CTE industry sectors are the internship and Work Experience Education programs, providing students with hands-on experience in vocational fields and local businesses with needed entry-level staff. The District currently has formal agreements with fourteen local County businesses. These businesses are

¹ *What is Career Technical Education*, Nevada Joint Union High School District, <https://www.njuhsd.com/Academics/Career-Technical-Education-CTE/index.html>

providing internships to students primarily from the Automotive and Sports Medicine pathways. District leadership reports that approximately 20 students from these two pathways are currently placed in internships.

The state-funded Strong Workforce Program was developed to ensure that career technical education and workforce development courses, credentials, certificates, degrees, industry sectors, and pathway offerings are responsive to the needs of employers, workers, civic leaders, and students.

Administrators at both high school and community college levels have determined that too many of their students are not completing their courses and graduating. The Get Focused Stay Focused program is designed to provide a student with comprehensive guidance in developing an educational plan to prepare for and complete preparation for the career of their choice.

A career technical student organization is an extracurricular group for CTE students to further their knowledge and skills. There are nine national career technical student organizations in the United States with two – Future Farmers of America (FFA) and SkillsUSA – active in the District. Membership is provided by the District.

FFA is the most active and visible career technical student organization in the District and a major reason the agricultural industry sector is the most developed and successful. SkillsUSA is the most versatile of all of the career technical student organizations and is applicable for students in any career pathway, but is less developed. The District chapter has expanded membership to four pathways.

Sierra College has an important local influence. It has an impressive CTE program containing certifications and degrees that are available to District students through dual enrollment.

Challenges for the District include funding, advisory committees, staffing, post-completion tracking, alignment of class schedules, and certification. See the body of the report for more details.

CTE, like all technical fields, is constantly expanding and changing. There has been substantial progress made by the District in developing CTE. Advisory committees, the Strong Workforce Program, internship programs, and Work Experience Education partners are significant and critical links to the community but more organized and regular outreach is needed to keep the public informed of progress. Increased local industry involvement with County CTE industry sectors is encouraged.

The Jury commends District administration, CTE staff, advisory committees, business partners, and students for their continuing dedication and collaboration. This has created a CTE program that is remarkable for a school district of its size.

Glossary

A-G	University of California college compliance criteria
CTE	Career Technical Education
County	Nevada County
District	Nevada Joint Union High School District
FFA	Future Farmers of America
Jury	2018-2019 Nevada County Grand Jury
ROP	Regional Occupational Program

Approach

The 2018-2019 Nevada County Grand Jury (Jury) became aware of questions regarding CTE programs in County high schools through several newspaper articles. The Jury determined that an investigation into the status of CTE in County high schools was indicated. A cross-section of District CTE personnel, representatives of local businesses and industries, and other community members with knowledge or experience of occupational education programs were interviewed. District board meetings were attended. The Jury also reviewed County occupational education history and funding processes, and individual school websites, reports, and curricula.

Background

Strong, effective CTE programs are necessary to fill skilled positions in agriculture, the automotive industry, construction, the business sector, medicine, and many other industries. These programs are vital for the development of rewarding careers for County non-college-prep high school students and for the economic growth of the County.

CTE has been an important and necessary alternative to the traditional college prep experience across the country and in the County for decades. In 2005 the California State Board of Education determined that the Regional Occupational Program (ROP) needed to be updated and standardized, and should include basic college entry options for every student. It adopted the California Career Technical Education Model Curriculum Standards, rewriting the ROP program and changing occupational education:

The California Career Technical Education Model Curriculum Standards are organized in 15 industry sectors, or groupings, of interrelated occupations and broad industries. Each sector has two or more career pathways. A career pathway is a coherent sequence of rigorous academic and technical courses that allows students to apply academics and develop technical skills in a curricular area. Career pathways prepare students for successful completion of state academic and technical standards and more advanced postsecondary course work related to the career in which they are interested.

Narrow, job-skill-oriented secondary vocational programs of the past – that prepared individuals almost exclusively for entry into trades – have given way to broader CTE programs. These programs teach rigorous academic concepts within the context of career education. The CTE curriculum standards show direct linkages to California’s content standards in English-language arts, mathematics, history – social science, science, and visual and performing arts, and they provide learning opportunities in many venues both within and outside the traditional classroom.

The State Board of Education also superimposed a set of University of California college compliance criteria (A-G) on pathway development. Even if a student is not college bound they need to complete a minimum of 15 college-prep courses. The college criteria required in the CTE model are history, English, mathematics, laboratory science, a foreign language, visual and performing arts, and a college-prep elective.

CTE industry sectors are more complex and difficult to develop, fund, administer, and staff than the earlier ROP programs. Business and industry representatives are asking for vocational programs that prepare individuals for entry into trades but schools are required to adhere to the State Board of Education CTE model.

Discussion

The Nevada Joint Union High School District includes seven public high schools:

Comprehensive High Schools	Bear River High School Nevada Union High School
Early College High School	Ghidotti Early College High School
Independent Study Schools	North Point Academy Nevada Union Adult School
Continuation High Schools	Nevada Union Tech High Silver Springs High School

The District has developed a robust CTE program encompassing numerous industry sectors and pathways. In the 2018-2019 school year, Nevada Union High School had 843 students (53%) enrolled in CTE courses and Bear River High School had 424 students (69%) enrolled. See the table below for details provided by the CTE Steering Committee. Many students take CTE classes even though they plan on attending college.

2018-2019 Career Technical Education

Bear River High School

<u>Industry Sector</u>	<u>Pathway</u>	<u>Enrollment</u>
Agriculture	Agriscience	106
	Ag Mechanics	116
Education	Social Justice	30
Arts Media & Entertainment	Online Media	30
	Publication	29
	Graphic Design	30
	Tech Theater	36
Information & Communication Technology	Computer Science	47
Total Enrollment (69%)		424

Nevada Union High School

<u>Industry Sector</u>	<u>Pathway</u>	<u>Enrollment</u>
Agriculture	Horticulture	111
	Ag Mechanics	115
	Agriscience	87
Transportation	Automotive	49
Hospitality	Culinary	149
Manufacturing	Design & Engineering	61
Arts Media & Entertainment	TV Broadcast (DCA)	60
	Production & MNGL Arts	59
	Tech Theater	28
Health Medical	Sports Medicine	50
Building & Construction Trades	Woodworking	69
Information & Communication Technology	Computer Science	5
Total Enrollment (53%)		843

CTE courses are also available to students at North Point Academy, Nevada Union Tech High, and Nevada Union Adult Education. No charter school currently offers CTE programs.

Internship and Work Experience Education programs are a critical link between the business community and District CTE industry sectors. These programs provide students with hands-on experience in their desired vocational fields and local businesses with needed entry-level staff.

The District currently has formal joint venture agreements with fourteen local County businesses. These businesses are providing internships to students primarily from the Automotive and Sports Medicine pathways. District leadership reports that approximately 20 students from each pathway are currently placed in internships. Additionally, there are a few students who are engaged in Work Experience programs outside their school commitments.

Funding

Federal funding for CTE comes through the Carl D. Perkins Career and Technical Education Act. While state funding gives local education districts control over the distribution of CTE funding, the only CTE-designated funding at the state level is a per-pupil CTE “add on.” As a result, funding for CTE industry sectors within the District is reduced and local education districts give priority to college prep programs.

Over the past five years, the gap in funding has been filled with compliance-based, competitive grants from public and private sources. Grant writing has become a critical component of CTE. It is a technical, time consuming, and critical requirement for a successful CTE program. Some grants can be utilized across all industry sectors and pathways while others are more narrowly focused. Specific reporting requirements are attached to each grant.

For the current school year, the CTE “add on” approximates \$602K and grant funding approximates \$392K. Additionally, the District has allocated funding of \$740K out of its general fund. Total expenditures to support the CTE program approximate \$1.7M.

Administration

The District’s 2020 strategic plan contains objectives and goals related to CTE, such as:

- developing internship programs,
- working with NU Tech High to connect CTE completion and Work Experience Education more explicitly and build the program as a unique early/alternative graduation option,
- sharing resources as efficiently and effectively as possible, and
- assisting in the alignment of class schedules to facilitate pathway completion.

Significant steps taken by the District Board of Trustees in the 2018-2019 school year include approval of new CTE classes, memorandums of understanding with other counties for collaboration and CTE teacher training, and CTE facility modernization projects to be completed over the next two years. A proposal to create a position for a Director of CTE and State/Federal Programs is also under consideration. Other resources that are being utilized to develop the District CTE industry sectors are described in the following paragraphs.

Internship and Work Experience Education Programs

CTE programs can be expensive to develop due to initial specialized building modification, equipment, safety, and code requirement costs. In spite of this, major pathway projects are underway for agriculture facilities at both Nevada Union High School and Bear River High School, construction facilities at Silver Springs High School, and culinary facilities at Nevada Union High School.

Currently, CTE teachers are often the primary contact for initiating and maintaining the business relationships necessary for internship and Work Experience Education programs. They are also responsible for the frequent site visits that are required.

The District and CTE staff are actively working to improve internship and Work Experience Education programs and increase the number of students participating in them. Programs such as the Strong Workforce Program will provide more process standardization and collaboration between business sectors and CTE pathways.

Strong Workforce Program

The Strong Workforce Program was developed through Assembly Bill 1602 in 2017 to expand and improve CTE throughout the state. The K-12 state education, economic, and workforce development initiative was developed for the purpose of expanding the availability of high quality, industry-valued career technical education.

Any local education district participating in the program ensures its CTE and workforce development courses, credentials, certificates, degrees, industry sectors, and pathway offerings are responsive to the needs of employers, workers, civic leaders, and students. The program receives state funding.

A memorandum of understanding was approved between the Nevada County Superintendent of Schools and the District for coordination of the K-12 Strong Workforce Program at the April 2019 Board of Trustees meeting. As the lead administrative agency, the Superintendent of Schools will receive and administer any allocated funds and submit the necessary plans, applications, and all fiscal claims.

Get Focused Stay Focused

Administrators at both high school and community college levels have determined that too many students are not completing their courses and graduating. Get Focused Stay Focused is a state program that consists of three interrelated components.

1. High school students complete a comprehensive guidance course during their first year to identify their interests and life goals, discover a career aligned to those interests and goals, and develop an educational plan to prepare for that career.
2. The course culminates with the development of an online, skills based, ten-year career and education plan that is updated each year throughout high school and used by advisors for counseling and instructors for academic coaching.
3. During the 10th, 11th, and 12th grades, students update their ten-year plans as they take a series of follow-up instructional modules that help them expand their career and education options. They learn the process for selecting and applying to post-secondary education and identifying the skills needed in the workforce.

The District is implementing this program with the incoming 9th grade class in 2019.

Dual Enrollment

Sierra College has an important local influence. It has an impressive CTE program containing certificates, certifications, and degrees that are available to District students through dual enrollment.

High school juniors and seniors may enroll in up to two dual enrollment classes per semester. Additionally, high school students may take advanced placement high school courses and receive college credit for such courses. Participation is difficult for CTE students because class schedules do not match.

District and college administrations meet regularly to ensure availability and continuity in CTE industry sectors and classes for all students.

Career Technical Student Organizations

A career technical student organization is an extracurricular group for CTE students that further their knowledge and skills by participating in activities, events, conferences, and competitions. There are nine national career technical student organizations in the United States with two – FFA and SkillsUSA – active in the District. Membership is provided by the District.

Future Farmers of America

All students enrolled in the Agriculture Industry Sector in the District are automatically enrolled in FFA. The long term, ongoing support of FFA and the commitment of local teachers are major reasons the Agriculture industry sector is the largest and strongest in the District. For decades many students in the County have spent extensive extra-curricular time in FFA and have won awards in local, state, and national competitions in parliamentary procedure, public speaking, extemporaneous speaking, and agricultural mechanics. FFA students and their activities are very visible on school campuses and in the community.

FFA is dedicated to preparing students for careers in the Agriculture, Food, and Natural Resources clusters. It has a total membership of more than 669,000, with 8,630 chapters across all 50 states. The vision of FFA is to “grow leaders, build communities, and strengthen agriculture.” It focuses on more than just hands-on skills needed in the agricultural industry; students also develop skills like leadership and communication.

SkillsUSA

SkillsUSA is the most versatile of all of the career technical student organizations and is available to students in any career cluster or pathway. SkillsUSA has more than 360,000 members and 19,000 chapters across all 50 states. The District chapter has expanded membership to include four pathways. Overall, the SkillsUSA framework is designed to cover workplace, personal, and technical skills grounded in academics. In order to help members shape these skills, the organization provides leadership training, employability skills curriculum, skills assessments, conferences, and competitions. Included in the program is a Career Essentials Credential.

Advisory Committees

Advisory committees play a vital role in CTE programs. Although they have no administrative or legislative authority, they provide understanding between schools and the communities they

serve. Advisory committees bring balanced judgement to local problems and help give continuity and support. All CTE industry sectors must have, under law, an advisory committee.

Additionally, districts must have a district-level advisory committee comprised of representatives from each of the advisory committees. A district advisory committee helps the local board of trustees with the development, implementation, and evaluation of CTE programs. These committees must meet regularly and often enough to carry out their assignments. The minimum number of meetings is two per year; best practice is between three and eight per year.

The District currently has a CTE Steering Committee that serves as the District advisory committee. Advisory committees for several of the industry sectors exist but additional advisory committees are needed.

Staffing and Training

Staffing is a critical factor in CTE program development. A CTE teacher is required to have specialized industry experience, a teaching credential or certification, leadership ability, and an affinity for working with high school students. Programs have been discontinued because a teacher left and a replacement with appropriate skill and experience was not available. Counselors and instructional leaders must be knowledgeable in all aspects of CTE programs.

There are limited opportunities for CTE teacher training or collaboration in the regular school schedule. Some individual pathway collaboration takes place automatically but cross-industry sector and cross-pathway interaction seldom occurs. More workshops or group discussions would provide the most valuable training for CTE staff training program development.

It is difficult to keep all levels of staff up to date on departmental budgets, planning, and changes. CTE teachers and other staff could develop lesson plans, organize field trips, etc. more efficiently if they knew what budget amounts were available in their departments and had a voice in planning. Standardization of routine processes, forms, and reporting criteria across pathways make training and information sharing easier.

Challenges

Post-Completion Tracking

There is little data available on the success rate of CTE programs, i.e., how many students have gone on to vocational careers in the County or to college in CTE-related majors. Follow up data is necessary in order to measure CTE effectiveness and plan for future development.

Alignment

Students at District high schools cannot currently take advantage of classes at other campuses because of distance, transportation, and incompatible class schedules. District administration

recognizes that this results in missed training and career opportunities for students. Alignment of class schedules across District schools is in progress.

Certification

CTE administration and staff recognize there is a lack of much needed certification of District CTE training available to students upon graduation. Students can report pathway completion, internship or Work Experience Education references, and career technical student organization participation but there is much to be done to provide entry-level certification.

Certificates for completion of OSHA 10- and 30-hour online courses, a valid driver's license, and CPR training are basic credentials that some CTE students have been assisted in achieving, giving them better entry-level credibility. These and other entry-level qualifiers could be expanded in all pathways.

Conclusions

CTE, like all technical fields, is constantly expanding and changing. There has been substantial progress made by the District in developing CTE. Advisory committees, the Strong Workforce Program, internship programs, and Work Experience Education partners are all significant and critical links to the community. More organized and regular outreach is needed to keep the general public informed of progress.

Increased local industry involvement with County CTE programs is encouraged. Communication between the District and representatives from the several industries has commenced. Other industry sectors and pathways would benefit from business participation. Development of meaningful industry sectors requires a collaborative partnership between the District, industry, teachers, and students. Students will benefit from the additional hands-on experience provided through internships and Work Experience Education. Businesses can assist in developing students with a broader skill set who are more prepared to enter the local workforce.

The Jury commends District administration, CTE staff, advisory committees, business partners, and students for their continuing dedication and collaboration. This has created a CTE program that is remarkable for a school district of its size.