Who Will Grow California's Workforce?

Three Central Valley Approaches To Education That Would Strengthen California's Economy



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Summary

Managing crop handling practices, communicating with vendors, and utilizing GIS and GPS technology—you wouldn't necessarily associate these duties with an entry-level job in agriculture, but in fact, you can find these phrases on a typical job description for a Central Valley farmer.[1]

Like many fields across California, the agriculture industry is increasingly dependent on employees with more advanced educations and skill sets. The problem is, California is facing a serious shortage of such workers. Throughout the state, unemployment remains relatively high while available jobs go unfilled. **In less than ten years, economists predict that the situation will worsen, with roughly two million jobs requiring a level of skill and education that California workers will not have.**

California is a national leader in creating paths from the classroom to careers, but there are still many barriers that prevent students from gaining the education and skills businesses need. For one, students in many K-12 classrooms are still learning concepts that are not related to the competencies they need to be successful in the 21st century. At the college level, many students—even those who are academically qualified—struggle to attend or graduate given rising costs.

One region in California is doing things differently. Facing a pressing skills gap in agriculture—one of the largest industries in the region—employers and educators in the Central Valley have responded with three innovative solutions:

1. Increasing deeper learning, including hands-on learning, in high school.
2. Supporting high school students who want to take college credits ("dual enrollment").
3. Creating affordable pathways to college, including providing support for obtaining financial aid.

As California leaders consider how to grow the state's future workforce, they should look to the Central Valley. More Central Valley students are getting the skills necessary to succeed in the region's workforce and the education and training that businesses need. **This report outlines how these approaches work, and clear ways to increase such efforts statewide—better aligning learning with careers for young adults across the state.**

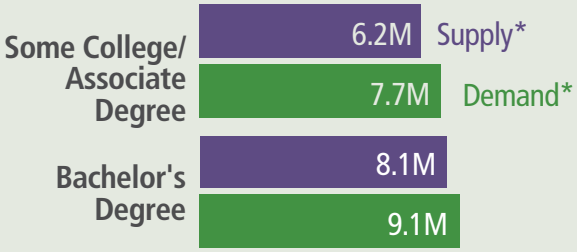


Like many industries across California, the agriculture industry is increasingly dependent on employees with more advanced educations and skill sets. California is the leading producer of many crops in the US, including almonds, asparagus, and tomatoes.

FIG.1

In 2025, California Will Face a Shortage of Roughly Two Million College-Educated Workers

California's workforce will fall short of 1.5 million workers possessing some college/ associate degrees, and 1 million holding a bachelor's degree or higher.



*Economic projection for 2025.
Source: Public Policy Institute of California, "California's Need for Skilled Workers"

California is Facing a Shortage of Qualified Workers

An increasing number of individuals in California don't have the skills and education that employers are looking for. Available jobs are going unfilled, while unemployment remains relatively high in California (5.8 percent—the ninth-highest in the US).[2]

Economists predict that the situation will worsen in the next ten years. By 2025, California will face a deficit of roughly one million workers who would need bachelor's degrees to fill open jobs. The state will fall short of another one to 1.5 million workers to fill jobs that require some college or an associate degree.[3] Altogether, 67 percent of future jobs in California will require some education beyond high school.[4]

The most striking skills gaps in California will be similar to what they are nationally: in manufacturing, mining and agriculture.[5]

California Students Lack the Skills and Competencies Necessary for Today's Workforce

The problems facing the workforce stem in large part from the fact that our education system is not aligned with the competencies that today's jobs require.

In the past, our education system has tried to bridge this gap through vocational education. However, until recently, this left the rest of students with a curriculum that was focused on rote content knowledge and memorization.

Students need both theoretical and applicable knowledge. But when computer science is one of the fastest-growing and top-paying fields, and less than two percent of students attend an advanced placement computer science class in high school, there's a clear sign that students are not gaining applicable skills.[6]

There are other indications that change is needed. Competency in math has become increasingly important across many professions, yet **nearly two-thirds of California students are not proficient in math according to multiple high-quality tests**.[11] Similarly, technology skills have become more desirable, but young Americans rank below students in most other developed countries on a test of how well they solve problems using technology.[12] Altogether **in California, only 41 percent of 2015 high school graduates taking the SAT, and only 37 percent taking the ACT, met college readiness benchmarks**.[13]

In addition, 58 percent of high school graduates in California do not complete the series of courses called A through G (A-G) that are required in California to be eligible for a four-year, public college. To complete the A-G course requirements, students must take 15 specific high school courses, and achieve a grade of C or better in them.[14]

Moreover, skills that education experts call **"deeper learning" competencies, such as communication, collaboration and critical thinking skills, are lacking** among young applicants. One survey found that business leaders

Why Has The Central Valley Taken A Fresh Look At Its Education System?

One reason is that employers and educators in the region are trying to address a pressing skills gap in the agriculture industry. Agriculture is a key component of the Central Valley's economy, accounting for more than 210,000 jobs in the region. According to a recent Milken Institute report, agriculture and energy jobs in the Central Valley are expected to grow almost 16 percent between 2010 and 2020, and roughly 22 percent of those new jobs will require at least some postsecondary education.[8]

Advancements in the agriculture industry have led to this gap. As machines are used more and more in the production of the state's crops, including almonds and grapes, the demand for a skilled workforce to operate the machines has increased. The industry also demands workers with strong science, technology, engineering and math (STEM) skills due to advances in food processing, agricultural technology and biotechnology.[9]

It's not just agriculture; Central Valley cities are facing education gaps across professions. For example, a study by the Brookings Institution found that, out of the 100 largest metropolitan areas nationwide, the Central Valley metro areas of Bakersfield-Delano, Fresno, Modesto and Stockton had the weakest economic prospects as measured by high unemployment rates and a gap between workers' education levels and job openings.[10]



rated these competencies as some of the most important to support business expansion, yet less than half said their employees performed above average in these areas.[15]

Three Approaches to Education That Would Align Learning with Jobs and Strengthen California's Workforce

The Central Valley is successfully filling a skills gap in the agriculture industry by taking a different approach to education. There is both anecdotal and hard evidence that these strategies are working and could work statewide.

1 Increasing Deeper Learning, Including Hands-On Learning, in High School

Schools throughout California have adopted educational models that emphasize the deeper learning competencies, such as Linked Learning and Career Academies models, which involve:

- **Rigorous academics**: English, mathematics, science, history, and foreign language courses.
- **Real-world professional skills**: Technical courses to help students gain knowledge and skills to give them a head start on a successful career.
- **Career-based learning**: Work-based learning opportunities, starting with mentoring and job shadowing, leading to intensive internships, school-based enterprises or virtual apprenticeships.
- **Support services**: Counseling and supplemental instruction in reading, writing and mathematics.

Research confirms the power of hands-on, work-connected learning (also referred to as "Career-Technical Education," or CTE). Studies show these programs help students understand how their education relates to careers, know what is expected in the workplace, and develop communication, collaboration and critical-thinking capabilities.[16]

They also boost student outcomes. **A recent study of Linked Learning found that students in certified pathways earned more credits throughout high school and were four**

Why Do Businesses Value Deeper Learning?

- Critical thinking and problem-solving skills are necessary to find answers to challenges that—unlike multiple choice tests—are not necessarily on the page in front of them.
- They help students "learn how to learn"—knowing how to find out what they do not already know.
- Effective written and verbal communication skills are critical to working as part of a team, or to interacting with the public.
- Collaboration skills help students learn how to interpret others' messages and respond appropriately.



SPOTLIGHT

The Wonderful Agriculture Career Prep Academies

In the Central Valley of California, agriculture is king. The region produces 56 percent of all crops in the United States. It's a $45 billion dollar industry that employs one out of every five adults in the region.

Recognizing that the Central Valley had been plagued by poverty and neglect for decades, the Wonderful Company's founders, Stewart and Lynda Resnick, wanted to invest their time and philanthropic resources where their employees live and work. Since 2012, the Wonderful Company has tripled its investment in education throughout the Central Valley. They fund preschools, arts education and summer camps, offer ESL classes, parent engagement courses and more.

Working collaboratively with regional community colleges and local high schools, they developed the Wonderful Agriculture Career Prep Academies to simultaneously prepare students throughout the Central Valley for college and careers. Wonderful Company executives work closely with community college professors and high school teachers to align academic curriculum in high school with agriculture industry standards. Students at six area high schools self-select one of three pathways: agriculture business, plant science or agriculture mechanics. The courses are rigorous and STEM-oriented. In addition to meeting their high school graduation requirements by the end of 12th grade, students are simultaneously enrolled in college courses, with actual college professors, earning real college credits. By the time they graduate, students have almost completed their associate degree, and can either enroll in a four-year college program as a junior and finish in half the amount of time, or are prepared to enter the agriculture workforce directly, earning an approximate entry-level salary of $30,000-$50,000.

Students in the Wonderful Career Prep Academy are exposed to the career world via a four-year track of work-based learning opportunities designed to meet their level of experience. As freshmen, for example, students have the opportunity to attend an industry convention such as the World Ag Expo or the American Pistachio Growers Conference, where they have the opportunity to network with employers and learn about the field first-hand. In 10th grade, students have the opportunity to job shadow a professional in their field; plant science students typically visit and work in the Wonderful greenhouses in Visalia. Students meet with a career mentor four times in 11th grade, and complete a paid internship during 12th grade.

To date, the Wonderful Company's education programs have reached 55,000 students across 83 schools in 24 districts. Over 1,500 college scholarships and incentives have been awarded to area students, and 1,300 grants to teachers have been made. That's one of many ways the Wonderful Company is helping to grow vibrant Central Valley communities and develop a skilled, local workforce.



percentage points more likely to graduate.[17] Meanwhile, a study of Career Academies found that former participants worked 12 percent more hours per week and earned 11 percent more as adults than those who did not participate.[18] They were also twice as likely to be working in the computer, engineering or media technology sectors eight years after graduation—thus helping to increase the supply of needed STEM workers.[19]

Deeper learning is a large part of these models' successes. A study by a respected research and evaluation organization, the American Institutes for Research, compared student outcomes in 13 pairs of deeper learning and traditional schools serving disadvantaged students in several districts in California and New York.[20] **Students in deeper learning schools were 16 percent more likely to graduate from high school on time** (65 percent versus an estimated 56 percent who would have graduated on time in comparison schools). They were also 19 percent more likely to enroll in four-year colleges and 62 percent more likely to enroll in selective colleges.

2 Supporting High School Students Who Want to Take College Credits ("Dual Enrollment")

Initially, high-performing students were the ones to take advantage of "dual enrollment"—a process through which students earn college credits while in high school. However, **recent efforts have started using dual enrollment as a strategy to expose students who are less academically prepared, or first generation, to college.**

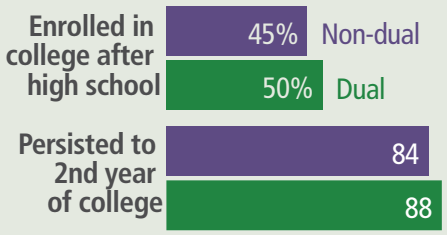
Research shows dual enrollment can work for these students. **Dual enrollment increases the chance that less prepared students will succeed in college** "by giving them a realistic idea of what college requires and giving them a head start on college-level work" and "potentially reducing the cost of college by providing low-or no-cost college credit and shortening time to a degree."[21]

As a result, dual enrollment has shown positive impacts on college outcomes. Studies from California, New York and Florida show that dual enrollment improved college enrollment, persistence and GPAs, particularly among lower-income high school students and those in career-technical education (CTE) pathways. For instance, **CTE students in California who participated in dual**

FIG. 3

Dual Enrollment Works for Students in Career Technical Education (CTE) Pathways

CTE students who participated in dual enrollment were five percentage points more likely to enroll in college.



Source: Columbia Community College Research Center, 2012



enrollment were five percentage points more likely to enroll in college and three percentage points more likely to pursue a bachelor's degree, a significant increase (see Figure 3).[22]

3 Creating Affordable Pathways to College

At a time when the value of postsecondary education is rising, there is declining enrollment and equity in who attends. **In the past five years, rates of college attendance dropped by three percentage points among all high school graduates nationally, but dropped 10 percentage points among low-income graduates.**[24] According to the Campaign for College Opportunity, by age 24 in California, 59 percent of white young adults are enrolled in or have completed college, compared to only 44 percent of black young adults and 41 percent of Hispanic young adults.[25]

SPOTLIGHT

The Central Valley College/Career Boot Camp

The Central Valley Higher Education Consortium (CVHEC) launched the College/Career Boot Camp in 2013 in order to "continually reinforce and nurture a college-going culture in the Central Valley." The Consortium is a non-profit incorporated partnership of 26 accredited public and private colleges, universities, and community college districts, serving a 10-county region from Stockton to Bakersfield.

With the rate of degree attainment at just 10 percent in some counties in the Central Valley, the Consortium recognized the need to inspire a college-bound mindset in students. They researched the services that college coaches provide to wealthy families and sought a way to offer them to low-income students for free.

Initially funded by the Walter S. Johnson foundation, the College/Career Boot Camp started as a four-day summer program. After the success of the first program, the Central Valley Regional Foundation and the Central Valley Workforce Collaborative stepped in to provide a local source of funding and to expand the program to offer a winter camp. Current partners include: The Ivy League Project, The Central Region Consortium, and the California Partnership for the San Joaquin Valley.

The students who participate are invited to apply by their school counselors. With ages ranging from 16 to 22 years old, they must have a GPA of at least 2.6 and have not been engaged in any other college preparation program. Most participants would be the first in their family to attend college and come from families where English is a second language. Many students come from families of undocumented workers, the foster care system, and single-parent households where the resources and encouragement needed to navigate the college application process are not readily available. The program focuses on some of the Central Valley's most vulnerable youth.

During the four to five-day program, students are exposed to a full college experience. Held on a Central Valley college campus, students stay in dorms, eat in college cafeterias, and participate in workshops held in college classrooms. They meet with admission representatives from higher education institutions ranging from community college to private universities. They also are paired up with undergraduate and graduate students who serve as mentors and local industry professionals visit to guest speak. Students are exposed to a range of people that help clarify the admissions and financial aid process and provide examples of people in their community who have found success in college and careers.

Each session serves about 70 students and to date, more than 300 students have gone through the program.

The most unique aspect to the Boot Camp is a focus on advocacy. The Boot Camp aims not only to inspire students to realize their potential in college and on their career paths, but also to bring the same inspiration back to their peers who might not have had the opportunity to attend. They are required to develop an advocacy plan to bring back to the community.

SPOTLIGHT

Free Application for Federal Student Aid: It's FASFA Time Event

In 2011, Univision Fresno partnered with the Fresno County Office of Education and held the inaugural It's FASFA Time in Fresno. The event is part of Univision Contigo, a national education initiative aimed at improving academic achievement among K-12 Hispanic students. The initiative focuses on college readiness and high school and college completion, as well as engaging Hispanic parents and the broader community.

It was developed to address the challenges of students from migrant worker and low-income families who were less likely to talk with counselors about attending college and had limited, if any, understanding of financial aid. Without outreach to families, especially those in which English is their second language, many eligible students would miss the opportunity to participate in an essential first step in preparing for college.

Designed as a family event, It's FASFA Time is held on a Saturday in February at multiple educational sites throughout the Central San Joaquín Valley. Because most of the sites are on college campuses, families and students are exposed to the possibility of attending a higher education institution.

Each site has a computer lab where trained bilingual volunteers work one-on-one with students and their families to complete the FASFA and/or the California Dream Act applications. Many of the sites also have booths and workshops where families are able to learn about financial planning, scholarships, loans and/or supportive services available for students.

It's FASFA Time has grown from one site to eight. In 2015, more than 1,100 families participated in the event with over 400 financial aid applications being completed. Almost 90 percent of the students who attended were from low-income Spanish-speaking Latino/Hispanic families and would be the first generation in their family to attend college. Pacific Gas & Electric and Wells Fargo were the business partners for the event and more than 150 volunteers from educational institutions and community organizations participated.

Because of this innovative program, hundreds of students have been given the opportunity to understand how financial aid can provide the opportunity to fulfill the dream of attending college.

Research shows that reducing the cost of college can help. For example, one rigorous study found that **when students received help filling out the Free Application for Federal Student Aid (FAFSA)**, they received more grant aid and **increased their college attendance by 30 percent over two years.**[26]

As an affordable way to achieve a postsecondary education, community colleges can also help. **Attending community college costs roughly half as much as attending a four-year public college** ($6,800 vs. $13,300 per year). In California, the cost is even lower; California has the least expensive and largest community college system in the nation.[28] For a relatively small investment, a community college education pays dividends. Those who complete an associate degree earn 33 percent more than a high-school educated worker—a boost of $450,000 in lifetime earnings—and are 34 percent less likely to be unemployed.[29]



7 Steps California Leaders Can Take to Strengthen the Workforce

State policymakers can:

1 **Maintain a strong investment in college and career-readiness initiatives** like dual enrollment and California's Career Pathways Trust, the largest career-technical education fund in the nation.[30] There is still an opportunity to increase access to such initiatives; less than one-quarter of California students currently participate in innovative high school models like Linked Learning or Career Academies.[31] In addition, policymakers can incentivize schools to pursue college and career readiness by keeping track of college and career metrics such as improvements in access and enrollment.

2 **Support dual enrollment.** The research is clear that dual enrollment can benefit less academically prepared students, but many programs still require a minimum GPA to qualify. California policymakers can modify these restrictions to increase community college and four-year college access. They can also provide dual enrollment courses for free to low-income students and include dual enrollment in high school Career and Technical Education programs to enhance students'

knowledge of the important role community colleges play in career readiness and in preparing students to transition to a four-year college degree program if they choose that path.[32]

3 **Increase applications for financial aid** to attend community college, four year colleges and universities, and career technical certificate or trade programs. State policymakers can incentivize schools and private tax preparers or companies to ensure more high school students apply for need-based financial aid, such as measuring and rewarding completion of the Free Application for Federal Student Aid (FAFSA) and state aid application.

4 **Increase available slots for qualified students in California Community Colleges**, California State Universities, and University of California campuses statewide. State spending per college student in California is close to its lowest point in 30 years.[33] State policymakers can help more students get the education that is necessary for today's workforce by increasing funding for state institutions, particularly community colleges.

Federal policymakers in California can:

5 **Maintain funding for Pell Grants (need-based aid):** Community college students make up one-third of Federal Pell Grant recipients, and research shows that such aid increases students' attendance and persistence at two-year colleges.[34] While colleges need to do their part to lower costs, Pell Grants are a crucial investment in our country's economy.

6 **Allow students to access Pell Grants year-round:** Currently, students receive one Pell Grant award per year that can be used for two semesters. This prevents students who are looking to accelerate their education from doing so. Recent evidence from random assignment studies shows that year-round grant aid increases community college students' enrollment and persistence.[35] Lawmakers should allow students to access Pell Grant aid year-round without reducing the average award.





7 **Simplify the financial aid application process:** Another way to make a community college education in reach for more students is to remove the barriers to receiving grant aid. Simplifying the federal grant aid application process, such as by shortening the FAFSA, could increase students' college attendance. Creating incentives for companies and individual tax preparers to help families fill out the forms have been shown to increase attendance by as much as 30 percent over two years.[36]

Conclusion

A shortage of qualified workers is taking a toll on the California economy. Unemployment remains relatively high, while available jobs go unfilled. Moreover, the gap between education and skills of workers and open jobs will likely worsen in the coming years.

As California leaders think about how to grow the future workforce, they should look to the Central Valley. Increasing hands-on, project-based learning in high school, supporting high school students who want to take college credits ("dual enrollment") and creating affordable pathways to college statewide will make our students better learners and California's businesses more competitive.

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