

Career Technical Education Pathways Initiative



This fifth annual report highlights the progress toward creating a system of pathways that prepare students with rigorous academic and career skills.

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Career technical education enables all individuals to achieve financial self-sufficiency, compete in the global marketplace, and contribute to economic prosperity.¹

Introduction

The California Community Colleges serve more than 2.76 million students and is the largest system of higher education in the nation. The state's 112 colleges provide workforce training, teach basic mathematics and English, and prepare students for transfer to four-year universities and colleges.

Similarly, the California Department of Education (CDE) comprises the nation's largest K–12 education system, serving 6.2 million students in 1,043 school districts. A key CDE priority is to increase the number of high school graduates who are ready for college and career.

Given their interrelated goals, the California Community Colleges Chancellor's Office (Chancellor's Office) and CDE have joined together to develop and implement the Career Technical Education (CTE) Pathways Initiative. Passed into law in 2005 (Senate Bill 70), the CTE Pathways Initiative funds various entities that equip students, middle grades and through community college, with the knowledge and capabilities they need for careers in the 21st century California workforce — careers that require high-level skills and many of which pay high wages.

In 2007, the Chancellor's Office and CDE commissioned WestEd to conduct an ongoing statewide evaluation of the Initiative, specifically evaluating individual grant-funded projects.² This fifth annual report, prepared by WestEd, covers impact of both the individual projects and overall Initiative during 2009/10. A condensed version of the annual report, containing key highlights, was also prepared by WestEd, available at www.wested.org/cs/we/view/rs/1192.

This report is organized as follows:

- Background of the CTE Pathways Initiative
- Evaluation Data Collection
- Key Findings
- Overview, Activities, and Outcomes of Select Initiative Projects
- Recommendations
- Conclusion
- Appendix

¹ California State Plan For Career Technical Education 2008–2012: Executive Summary. Rep. California Department of Education and California Community Colleges, 1 July 2008. Web. 28 July 2009. <www.schoolsmovingup.net/cte/downloads/California_State_Plan_for_CTE_Executive_Summary.pdf>.

² WestEd is a subcontractor to Coast Community College District, the CTE Pathways Initiative statewide evaluation grantee.

Background of the CTE Pathways Initiative

The CTE Pathways Initiative was originally envisioned by California State Senator Jack Scott and passed into law in 2005. Since then, the state has been allocating Initiative funds annually to increase the availability and alignment of K–12 CTE with local community colleges to improve education pathways and career-technical awareness for students enrolled in both systems.

Based on models consistent with the California Community College’s Economic and Workforce Development (EWD) Program, the Initiative allows students to follow a CTE pathway from secondary schools to community colleges and beyond. These pathways hold the promise of reducing student dropout rates, meeting workforce needs, and building successful careers.

Since 2005, the Chancellor’s Office and CDE have supported the development of local and regional CTE pathway systems and integrated those systems into a statewide network that closely follows key components of the Pathways vision,³ organized into six themes:

1. **Career Pathways and Articulation** for CTE students by aligning K–12 CTE — including Regional Occupational Centers and Programs (ROCPs) — with California’s community colleges and universities through increasing the number and quality of career pathways and CTE courses, as well as student enrollment in CTE.
2. **Career Planning and Development** through strengthening career awareness, exploration, and guidance; developing individual college and career plans; and connecting with industries and businesses to offer intern, apprenticeship, and work-based learning opportunities.
3. **Innovative and Effective Program Models for Diverse Students** to increase enrollment of *all* CTE students.
4. **Business and Industry Engagement in CTE** that lead to increased opportunities in work experience, work-based learning, job shadowing, community classrooms, and internships/apprenticeships; and to build a statewide system to link business and economic development with CTE.
5. **CTE Teacher Recruitment and Professional Development** to increase the number of students enrolled in CTE teacher preparation programs. This includes developing in-service strategies for new teachers as well as offering CTE professional development

³ See Appendix A: Components of the Pathways Vision

activities, including leadership development, “a-g” (academic courses) workshops, and grant-funded resources found online, such as CTEOnline.org and CTETeach.org.

6. **Capacity Building, Research, and Evaluation** to provide strategic leadership in CTE system development.

The Chancellor’s Office and CDE award Initiative grants to community colleges, and K–12 schools and districts to achieve the Pathways vision. These competitive grants address CTE needs otherwise unmet, fill gaps, jump-start programs, and provide human resources for connecting educators to local business and industry leaders, and building CTE opportunities for all students.

Initiative grant funding has more than tripled since 2005. The total awarded in 2005 was \$20 million. Funding totaled \$48 million in 2009/10; and approximately \$68 million in 2010/11.⁴

Evaluation Data Collection

This annual report presents CTE Pathways Initiative grantee data for 2009/10⁵ as well as activities, outcomes, and findings from evaluation activities conducted by WestEd from May 30, 2010 through June 1, 2011.

Grantees were contacted during spring 2011 via telephone interviews, site visits, or an online survey. Telephone interviews focused on asking grantees about success stories,

⁴ In 2006, Senate Bill 1133 (SB 1133), authored by Torlakson, established the Quality Education Investment Act (QEIA) of 2006 to implement settlement terms of the California Teachers’ Association v. Schwarzenegger lawsuit. The lawsuit claimed the Governor did not fully fund Proposition 98 (ballot initiative that passed in 1988 committing California to spend 40 percent of general fund on schools) in accordance with a 2004 agreement he made with the education community. In May 2006, all parties agreed to settle the case and support legislation necessary to implement the settlement agreement. Specifically, Chapter 751, Statutes of 2006 (SB 1133) allocates an additional \$32 million in 2007/08 and \$38 million annually from 2008/09 to 2013/14 to SB 70 to expand CTE in public secondary education and lower division public higher education, including hiring additional faculty to expand the number of CTE programs and course offerings. SB 70 allocated \$20 million each year in 2005/06 and 2006/07. In 2007/08, SB 70 and SB 1133 together provided \$42 million. (Note: For this report, CTE Pathways Initiative will be used in reference to the Career Technical Education Pathways and Workforce Development Program, which includes funding from both SB 70 and SB 1133.) Through 2013/14, it is proposed that \$58 million will be provided for improving career technical education in California by building and aligning coordinated CTE pathways to postsecondary programs of study, thus enabling students to develop high levels of workplace skills while pursuing personal aspirations. In 2008/09, SB70 was fully funded at \$58 million and reduced again to \$48 million in 2009/10. For 2010/11, SB70 was increased to \$68 million.

⁵ Grantees are funded by fiscal year, but the majority of the data reported are by *school* year due to activities occurring on a school schedule. Data reported through June 2010 unless otherwise indicated.

challenges/barriers to implementation, and suggestions for resources or supports they would find helpful. Site visits included a semi-structured interview with key staff and students about how the Initiative has impacted them and, in most cases, an observation of a grant-funded event (e.g., advisory meeting, career fair, career exploration event, professional development). Telephone interview, survey and site visit data provided a qualitative overview of Initiative-funded activities or services.

Data also informed how these activities and services functioned in conjunction with efforts supported by other funding streams to create a fully articulated and integrated CTE system in each grantee's respective community. Figure 1 (see page 5) provides a cumulative data overview of the CTE Pathways Initiative through the 2009/10 academic year.

Figure 1. Career Technical Education Pathways Initiative Cumulative Data Overview

Career Pathways and Articulation	Career Planning and Development	Programs for Underserved Students	Business and Industry Engagement in CTE	CTE Teacher Recruitment and Professional Development
Community Collaborative, Supplemental, & Workforce Innovation Partnerships				
<ul style="list-style-type: none"> •69,174 students in 1,022 courses •23,406 students in internships/apprenticeships 	<ul style="list-style-type: none"> •30,348 staff in trainings, externships, & professional development 	<ul style="list-style-type: none"> •475,513 in other CTE activities •2,073 partnerships 	Teacher Preparation Pipeline <ul style="list-style-type: none"> •4,333 students •175 partnerships 	
California Partnership Academies <ul style="list-style-type: none"> •22,613 students •1,582 partnerships 	Health Science Capacity Building <ul style="list-style-type: none"> •8,748 students •127 partnerships CTE Student Organizations <ul style="list-style-type: none"> •2% increase in membership Health Occupations Preparation and Education <ul style="list-style-type: none"> •9,873 students •79 partnerships Youth Entrepreneurship Program <ul style="list-style-type: none"> •18,253 students •736 partnerships 	Distance Learning <ul style="list-style-type: none"> •450 students •22 online courses revised/developed Career Advancement Academies <ul style="list-style-type: none"> •6,400 students •270 partnerships 	Statewide Career Pathways <ul style="list-style-type: none"> •1,425 articulation agreements CTE Online <ul style="list-style-type: none"> •9 model curriculum institutes & 15 trainings (531 participants) “a-g” Guide Project <ul style="list-style-type: none"> •118 high school teachers attended training in curriculum integration Curriculum Planning for Emerging Industries <ul style="list-style-type: none"> •6 courses in new technologies developed 	
GRANTS FOCUSING ON STAFF ONLY				
	Leadership Development Institute (began 6/2011) <ul style="list-style-type: none"> •28 participants 		CTE Liaison Hubs <ul style="list-style-type: none"> •3,714 staff served Career Development and Work-based Learning Linkages to Professional Organizations <ul style="list-style-type: none"> •710 counselors & staff participated in trainings 	New Teacher Workshops (CTE Teach) <ul style="list-style-type: none"> •1,150 teachers trained
GRANTS THAT HAVE ALREADY ENDED				
Construction <ul style="list-style-type: none"> •9,166 students 	<ul style="list-style-type: none"> •569 students in internships/apprenticeships 	<ul style="list-style-type: none"> •223 staff in trainings or externships •125 partnerships 		
Quick Start <ul style="list-style-type: none"> •72,963 students •412 partnerships Career Exploration <ul style="list-style-type: none"> •17,450 students 	Strengthening CTE <ul style="list-style-type: none"> •8,903 students •213 partnerships 		Faculty/Counselor Work Experience <ul style="list-style-type: none"> •109 staff 	

Note: Summary cumulative data for SB70 grants through the 2009/10 academic year were collected from various data collection tools as were available as of June 2011. In most cases, data are cumulative through the duration of the grant and may include duplicates. Further detail regarding data sources and periods covered per grant type are in Appendices B, C, and D.

Key Findings

Initiative funding has helped build 5,792 partnerships, developed or revised over 1,000 courses, provided trainings or externships to over 36,000 staff at high schools and community colleges, and served almost 750,000 students.¹

WestEd’s 2009/10 evaluation found example after example of CTE Initiative projects helping to ensure students and adults succeed in college and career. Three key findings emerged from the evaluation:

- More students from kindergarten to adult learners in community colleges have access to pathway courses, opportunities for career exploration, internships/apprenticeships, and access to business/industry mentors.

“We were brand new two years ago; we started at zero. So to go from nothing to an articulation agreement with a post-secondary school, a straight three-course sequence leading to the post secondary, and a middle school partner that wants to work with us is exciting.” [Cynthia Bater, Dean, California Academy of Math and Science]

- A growing number of industries and businesses see the value of CTE and are eager to provide opportunities for job shadowing, observation, and workplace internships.

“This program helped bring industry and colleges closer together. It also provided a solid bridge, or pathway, for graduating students to find work in industry. Without the funding provided by this grant, the program would have never been able to get established.” [Anonymous Industry Partner, Survey Respondent]

- Increasing teacher interest and creativity in the integration of career and industry-related material in academic subjects.

“Another exciting curriculum thing is we’ve been dovetailing [health science] through our other curricula, like language arts classes. Even in Greek and Latin classes the students are studying health-related terminology. In literature they study Frankenstein—that’s a no-brainer. It’s that whole medical theme.” [Leah Jager, English/CTE Teacher, Del Norte High School]

The momentum generated by the CTE Pathways Initiative since 2005 is making significant impact: students have more industry-related pathway opportunities; teachers are signing

¹ Students participating in multiple CTE activities and multiple years are counted more than once.

up for professional development, externships, and other CTE-related experiences; and business/industry are more connected and invested in their education partners and see the value in having CTE programs. However, more time is needed for these programs to reach the “tipping point.”

“The programs we developed to help our instructors integrate CTE into classroom curricula have since become models for other teachers and school districts. We have not quite reached the “tipping point” where there are enough instructors and schools bringing CTE into the classroom, but we are getting closer.” [Kathy Johnson, Executive Director, Vital Link of Orange County]

Overview, Activities, and Outcomes of Select Initiative Projects

This section summarizes the purpose, goals, and 2009/10 activities and outcomes of select Initiative projects organized by the six themes incorporated in the Pathways vision⁶. The six themes are as follows:

- Career Pathways and Articulation
- Career Planning and Development
- Programs for Underserved Students
- Business and Industry Engagement in CTE
- CTE Teacher Recruitment and Professional Development
- Capacity Building, Research, and Evaluation

Theme: Career Pathways and Articulation

Since 2005, when the Initiative passed into law, CTE partnerships statewide were established or are developing, from middle school through community college and beyond. These partnerships create a seamless system of CTE bridging students' transitions from secondary and postsecondary education to careers and addressing the needs of business and industry. The partnerships delineate the responsibilities of each player (K–12, ROCP, community college, university, business/industry), timelines, agreed-upon standards, and indicators of success.

Many of these partnerships resulted in an infrastructure that has been created or gained momentum from the CTE Pathways Initiative and are leveraging those funds with other sources to further their goals.

The Initiative projects below have developed cross-sector partnerships as well as built career pathways and developed articulation agreements:

- CTE Community Collaborative, Supplemental, and Workforce Innovation Partnerships

⁶ The length of each project summary is in proportion to the dollar amount each project was funded, with higher funded projects having longer summaries than lower funded projects.

- Construction Industry Sector Career Pathways Regional Projects
- California Partnership Academies

CTE Community Collaborative, Supplemental, and Workforce Innovation Partnerships

CTE COMMUNITY COLLABORATIVE

CTE Community Collaborative regional partnerships provide coordinated, strategic leadership for CTE efforts in the partnerships’ respective locales, creating a seamless system of CTE between secondary and postsecondary education. These regional partnerships focus on expanding efforts in the four required components of the CTE Community Collaborative:

- Career exploration and development for 7th- and 8th-grade students;

Kindergarten to College: Career Exploration for All Students

Kinders Go To College (KG2C), brings together students — from kindergarteners to university graduate students— for a day of fun and learning about education and career options. It’s an annual event held at Woodland Community College (WCC) and sponsored by the Sacramento Yolo CTE Partnership, a regional Community Collaborative.

Kindergarteners are paired with an eighth-grade mentor who guides them through workshops and activities facilitated by high school, community college, and university students and faculty.

Themed around the Community Collaborative’s grant focus — agriculture and environmental sustainability — workshop activities include building solar-powered toy cars, potting flowers, surveying land in a large field, and meeting and learning about various animals from the agriculture department at WCC.

Throughout the day, the eighth grade mentors are actively engaging with, listening to, and working side by side with high school ROCP students; students and faculty from WCC; undergraduate and graduate students from the University of California, Davis; and professionals from participating community agencies, such as Legal Services of Northern California and the local police department. They’re hearing about how tech and engineering skills cross into other sectors such as agriculture and manufacturing; how laws are created and used to support environmental initiatives and businesses; what kinds of skills are needed to become a police officer; and how programs at a community college are linked to university degrees — all under the guise of leading their kindergarteners through the day.



- Strengthening of CTE programs linked to industry sectors;
- Teacher and faculty externships with business and industry; and
- Professional development for those implementing CTE programs.

Community Collaborative grantees, dispersed across all 10 of the state’s community college regions, include required partners (i.e., community colleges, K–12, ROCs, adult education, business, and industry) and other appropriate partners (e.g., Workforce Investment Boards, youth councils, economic development agencies).

CTE Community Collaborative applicants could also apply for Supplemental and Workforce Innovation Partnerships grants, each described below.

SUPPLEMENTAL

Supplemental Partnerships are intended to enhance CTE Community Collaborative funding by supporting communities to plan and operate together according to their particular characteristics; and creating a seamless system of CTE between secondary and post-secondary education while addressing needs of business and industry. Supplemental Partnerships expanded one or more of the four CTE Community Collaborative component areas and may address salient factors such as demographic or geographic challenges.

WORKFORCE INNOVATION PARTNERSHIPS

Workforce Innovation Partnerships develop projects that identify high-quality career pathways and training priorities related to high-growth industry sectors, including:

- Advanced transportation technologies
- Applied competitive technologies/manufacturing
- Biotechnologies/biosciences
- Environment, health, safety, and homeland security
- Geographic information systems (GIS)/geographic positioning systems (GPS)
- Allied health occupations
- Multimedia/entertainment

Workforce Innovation Partnerships also develop service-delivery projects such as 2 + 2 programs, early college high schools, and middle college. These projects create career

Lights, Camera, Action at Jurupa Hills High

A new technology-based high school in Fontana houses a broadcasting and TV news studio, a radio and sound studio, and theater. Jurupa Hills High School's first order of business is producing a student-run live television news program.

Funded by a Workforce Innovation Partnership grant, the school's Media & Design Arts pathway — in partnership with Chaffey College School of Visual, Performing, and Communication Arts — focuses on multimedia and entertainment technology. Students work in teams, rotating roles so that everyone is exposed to all facets of production (e.g., camera operator, editor, floor director, anchor person, reporters). A special features team produces public service ads on topics of interest to students, including texting while driving, drug abuse, and promoting a TV production program.

These teams do more than provide students with multiple learning opportunities. Team members have bonded with each other and feel attached to the news program, thus strengthening their sense of belonging to the school. This has resulted in positive transformations in some students' behavior and overall academic performance. For example, students who were quiet and withdrawn at the beginning of the school year are now engaging actively with their peers, teachers, and content in the TV production program as well as in their other classes.



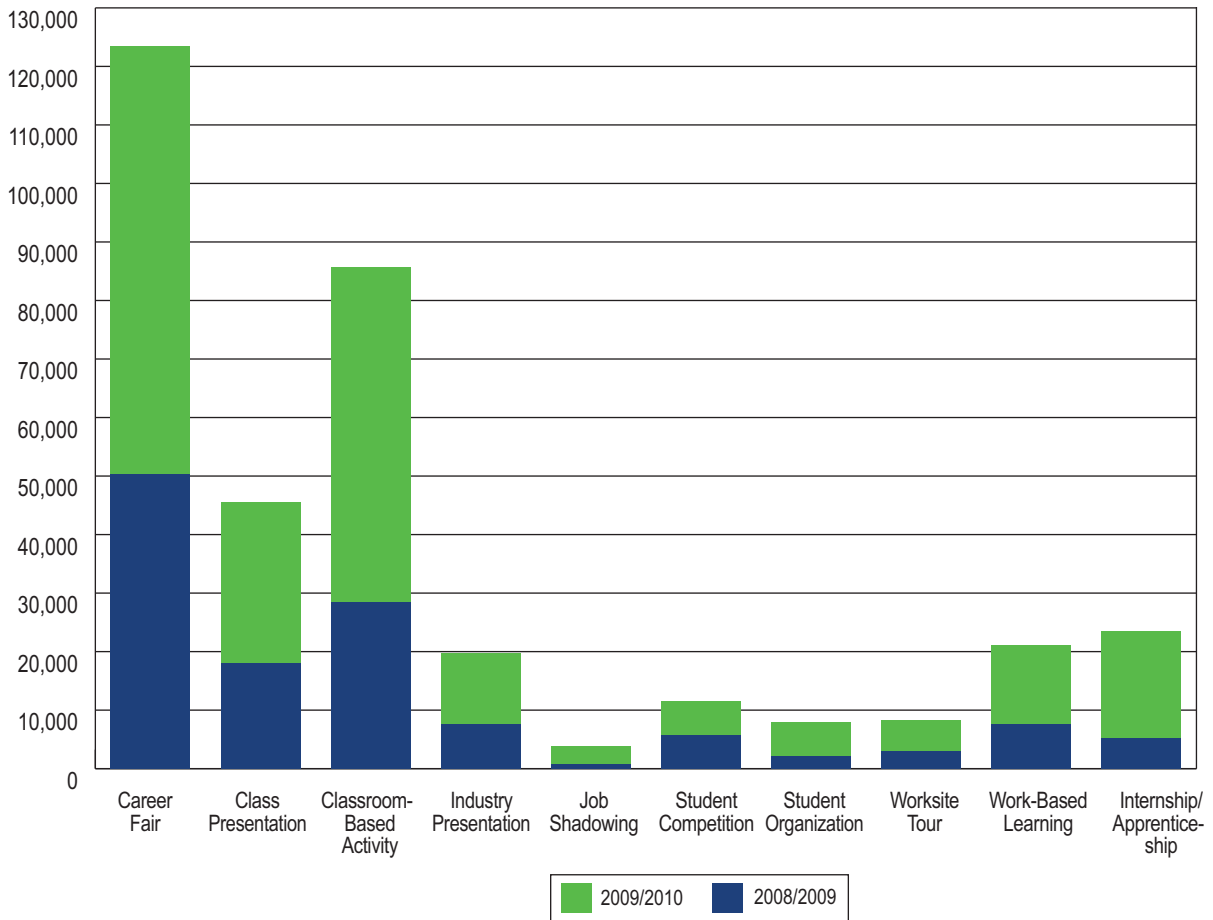
pathways aligned with the established economic development strategic areas in order to prepare California's future workforce.

ACTIVITIES & OUTCOMES

In the 2009/10 academic year, the 52 Community Collaborative, 24 Supplemental, and 18 Workforce Innovation Partnership grantees:

- Increased the number of students (309,711) participating in CTE activities compared to 2008/09 (165,802) (See Figure 2 for breakdown by activity each year);
- Provided 685 career exploration activities (e.g., job-site tours, hands-on training, industry presentations, career fairs, career assessments, internships, summer camps) to at least 164,000 elementary, middle, and high schools students compared to 488 activities (115,253 students) in 2008/09;

Figure 2. Students Participating in Community Collaborative, Supplemental, and WIP Activities



- Partnered with 2,073 organizations⁷ in order to offer more work experience opportunities for students and externships for faculty, adding almost 200 new partnerships from the prior year;
- Provided 1,618 elementary, middle and high school, community college, and ROCP faculty members and counselors with work-based externships compared to 653 in 2008/09;

⁷ Examples of partnerships include BIOCUM Institute, Jet Propulsion Laboratory, hospitals, engineering firms, landscapers, art studios, labor unions, community colleges, K–12 schools and districts, county offices of education, adult education, ROCPs, Workforce Investment Boards, and universities.

- Offered 402 new, 68 revised, and 819 existing CTE courses in middle schools, high schools, ROCPs, adult schools, and colleges with 40,577 students enrolled compared to 28,597 students in 2008/09; and
- Developed 134 articulation agreements and 134 new course sequences (pathways) that now culminate in an industry certificate.

Construction Industry Sector Career Pathways Regional Projects⁸

Construction Industry Sector grants, which ended July 2010, were designed to increase, expand, and/or improve career pathway programs in construction by:

- Developing model programs;
- Formally articulating coursework across education systems (e.g., formal agreements that link high school courses with community college courses);
- Aligning curricula with academic and CTE state standards;
- Developing advisory groups to link education with business, industry, and labor organizations; and
- Recruiting and developing qualified secondary and postsecondary instructors.

Construction Industry Sector grants were awarded regionally to San Jose City College, College of the Sequoias, and San Diego City College. Each grantee coordinated with the local CTE Community Collaborative grantees to avoid duplicating efforts and to leverage funding to maximize opportunities for students in the respective regions.

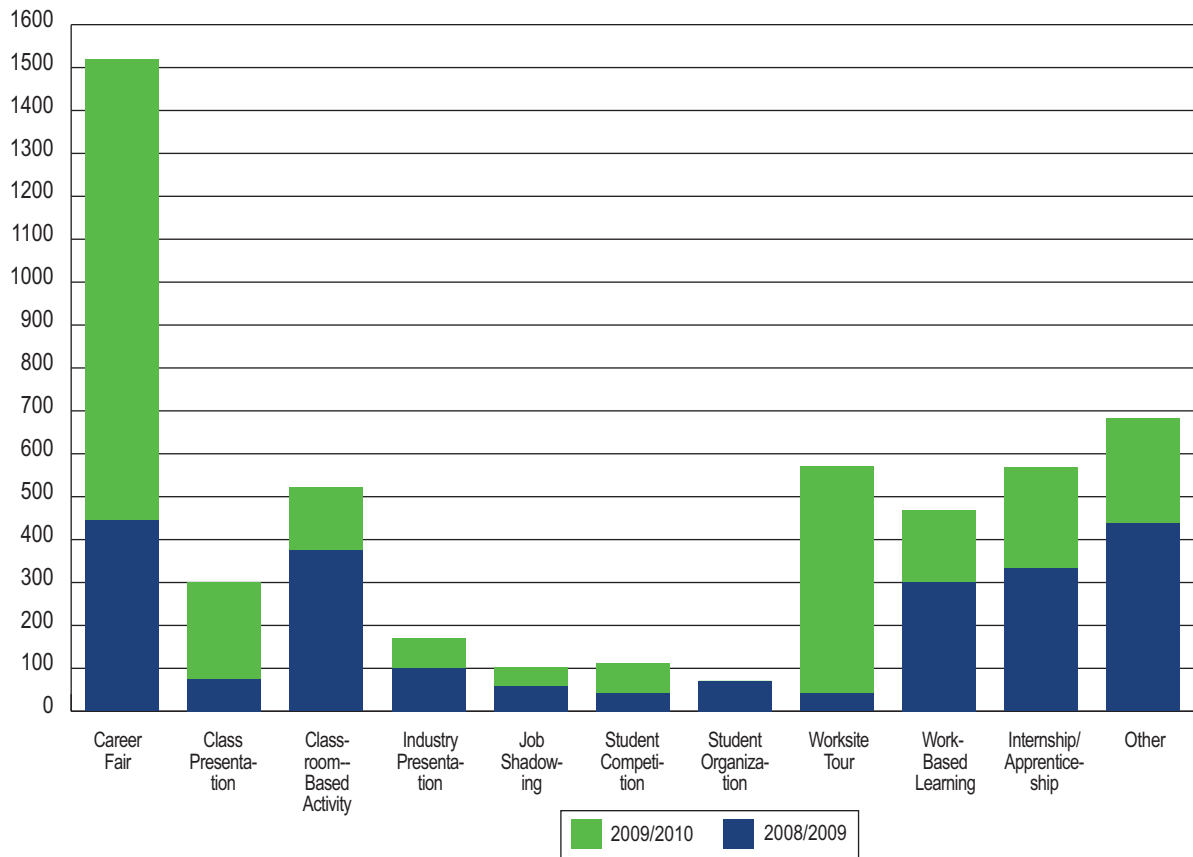
ACTIVITIES & OUTCOMES

Over the two-year duration of the grant, Construction grantees:

- Provided 4,854 students from middle, high, and adult schools, ROCPs, and community colleges with construction-related activities (See Figure 3 for breakdown by activity each year);
- Enrolled 4,645 students in 111 construction-related courses (16 courses were newly developed and 3 were revised);
- Articulated six (6) new courses and revised or expanded three (3);

⁸ Construction Industry Sector grants are not included in the condensed report.

Figure 3. Students Participating in Construction-Related Activities



- Provided 424 community college and high school staff members⁹ with 56 grant-related activities including Project Lead the Way conference, workshops/seminars, mentoring meetings, and job site tours;
- Developed broad-based advisory committees comprised of business, labor, and industry representatives for each region to foster dialogue and meaningful participation from local employers; and
- Partnered with 125 organizations, including school districts, other community colleges, ROCPs, adult schools, universities, Workforce Investment Boards, private construction companies, General Contractors Association, National Association of Women in Construction, and sheet metal workers' and plumbers' unions.

⁹ Number of staff members includes duplicates.

California Partnership Academies (CPA)

Structured as a school within a school, CPA is a three-year program for students in grades 10–12, targeting those at risk of academic failure. This project improves students' high school achievement and postsecondary outcomes by creating a close, family-like atmosphere for students and staff; integrating academic and career technical education; and establishing viable business partnerships.

As of June 2010, there were 481 funded CPAs in California; of those, 147 were funded through the Initiative. Each CPA is a partnership among the California Department of Education, secondary education, postsecondary education, and a particular industry (e.g., California's 15 industry sectors, including electronics, computer technology, finance, agribusiness, alternative energy, environmental design and construction, graphic arts and printing, international business, and space).

Key components of the CPA model are:

- **Student Selection.** Students must apply, be interviewed, and be selected to attend a CPA on the basis of need and interest. One half of the incoming class must meet specified at-risk criteria, including past record of irregular school attendance, at least one third of a year behind in coursework for grade level, low motivation or disinterest in the regular school program, and disadvantaged economically;
- **Curriculum and Career Focus.** The integration of a standards-based academic curriculum with career and technical curricula is a major ingredient. Academic and career courses are aligned with postsecondary education options in the Academy's identified industry sector;
- **Staffing.** Teachers work with the same group of students during the 10th–12th grade period; must be willing to work with students at risk of academic failure; and are required to have a common planning period;
- **Business Involvement.** Employer representatives serve on an Academy steering committee that oversees the program; help to develop the career and technical curricula; provide speakers for Academy classes; host field trips; provide mentors who serve as career-related role models; and provide internship and summer job opportunities for Academy students;
- **Mentor Program.** Academy students in the 11th grade are matched with mentors from participating businesses and local community professionals who volunteer to be a "career-related and/or caring adult";
- **Internship Program.** During the summer after their 11th-grade year, or during their senior year, students who are on track for graduation apply for either paid or unpaid

work or learning positions, as they would for jobs in the open market (i.e., they prepare resumes, complete job applications, and undergo interviews). Companies make the hiring decisions;

- Motivational Activities. Educational field trips, classroom speakers, accomplishment and awards celebrations, and participation in career and technical student organizations are arranged for Academy students; and
- Funding and Evaluation. CPAs receive their funding through a per-student reimbursement system in which a CPA receives funding only for students who meet an 80% attendance requirement and a 90% credit requirement. Following legislated guidelines for all CPAs, grants must be matched 100% by both the receiving district and business partners.

ACTIVITIES & OUTCOMES

For the 2009/10 school year:

- 11,837 students participated in SB70 funded-CPA programs, of which 55% were 10th graders, 32% were 11th graders, and 13% were 12th graders.
- These CPA program served 4,904 students who were considered “at risk.”
- As shown in Figure 4 on page 17, a variety of industries were represented in the CPA program. The largest proportion of students (2,001 students) were enrolled in a Health Science and Medical Technology program, followed by Arts, Media, and Entertainment (1,922 students) and Engineering and Design (1,681 students).
- Among the 1,558 12th graders participating in the program, 807 (52%) were placed in an internship either during the summer after their junior year or during their senior year. As shown in Table 1, certain industries were more likely than others to place students into internships. Students enrolled in Building Trades and Construction and Education, Child Development, and Family Services programs were likely to participate in an internship, with a participation rate over 90%. Students in Hospitality, Tourism, and Recreation, Transportation, and Marketing, Sales, and Service were far less likely to be placed into an internship.

Figure 5 on page 17 shows the reported post-graduation plans of the 1,558 12th graders participating in the CPA program. Most common, by far, is attending a community college while working.

Figure 4. Industries Represented by CPA Programs

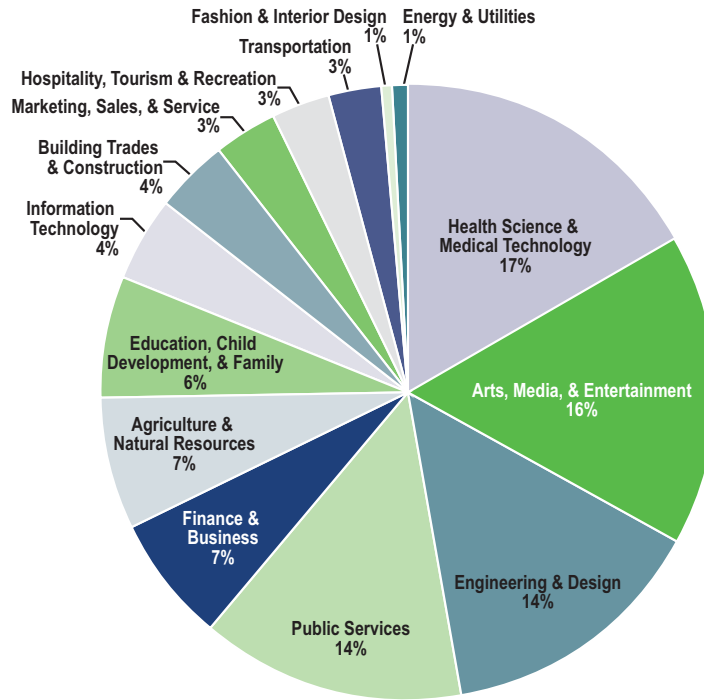


Figure 5. Post-Graduation Plans of 12th Graders in a CPA

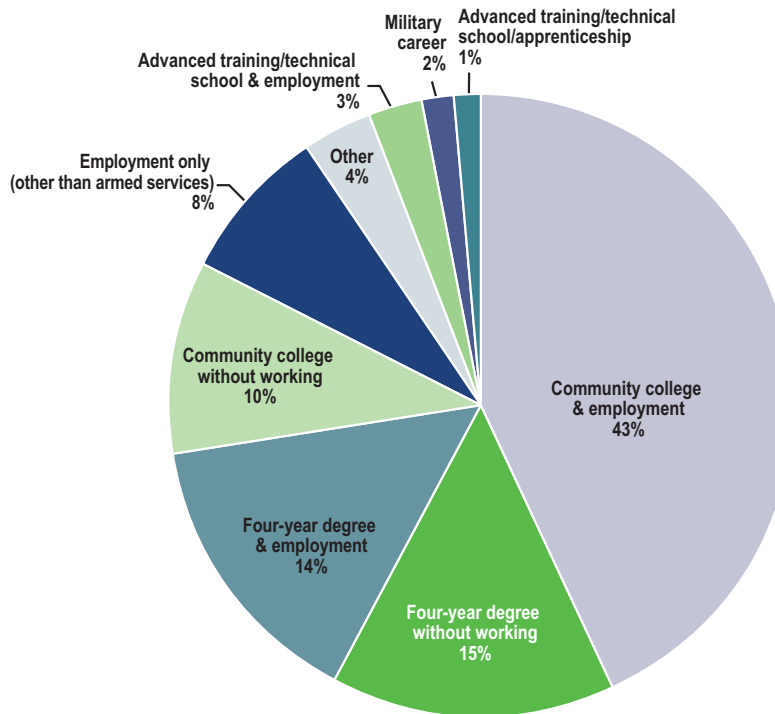


Table 1. Percentage of Students Placed in Internships by Industry Sector

Industry Sector	Placed in internship?		Total
	No	Yes	
Building Trades and Construction	1 (2%)	44 (98%)	45
Education, Child Development, and Family Services	13 (9%)	130 (91%)	143
Health Science and Medical Technology	59 (32%)	126 (68%)	185
Arts, Media, and Entertainment	105 (42%)	146 (58%)	251
Finance and Business	59 (42%)	82 (58%)	141
Engineering and Design	70 (48%)	75 (52%)	145
Public Services	164 (54%)	140 (46%)	304
Agriculture and Natural Resources	78 (61%)	49 (39%)	127
Information Technology	56 (84%)	11 (16%)	67
Marketing, Sales, and Service	71 (95%)	4 (5%)	75
Transportation	57 (100%)	0 (0%)	57
Hospitality, Tourism, and Recreation	18 (100%)	0 (0%)	18
Energy and Utilities	0 (0%)	0 (0%)	0
Fashion and Interior Design	0 (0%)	0 (0%)	0
Total	751 (48%)	807 (52%)	1,558

Note: Data for the manufacturing and product development industry sector were not available.

Theme: Career Planning and Development

For students to make informed decisions about CTE pathways they might pursue in high school and beyond, they need opportunities to explore options, beginning in middle school. Exploration includes career awareness activities and occupation-specific experiences to help students develop a high school education plan with postsecondary and career goals in mind. Four Initiative grants support this effort:

- Health Science Capacity Building Program (HSCB)
- Career Technical Student Organizations (CTSOs)
- Health Occupations Preparation and Education (HOPE)
- Youth Entrepreneurship Program (YEP)

Health Science Capacity Building (HSCB) Program

The HSCB Program provides CTE in middle and high schools statewide, helping to ensure an adequate number of qualified workers are available to address critical shortages in the health care industry.

In order to ensure an adequate number of qualified health care workers, HSCB helps schools prepare students for the transition to both postsecondary education and a career in a specific health care area ranging from nursing to family therapy. HSCB also serves as a pathway to becoming a medical doctor. Students can begin preparation in 7th grade with exposure to health care options. By the 12th grade, they have had the opportunity to mentor middle school students, intern and job shadow at local hospitals, and be mentored by college students — thus identifying their interests and focusing on specific areas in health care.

Health Science Capacity Building Program in Action: North Orange County ROCP

Significant student enrollment growth and positive life changes are taking place in the HSCB program at Esperanza and Savannah High Schools —just one year after HSCB start up. Take, for example, the story of Alexis. A sophomore at Esperanza, Alexis had failed her classes and was slated to transfer to continuation school. Alexis requested to stay at Esperanza and take extra classes. In order to meet course requirements, she enrolled in the school’s HSCB program, commonly known on campus as the Medical Sciences Academy (MSA). Alexis’ first MSA course became the catalyst for her academic turnaround. She became a leader among her classroom peers and worked hard in all of her seven classes including night school. Alexis is now working toward LVN certification and plans to enroll in college to further her nursing education.

HSCB program components include:

- Developing new or more advanced curricula;
- Aligning current curricula with California’s CTE standards and health science content;

- Offering professional development for educators;
- Offering student leadership opportunities through California Health Occupations Students of America and workplace learning activities; and
- Purchasing equipment and laboratory materials directly related to the program.

ACTIVITIES & OUTCOMES

During 2009/10, 46 grantees were funded, representing urban, suburban, and rural areas, compared to only 19 in 2008/09. With twice as many grantees, activities and outcomes proportionately increased this past year. In 2009/10:

- 6,170 students participated in a health pathway (2,578 in 2008/09);
- 2,670 students participated in workplace learning experiences (1,275 in 2008/09);
- Grantees partnered with 127 health care industries; and
- Grantees developed 43 new courses and articulated 34.

Career Technical Student Organizations (CTSOs)

Initiative funding is strengthening six statewide CTSOs responsible for overseeing hundreds of local chapters. These chapters provide CTE teachers and their member students with training and experiences to help develop career and leadership skills in a given field as well as personal and citizenship skills. By promoting meaningful business partnerships, linking school-based learning to the real world, and developing “soft skills” in students, CTSOs enable students to achieve high academic, social, and occupational standards. Initiative funding was aimed at increasing membership and expanding activities to the middle grades to provide more students with skills needed in the real world.

The six CTSOs and their area of focus are:

- DECA (marketing, sales, and service)
- Future Business Leaders of America (finance, business, and information technology)
- National Future Farmers of America Organization (agriculture and natural resources)
- Future Homemakers of America-Home Economics-Related Occupations (education, child development, and family services)
- Health Occupations Students of America or HOSA (health science and medical technology)

- SkillsUSA (arts, media and entertainment; building and construction; energy and utilities; engineering and design; manufacturing and product development; and transportation).

ACTIVITIES & OUTCOMES

In 2009/10, CTSOs:

- Increased membership by 2% compared to the prior year¹⁰, with SkillsUSA California membership growing by over 30% (2,146 to 2,885). The state organization was recognized by the SkillsUSA national office for achieving the greatest percentage of high school membership growth and greatest overall percentage of membership growth for any state organization. This was achieved through the active marketing of program values to students, teachers and business and industry partners, distribution of materials developed using SB70 funding, reorganization of leadership structure and improved communication within the organization, and outreach efforts to all stakeholders.
- Coordinated programs for middle grades. DECA, HOSA, and SkillsUSA now have one middle grades chapter;
- Participated in a joint student conference and a joint advisor conference; and
- Hosted at least 20,000 students at regional and state leadership conferences.

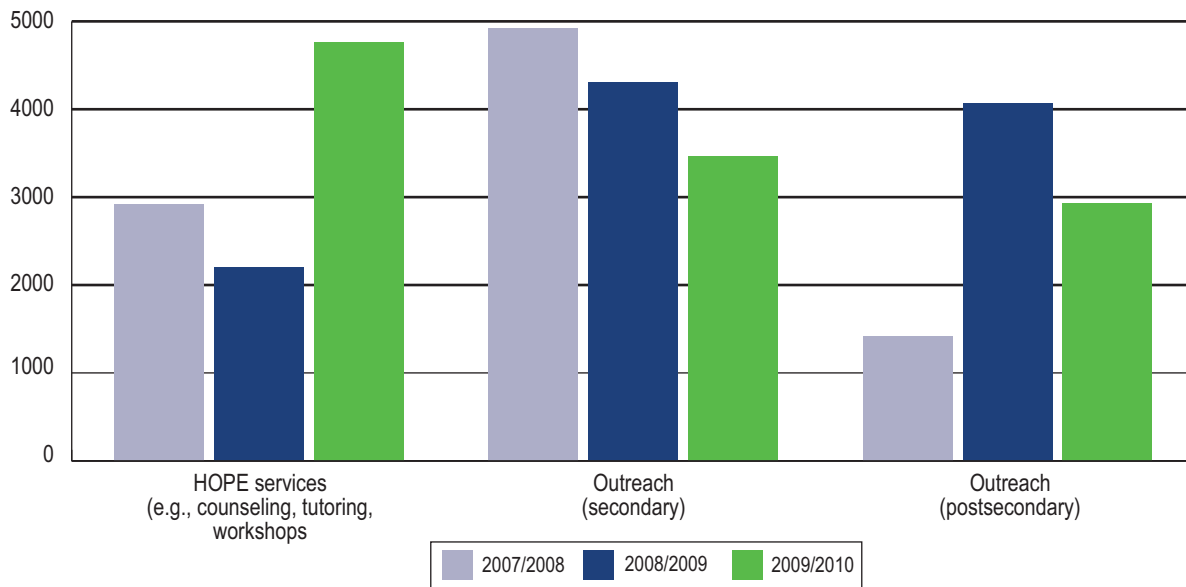
Health Occupations Preparation and Education (HOPE)

HOPE grants increase high school student interest in a variety of health care opportunities. Located in the Desert, North, and Interior Bay community college regions, HOPE:

- Develops an on-campus health preparation learning community/facility modeled after the Mathematics, Engineering, and Science Achievement (MESA) program for prospective and current health occupation students;
- Establishes on-campus locations to house the health preparation learning community/facility;
- Provides appropriate project oversight by a knowledgeable allied health professional dedicated to coordinating and overseeing the project;
- Provides counselors for students to develop education plans, and other counseling and student support services;

¹⁰ Based on the four CTSOs that provided membership data (DECA, FBLA, FFA, and HOSA).

Figure 6. Students Served by HOPE Activities



- Links with the work experience coordinator to develop mentorships, internships, and work experience placements for students interested in health careers; and
- Provides outreach to the campus community and surrounding high schools by developing and disseminating marketing materials, offering monthly meetings, establishing linkages with high schools, and providing an annual career fair.

ACTIVITIES & OUTCOMES

Over a period of three years, HOPE grantees:

- Each established a physical location to house the health learning community facility, ranging from a large classroom with additional office space for working privately with students at one site, to a dedicated “HOPE Center” with a 12-station computer lab, student study lounge, tutoring space, conference room and a kitchen at another site;
- Provided support services such as counseling and tutoring for students;
 - At Santa Rosa College, there is a HOPE counselor dedicated to students in the health programs;
 - Both Chaffey and Sacramento City Colleges provide case management services to each student. Students are assessed, provided tutoring or other services if needed, and guided to stay on track to complete program requirements;

- Provided approximately 10,000 students with services (e.g., counseling, tutoring, workshops), with more than double the number of students accessing services (4,760) compared to 2008/09 (2,199) (See Figure 6 on page 22 for data per year);
- Partnered with 79 industries providing 237 students¹¹ with mentoring, internship, and job shadowing opportunities;
- Outreached to over 20,000 students about allied health¹² professions and programs
 - The high school outreach specialist at Sacramento City College developed the HOPE Student Ambassador program in which high school students are recruited to help out at high school and college career fairs, and health program tours. In addition, the college developed relationships with health science coordinators at partnering high schools, created a marketing DVD and brochures on health care careers, attended and hosted job fairs at high schools, and conducted a series of high school presentations.

Youth Entrepreneurship Program (YEP)

Entrepreneurial education has typically been weak or absent in the secondary and community college education systems. YEP addresses this issue by bringing business ownership interest and concepts to youth who might not otherwise consider self-employment and business ownership as a career. Specifically, YEP:

- Provides training and counseling on the skills necessary for self-employment and the value of those skills; training can take place in the classroom, at weekend institutes, on site at businesses, at evening seminars, and online;
- Informs students about the global business environment and how it affects one's life and work;
- Trains high school and community college faculty to integrate entrepreneurship and global business into CTE coursework;
- Articulates the self-employment training between feeder high schools and their community colleges;
- Facilitates the expansion of college certificates in entrepreneurship and small business and global trade;

¹¹ The low numbers of students participating in work experience opportunities can be partly explained by the challenges experienced by the grantees. One site stated that it is difficult to provide work experience opportunities to secondary students due to liability reasons and local healthcare agencies being impacted with postsecondary students. Another site had challenges filling and retaining their job coach position.

¹² Allied health professions are distinct from medicine, dentistry, and nursing, and include professions such as pharmacy, occupational therapy, dental hygiene, and speech pathology.

From Student to Entrepreneur

The MiraCosta Community College Youth Entrepreneurship Program comprises several learning opportunities and events. One that is used both on school campuses in classrooms as well as independently by students is an online curriculum that leads students through the process of developing a business plan. Students who participate in the online curriculum have a handful of different opportunities to test their business concepts and plans against those of other students, and receive feedback from professional entrepreneurs and investors.

In 2009/10, the MiraCosta YEP hosted the Business Idea Challenge at the end of each semester, allowing students to present their business plans before a panel of industry judges for a chance to win cash prizes. The YEP also coordinated and hosted two new entrepreneurial competitions — the Marketing Campaign Challenge and “Pitch It.” The Marketing Campaign Challenge allowed students to develop actual marketing materials for Vista Unified School District’s Student Support Services Department, including logos, brochures, pamphlets, and other informational materials. District officials served as judges, and selected a winner — and have actually incorporated the winner’s designs and materials into their own marketing efforts.

“Pitch It!” was a unique opportunity for the participating students, who ranged from high school students to recent university graduates. Participants presented their business ideas and plans to a panel of angel investors, who listened to the pitches, interviewed the contestants, and then gave their feedback on each idea, before choosing a winner. Prizes ranged from an iPad 2 and cash to membership in a business association and a free haircut/style from a local hair salon. However, the contestants — whether or not they won — thought the feedback they received on their ideas from the angel investors was the real prize. Students and university grads alike reported that they’d each reviewed the videos of their presentations and feedback from the judges on their own, and found multiple take-aways from the experience, both from being able to see and evaluate their own speaking skills (the videos provided them with a sense of what might need to be improved for future such opportunities) to the advice and insights provided by the angel investors on each of their business plans. One participant — a recent university graduate — has already begun the process of launching his business plan, and reported that he found the feedback of the panel invaluable in helping him refine and adjust his operations and roll-out. In another instance, a high school participant was approached by a local business owner, after the event, to discuss the possibility of bringing her business plan for a build-you-own-burrito bar, to fruition.

Student presentations can be found on the “Pitch It!” page of MiraCosta YEP’s website: www.yepcalifornia.com/finalist-video-pitches.html.

- Initiates or expands student internships where appropriate; and
- Creates and disseminates materials in the field of entrepreneurship.

YEP supports an existing statewide network of community college-hosted Small Business Development Centers (SBDCs) and Centers for International Trade Development (CITDs), which provide expertise to small business owners and extend delivery of YEP services to high school-age youth. The 21 SBDCs and 12 CITDs were charged with:

- Increasing youth participants' business management skills;
- Inspiring youth interest in CTE;
- Creating bridges and partnerships to ease student transition from high school CTE to related community college programs; and
- Articulating CTE curricula, whenever appropriate.

ACTIVITIES & OUTCOMES

In 2009/10:

- 3,290 students attended YEP training programs resulting in 71 student businesses to date;
- 189 students received business counseling services; and
- Partnered with 736 community and business organizations.

Theme: Programs for Underserved Students

The CTE Initiative Pathways approach of bringing real-world applications into the classroom and integrating academics with career skills is highly motivating for all students, but can especially make a life-changing difference for those who are disadvantaged financially or disaffected (e.g., loss in motivation to achieve academically, irregular school attendance). School suddenly involves something they can relate to and get excited about. A skill they've learned or a product they've built offers a sense of pride. A mathematical formula suddenly

seems useful. The students who've struggled together to get a program de-bugged or a structure angled properly have become people who care about each other.

Also drawn in by this CTE approach are young adults who missed such opportunities in high school and drifted into adverse circumstances made worse by their lack of job or career skills — this, while local industries can't find enough skilled candidates for well-paying jobs.

Initiative funding has helped support and develop a number of program models that target both student groups and at the same time help meet industry demand. Two notable programs are highlighted:

- Distance Learning
- Career Advancement Academy

Distance Learning Pilot Project

Online distance learning has many benefits:

- Expands the range of courses available to students, especially in small, rural or inner-city schools;
- Provides highly-qualified teachers in subjects where qualified teachers are scarce;
- Provides scheduling flexibility;
- Allows students with special circumstances (e.g., migrant students, pregnant or incarcerated students, dropouts, those ill or injured) to continue their studies outside the classroom; and
- Teaches technology skills.

The Distance Learning Pilot Project, administered by CDE, enhances the benefits of online learning. Launched in July 2009, the project funded eight grantees for online learning via the Internet, including the use of video and audio technologies.

ACTIVITIES & OUTCOMES

The eight Distance Learning Project grantees:

- Developed 21 synchronous, asynchronous, or hybrid online learning courses including production design, entrepreneurship, marketing, biology, medical office assistant, web design and development, health occupations, warehouse and

logistics, and tech support to provide students in rural (and other) communities access to courses; and

- Enrolled over 450 students in those courses during fall 2009 and spring 2010.

Career Advancement Academies (CAA)

Career Advancement Academies establish pipelines to college and high-wage careers for under-prepared and underemployed youth — some who might not be enrolled in the K–12 system — and adults (18–30 years). Students enrolled in CAA courses are primarily from low-income communities, are under-prepared for college-level work, and face multiple barriers to college and career success. Specifically, CAAs:

- Integrate work readiness, career guidance, contextualized basic skills, and technical training to accelerate progress
- Support cohorts of students in “learning communities” where they take classes together and provide peer support;
- Use partnerships to leverage resources across community colleges, K–12, adult schools, ROCPs, Workforce Investment Boards, social service agencies and community organizations, and across the private sector, to recruit, support, prepare, and place participants, thus maximizing efficiency, impact, and reach;
- Work with employers to target careers most in demand in the region, and to ensure that skills and competencies taught are what employers need;
- Establish programs in key industry sectors, including health care, human services, and early childhood education; utilities; energy and “green” jobs; logistics; and transportation and construction/building;
- Include strong partnerships with philanthropy to support the work; and
- Provide a framework for accountability to track participants, evaluate the programs, and document and share effective practices.

Pilot CAAs have been established in the East Bay, the Central Valley, and Los Angeles. Funding for the project was approximately \$5 million each year in 2007/08 and 2008/09, and just over \$4.1 million in 2009/10.

ACTIVITIES & OUTCOMES

Statewide, CAA programs:

- Have served over 6,400 students since the project's inception three years ago. Nearly 4 out of 5 (78%) of students served were between 16 and 34 years old; however, the proportion of students over 35 grew considerably (from about 15% of students in 2007/08 to over 25% in 2009/10).
- Recruited students from a variety of sources, most commonly self-referral (15%), community-based organizations (13%), college with CAA (12%), Workforce Investment Board (9%), and high school (7%).
- Involved 29 of 112 community colleges (26%) across California in three major regions: the Bay Area, the Central Valley and Los Angeles.
- Represented 13 industry sectors with the majority of students in health (36%), education (9%), transportation (9%), manufacturing (8%), construction (7%), energy (6%), and finance (5%).
- Reported student course success and retention rates that are impressive given that enrolled CAA students generally face multiple barriers to postsecondary success. Since 2007, the CAAs have reported 74% course success (passing grades) and 89% course retention (completed course, pass, or fail).
- Engaged over 270 partnerships with regional industry and businesses, local workforce investment boards, community-based organizations, high schools, adult education, philanthropy and others, leveraging and aligning resources to reach out to students from underserved communities, develop curricula, improve student services, align curriculum with employer needs and increase the likelihood students will find employment.

The three grantees in the Career Advancement Academies category receive support from the Career Ladders Project; they also hired a local evaluator (Public/Private Ventures). The above information about these grantees was provided by staff of the Career Ladders Project and Public/Private Ventures.

Theme: Business and Industry Engagement in CTE

Recognizing that business and industry partners are integral to creating statewide pathways systems, the Initiative requires many funded programs to have business/industry and community involvement. Necessary partners include K–12 education, community

colleges, adult education, and ROCPs, as well as employment and workforce development representatives.

A business partnership may involve a donation of used industry equipment for CTE classes, an industry professional speaking with students about career opportunities, or providing a booth at a career fair. However, business involvement across the state is often much more extensive. Many business leaders help strategically plan regional CTE partnerships. Industry representatives provide insights on local economic trends and labor demand. Businesses help design career pathways accordingly, delineating needed skills and types of required certifications. Companies work with educators to develop pathway curricula and hands-on instructional experiences. Many also provide well-planned student internships and faculty externships.

Business partnerships are primarily regional, geared toward supporting pathways specific to that region's dominant industries. However, the Pathways Initiative funds several state-level programs to support more local efforts:

- Career Technical Education Liaison Hubs
- Career Development and Work-Based Learning Linkages to Professional Organizations

Career Technical Education Liaison Hubs

To promote more coordinated relationships with business and industry, the Chancellor's Office administers eight CTE Liaison Hubs statewide:

- Health (Butte Glenn Community College District)
- Workplace Learning Resource Centers (El Camino CCD)
- Multimedia and Entertainment (Los Angeles CCD)
- Centers of Excellence (Mt. San Antonio CCD)
- Biotechnology (San Diego CCD)
- Advanced Transportation Technologies and Energy (San Diego CCD)
- Centers for Applied Competitive Technologies (San Francisco CCD)
- Environmental Training Centers (West Valley-Mission CCD)

Specifically, these hubs:

- Ensure high school and ROCP course alignment with community college CTE programs;

- Help connect related Economic and Workforce Development initiatives — also administered by the Chancellor’s Office — with the growing network of CTE Pathways partnerships to improve cross-pollination and communication among CTE instructors, community college deans, associations, and other stakeholders; and
- Promote models for integrating coursework, student internships, and faculty externships, and for improving the quality of work-based learning, career exploration, and career outreach materials, focusing on emerging industries.

The hubs brought strategic partnerships with business and industry and workforce development agencies to ensure that new CTE programs are developed and delivered with industry input and remain responsive to the rapid changes in technology and the economy.

ACTIVITIES & OUTCOMES

A summary of CTE Liaison Hub activities and outcomes for 2009/10 follows:

- GIS mapping program¹³ locating all the high school and community college industrial technology programs existing in the state;
- Developed a Volunteer Match software that enables teachers and industry volunteers to find each other for classroom lectures;
- iDesign Summer Programs in Engineering and Manufacturing¹⁴ — a free 2-week summer programs for students to learn about engineering and manufacturing technology;
- Enhanced website (www.wplrc.org) with information gathered by surveying SB70 Community Collaborative Projects throughout the state to determine how best to support their activities;
- Facilitated dissemination of career exploration materials by developing a list of career planning websites and distributing them along with the *California Career Planning Guide* publication of the California Career Resource Network at high school and community college career day events;
- Collaborated with the Health and Science Pipeline Initiative (www.HASPI.org) to complete development of medical biology and chemistry curricula and had a key role in statewide dissemination, as well as developing two new pathways — Medical Laboratory Technician and Imaging Professions;

¹³ <http://www.californiatechedresources.org>

¹⁴ More information can be found at: <http://www.californiatechedresources.org/idesign/>

- Partnered with the San Diego Workforce Partnership and BioCom to provide students and teachers with the Life Sciences and Summer Institute which connects upper-level high school, university and community college students, as well as teachers and faculty, with leading companies within San Diego’s life sciences community. High school students can also apply to attend an one-week Boot Camp that prepares them for a seven- or eight-week research internship;
- Discovered a growing demand for education and technical training in solar technology and, as a result, partnered with Hands on Solar, Inc. and the Interstate Renewable Energy Council to develop a faculty professional development program in solar technology and energy efficiency.

Career Development and Work-Based Learning Linkages to Professional Organizations

Another project overseen by the Chancellor’s Office, in conjunction with Irvine Valley College, connects educators and college students to professional associations. This project

California Career Café: A Virtual Career Center

California Career Café is a website (www.cacareercafe.com) that helps students at different stages of their career journey. Students can access information and tips on a variety of career-related topics, such as finding a job, practicing and building workplace skills, and solving career-related problems.

In addition to helping students, California Career Café provides a social network for college counselors, CTE professionals, and others interested in CTE. Offering the latest and best practices within career development, this social network is often called the “the Ning,” referring to the web platform on which the network was built.

Ning participants can:

- View and download graphics for marketing the CA Career Cafe to students.
- Access activities and resources from the “Connecting Students” training posted on the website.
- Read colleagues’ blogs about successful projects that connect students to careers.
- Sign up to be a member of a regional group to find out about local events and “chat” with others in the same region.



creates learning and career development activities, tools, and resources delivered by a network of trained counselors and career professionals in each region.

ACTIVITIES & OUTCOMES

- 521 counselors and staff participated in 10 Regional Workshops to receive training on how to use CaCareerCafe.com and share successful projects; and
- 189 counselors and career staff attended a two-day seminar on how to use professional organizations as a tool for connecting college students to the workplace.

Theme: CTE Teacher Recruitment and Professional Development

Teacher quality is key to whether a CTE pathways system succeeds. And it is clear that the state’s emerging pathways system faces its greatest challenges in teacher preparation and professional development. For example, an integrated curriculum and project-based approach calls for new kinds of capacities and different ways of teaching. In the current high school norm, teachers have expertise in specific academic content and are credentialed to teach that content. To succeed in a pathways classroom, most need more exposure to the industry at hand. They also need to collaborate with CTE colleagues to help bring relevance to what they teach. CTE teachers have expertise and required experience in a career field. They bring rigor to the teaching of specific skills, which they are credentialed to teach.

While CTE teachers know their industry, they are not always well-prepared to teach; they need pedagogical support. They also need help from academic colleagues to identify the specific academic content within their industry program and ensure that it meets what students need for postsecondary requirements.

The following Initiative-funded programs address recruiting, preparing, and inducting CTE pathways teachers and providing them with ongoing professional development:

- Teacher Preparation Pipeline (TPP)
- Statewide Career Pathways — Creating School to College Articulation
- CTE Online
- New Teacher Workshops (CTE TEACH)
- “a-g” Guide Project
- Curriculum Planning for Emerging Industries

Teacher Preparation Pipeline (TPP)

TPP creates opportunities for community college students interested in pursuing a teaching career in CTE. TPP is a partnership among community colleges, K–12 districts, ROCPs, California State Universities, and the University of California. TPP grant recipients were located in 7 of the state’s 10 community college regions.

ACTIVITIES & OUTCOMES

The following activities and outcomes for 2006–09 follow:

- 725 high school and 3,608 college students enrolled in a CTE-TPP pathway (Figure 7 displays data per school year);
- 56 high school and 1,055 college students completed the pathway (Figure 8 on page 34 displays data per school year);
- Over 1,000 outreach efforts (e.g., conferences, fairs, workshops) were conducted, reaching out to 32,000 high school and college students;
- An average of 175 partners (e.g., high schools, ROCPs, four-year institutions, and business/industry) were involved each year;
- 65 courses (and 168 courses revised), 17 certificates (81 revised), and 5 degrees (19 revised) were created; and
- Articulation agreements were created : 248 with four-year institutions, 26 with high school, and 1 with ROCP.

Figure 7. Number of Students Who Enrolled in CTE-TPP Pathway

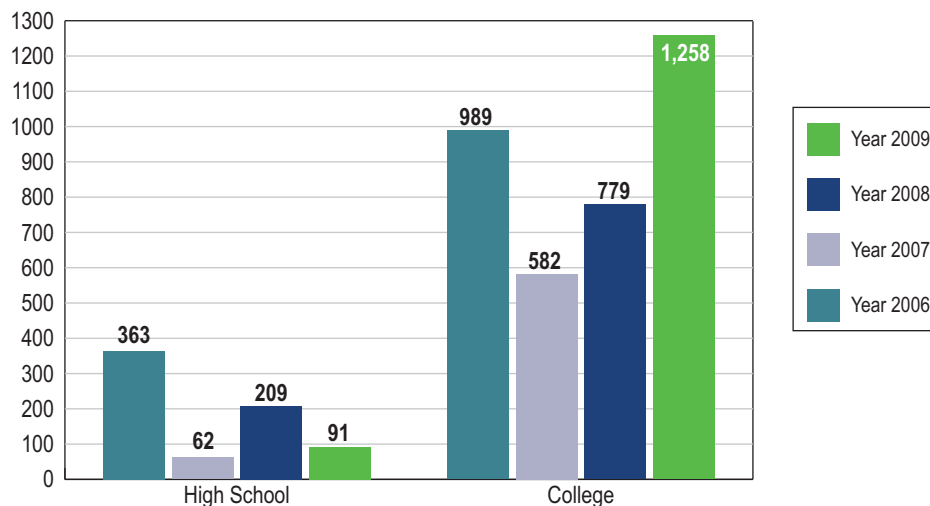
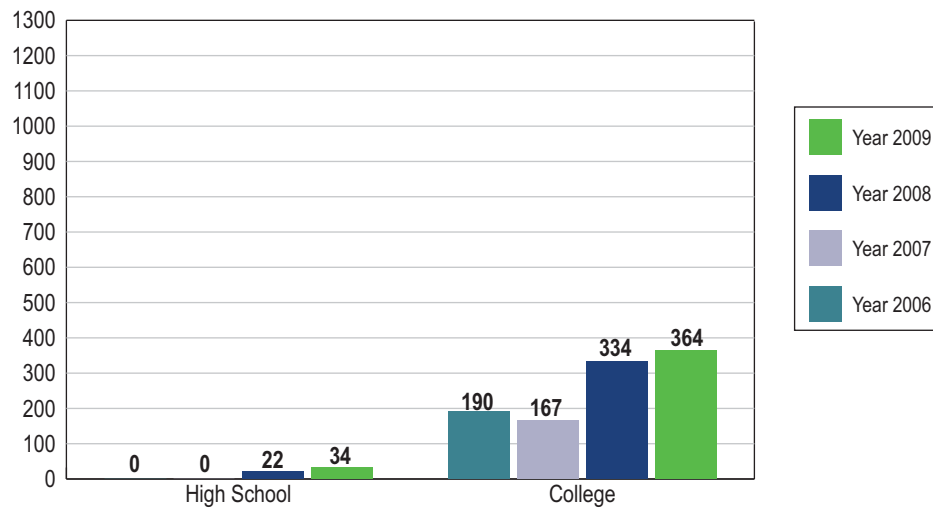


Figure 8. Number of Students Who Completed CTE-TPP Pathway



Statewide Career Pathways — Creating School to College Articulation

Mandated under the 2008–2012 California State Plan for Career Technical Education and the federal Carl D. Perkins Career and Technical Education Improvement Act of 2006, school-to-college articulations are formal agreements in which credits earned at one institution of higher education will be honored by another.

Statewide Career Pathways, also known as Regional Curriculum Alignment, increases the number, efficiency, and transportability of articulation agreements between secondary schools and ROCPs and community colleges. Designed and implemented by the California Community Colleges’ Academic Senate, Statewide Career Pathways is led by a steering committee representing community college and high school faculty and administration, the California Department of Education, the California Community Colleges Chancellor’s Office, Tech Prep, and ROCPs.

Specifically, the Statewide Career Pathways program:

- Develops templates to facilitate articulation;
- Creates a comprehensive database of existing agreements;
- Addresses or ensures a smooth student transition from high schools and ROCPs to college CTE programs;
- Encourages local colleges to host events (e.g., Regional Articulation Days) that provide informative and free resources, such as a Regional Articulation Day DVD,

Articulation Handbook, and other materials to support the establishment of new CTE articulation templates and guide the renewal of old agreements; and

- Supports a comprehensive, professional statewide marketing campaign — “Who Do U Want 2B?” (www.WhoDoUWant2B.com) — to stimulate CTE interest in California (see above).

ACTIVITIES & OUTCOMES

- As of December 2010, 1,425 new articulation agreements were posted in the Statewide Career Pathways public database (www.statewidepathways.org/showagreements.php);
- WhoDoUWant2B.com now provides a richer, more complete self-exploration of the CTE experience; and
- A Facebook profile page for the WhoDoUWant2B campaign was launched to further promote CTE to its target audience.

Define Your Own Road in Life

The WhoDoUWant2B.com campaign began in February 2008 and continues to expand with new resources and partnerships. It encourages teens to plan for their future by considering the many CTE opportunities available in California’s public high schools, ROCPs, and community colleges.

To launch the partnership between WhoDoUWant2B and Road Trip Nation, the two visited high schools in Redding, Santa Maria, and Riverside in spring 2009 to obtain media coverage and disseminate CTE information to high school students.

The Santa Maria stop proved to be the most successful, with more than 3,000 students attending and two local NBC and Univision television affiliates covering the event.

CTE Online

Schools, ROCPs, California Partnership Academies, and other CTE-related efforts need resources that allow them to develop, adapt, and deliver high-quality CTE curricula based on California’s CTE Standards and Frameworks. They also need resources that help them integrate CTE and academic learning, and to help students build academic skills and meet “a-g” requirements. CTE Online (www.CTEOnline.org) was created to offer these resources, specifically supporting:

- Development of standards-aligned CTE curricula;

- Expanded statewide use of online curriculum integration tools by CTE teachers and administrators (reflecting the state’s CTE Model Curriculum Standards and academic content standards); and
- A statewide curriculum-sharing suite of tools to promote best practices and curricular consistency.

ACTIVITIES & OUTCOMES

Between January and June 2010¹⁵ CTE Online:

- Designed and conducted 9 Model Curriculum Institutes (200 participants);
- Conducted 10 Tier 1–2 and 5 Tier 3 trainings (331 participants);
- Launched new curriculum development tools on CTE Online; and
- Received 22,465 visits on CTE Online (an average of 3,209 visits per month), including visits from educators at middle schools, high schools, ROCPs, colleges, universities, as well as businesses.

New Teacher Workshops: CTE TEACH

Launched in 2009, CTE TEACH is a two-year pilot-training program designed to increase CTE teacher retention, improve and provide teacher training, promote greater teacher effectiveness, and increase student learning. Administered by the Colton-Redlands-Yucaipa Regional Occupational Program in collaboration with the California Department of Education, CTE Teach provides new CTE teachers with professional development workshops, feedback on their teaching, training modules, mentor consultations, and effective role-playing teaching strategies.

Modeled on the state’s longstanding and highly successful induction program for regular academic teachers — Beginning Teacher Support and Assessment program (BTSA) — CTE TEACH has shown encouraging early results, with new teachers reporting more confidence, informed instructional practices, and increased professional growth. The program also fulfills the California Commission on Teacher Credentialing’s requirement of an early orientation program for new CTE teachers. Participating entities include K–12 school districts, community colleges, adult education, ROCPs, and charter schools.

By the end of the first year, CTE TEACH training modules hosted on the CTE Online website offered Early Orientation credit and certification. The Early Orientation course certificate was

¹⁵ Full year data not available since contract awarded December 2009.

Empowering CTE Teachers: CTE TEACH

Empowering CTE Teachers: CTE TEACH is a web-based (www.CTETeach.org) and on-site CTE teacher training program in Redlands, partnered by the Colton-Redlands-Yucaipa Regional Occupational Program and the CDE.



CTE TEACH is designed to increase teacher retention, teacher training, teacher effectiveness, and student learning through a system of ongoing support. It also provides an early orientation program for new CTE teacher credentialing. Participating entities include K–12 school districts, community colleges, adult schools, ROCPs, and charter schools.

recognized by California State University, San Bernardino, Metropolitan Education District, Los Angeles County Office of Education, San Diego County Office of Education, and Colusa-Sutter-Yuba Tri-County BTSA Induction Program. In addition, CTE TEACH online offered ongoing professional development for lifelong learners.

ACTIVITIES & OUTCOMES

In 2009/10:

- 46 project leads (mentors) were certified;
- 5 training workshops developed (40 mentor teachers and 22 administrators trained);
- 6 online designated subject’s CTE early orientation modules developed; and
- 1,150 CTE teachers (232 new and 918 veteran CTE teachers) were impacted by this program.

“a-g” Guide Project

To be eligible for admission to University of California (UC) and California State University (CSU) institutions, high school students must complete a minimum of 15 academic courses, commonly called the “a-g” subjects. The “a-g” courses approval process ensures each of the courses has met the requirements specified by university faculty. Every California public school follows a UC- and CSU-approved “a-g” course list.

To broaden the number and type of CTE courses that qualify as “a-g” courses, the Initiative provides the University of California Office of the President (UCOP) with the resources needed to help high school educators develop these courses.

ACTIVITIES & OUTCOMES

Since the 2001/02 school year, the number of CTE courses accepted for “a-g” approval has increased dramatically. In 2001, UC approved just 258 CTE courses. In 2009/10, over 7,600 CTE courses have been approved to meet UC “a-g” admission requirements or about 32% of the 23,600 CTE courses offered in California schools. Moreover, it is expected that the number of approved CTE courses will continue to increase. Pursuant to SB 1543 (2006), UC has developed model uniform academic standards for CTE courses to provide more guidance to teachers and administrators who want their CTE courses approved by UC.

The Initiative-funded “a-g” Guide Project also:

- Hosted the second University of California Curriculum Integration (UCCI) Institute in Monterey on November 6–9, 2010. The November institute focused on University subject areas “a”- history/social science and “b” — English in conjunction with six CTE industry sectors. A total of 80 teachers and administrators were selected to participate from over 200 applicants. Participants were selected based on the quality of their application and their expertise. Over one-third (35%) came from low-performing public high schools. Teachers represented 50-plus California schools, districts and programs statewide ; and more than 50% of the participants were CTE teachers.
 - At the November 2010 UCCI, eight integrated courses were developed (five history/social science courses and three English courses);
- Hosted the third UCCI Institute from May 1–4, 2011 institute in Lake Arrowhead. This institute focused on UC subject areas “c” — mathematics and “d” — laboratory sciences in conjunction with three CTE industry sectors: engineering and design; finance and business; and, hospitality, tourism, and recreation; and
- The fall 2011 institute took place November 6–9, 2011 in Santa Barbara and focused on developing integrated model courses with a “green” theme in UC subject areas “a” - history/social science and “d” - laboratory science in conjunction with five CTE industry sectors: energy and utilities; engineering and design; hospitality, tourism, and recreation; public services; and transportation.

Curriculum Planning for Emerging Industries

Recent studies underscore the importance of preparing California students for careers in key emerging industries: nanotechnologies, biotechnologies, digital manufacturing and intelligent transportation. Heeding that call, the Initiative awarded four Curriculum Planning for Emerging Industries grants to support the development of model curricula in those industries. American River College, West Valley College, Foothill College, and Pasadena City College received the grants

ACTIVITIES & OUTCOMES

Grant recipients:

- Developed 6 courses and curricula in new technologies
 - High School Nanotechnology;
 - Advanced Vehicle Challenge (high school engineering);
 - Introduction to Clean Technology and Energy Systems;
 - Biotechnology/bioinformatics curriculum and training manual for high school students;
 - Geothermal technician; and
 - Podcasting curriculum for RSS and mobile devices.
- Integrated Next Skills (soft skills) into a high school biotechnology curriculum;
- Held a poster competition for middle and high school students at an Expanding Biotech expo; and
- Collaborated with a CTE Liaison Hub (Multimedia/Entertainment Initiative) to both host a two-day conference exploring how mobile technologies impact education, and to gain hands-on experience with the technologies and mobile applications.

Theme: Capacity Building, Research, and Evaluation

Evaluation

See pages 3–5 for information about evaluation data collection and overview of cumulative data. Recommendations from the evaluation are presented in the next section.

Recommendations

The 2009/10 evaluation highlights three key recommendations that will further strengthen collaboration between community colleges and high schools, and expand CTE programs and related opportunities for elementary and secondary school students:

- **Strengthen statewide coordination and support of regional pathway building.**
Coordination at the state level is needed to keep the regions focused on a common vision and ensure that the disparate grant categories come together as a whole. To further strengthen coordination and support of regional pathway building, the Chancellor's Office and CDE made noticeable progress in two important areas: sponsorship or support for ongoing communication across all regions, especially in the form of pre-conferences; and online resources and websites to disseminate information among grantees and create venues for them to connect. Each is briefly discussed below:
 - Meetings held at existing statewide conferences promoted communication among Initiative grantees across all regions. For example, a pre-conference at the California Community College Association for Occupational Education conference in spring 2011 featuring the Career Advancement Academies as well as the work of the Career Ladders Project. Another pre-conference session in fall 2011 focused on the future of the CTE Pathways Initiative, as well as five separate breakout sessions designated for grantees.
 - Initiative funding helped create or update such websites as CTE Online (www.CTEOnline.org) which provides links to CTE TEACH. Another example is the California Career Café (www.cacareercafe.com). Both of these sites provide the latest information about promising practices within career development.
- **Provide more professional learning opportunities — workshops, webinars — that help grantees develop and share curricula and effective instructional strategies.**
Grantees report that they seek professional learning opportunities that help them develop pathways curricula and effective instructional strategies (e.g., contextualized learning). A number of regional efforts described in this report offer targeted professional development. Further, statewide initiatives such as the UCCI Institutes, Statewide Pathways, the Teacher Preparation Pipeline project and CTE TEACH are examples of cross-regional efforts to support professional learning.

- **Clarify goals and provide self-assessment tools so that grantees have a better idea of how to collect data and measure their own progress, and include a year-long schedule with realistic deadlines as well as a forum for sharing models of student data tracking.** At the local and state levels, it is important to systematically monitor progress and use data to inform programmatic and policy decisions. The Chancellor’s Office and CDE should also consider:
 - Working with grantees, especially newly established partnerships, to clarify goals, determine indicators for measuring progress, and set outcome targets that provide grantees with a year-long schedule with realistic deadlines.
 - Providing grantees with monitoring and accountability tools to help evaluate progress — for example, self-assessment tools and rubrics for systematically analyzing program implementation and for assessing student outcomes — and supporting them to use resultant data to inform decisions about capacity-building investments.
 - Facilitating the sharing of local models for student data tracking across K–12 and postsecondary systems. California’s efforts to create a data system that can track students from pre-K through college are lagging but gaining momentum from incentives such as the competition for federal Race to the Top or Innovation funding. Pathways partnerships can benefit from sharing locally developed models for data tracking.

Conclusion

As demonstrated throughout this report, pockets of impressive success illustrate the substantial power of the pathways learning approach to change lives and bolster economic health. Momentum exists among many regional education and business leaders moving closer to a “tipping point” of creating more self-sustaining systems and infrastructure more resilient to weather budget shifts. California can harness the talent and energy of regional and local efforts by continuing to step up with centralized linking and support of pathway programs, to make even faster progress and see a more potent impact from its investment.

Appendix A: Components of the Pathways Vision

The CTE Pathways Initiative long-term vision involves a statewide, regionally-based infrastructure that supports a system of pathways that prepare students with rigorous academics as well as career skills. Key system components in each region are:

- **A partnership of leaders** from K–12, community colleges, other institutions of higher education (IHE), intermediate education and workforce agencies and regional business and industry players. The partnership articulates a vision, agreed-upon goals and a long-range plan. While the plan evolves over time, partners remain committed to the vision and goals, which guide the partnership in seeking resources for its work and taking advantage of new funding opportunities to help meet its goals.
- **Alignment of integrated curricula within and across systems** for college and career readiness. The partnership’s collaborators work to develop a curriculum for each of the region’s identified pathways that integrates CTE skills and provides rigorous, “a-g” fulfilling academics in high school; leads to certification and/or an associate’s degree in a specified career field in community college; and positions students for four-year degree programs and/or well-paying, in-demand careers.
- **Capacity building, policy support and structural integration within systems.**
 - Middle grades need curricula that ready students for high school pathways. They need to inform and excite students and their families about pathways and choices and engage them in developing plans that will guide their choices.
 - High schools increasingly need a teaching force prepared to teach rigorous academics as well as career and technical skills. This requires professional development for teachers, involvement of industry professionals and IHE faculty in classrooms and opportunities for teachers to gain up-to-date experience in workplaces and network with their peers in career fields. School and district leaders enable the pathways approach to high school learning by fostering needed structural and policy changes.
 - Community colleges benefit from exchanges that bring industry experts to campus to work directly with students and to offer faculty fellowships or externships that rotate from campus to the workplace.
- **Statewide coordination, support and networking.** A statewide system needs a center that provides each region with professional development and capacity building, technical assistance, models, research findings, and promising practices; and provides the needed links across regions for exchange of ideas and lessons learned—in short, to create multifaceted communities of practice.

Appendix B: Regional or Local Implementation Grants: Grant Amounts and Number of Grantees, by Year

Grant Category	2005/06 (# grantees)	2006/07 (# grantees)	2007/08 (# grantees)	2008/09 (# grantees)	2009/10 (# grantees)	2010/11 (# grantees)
Coordinated Regional/Local Implementation						
Quick Start — enhance linkages in CTE pathways between high schools and community colleges in order to increase new enrollments and student exploration in CTE and to create a pipeline of students entering career pathways in emerging industries.	\$10,800,000 (25)		\$1,000,000 (25)			
Career Exploration — create, improve, or expand middle school career exploration and awareness activities (e.g., programs, curriculum, events) that can be replicated regionally or statewide.	\$1,649,235 (11)	\$2,847,787 (19)				
Faculty & Counselor Work Experience — support community college, high school, and ROCP faculty and counselors gain business- and industry-based work experience so they can improve their work with students by incorporating new skill sets, methods, information, and lessons learned.	\$499,652 (10)	\$349,998 (7)				
Strengthening CTE — strengthen and improve the quality of existing CTE programs.	\$2,485,204 (10)	\$10,229,225 (39)				
CTE Community Collaborative and Supplemental — combines the four grant categories from 2005 — Career Exploration, Faculty and Counselor Work Experience and Strengthening CTE — into one grant category.			\$20,075,000 (48 CC & 21 Supp)	\$23,200,000 (52 CC & 21 Supp)	\$18,014,205 (52 CC & 24 Supp)	\$25,000,000 (51 CC & 8 Supp)
Workforce Innovation Partnerships (WIP)			\$1,650,000 (13 WIP)	\$4,500,000 (18 WIP)	\$2,699,863 (18 WIP)	\$4,500,000 (20 WIP)
Construction — increase, expand, and/or improve career pathways programs for the construction industry sector by developing model programs, articulating course work, aligning curriculum, and developing advisory groups to link education with business, industry, and labor.			\$1,500,000 (3)			
Career Advancement Academies — first year was a planning grant. Model projects in major population centers to help most in need 18–30 years olds return to school and combine learning with career opportunities in partnership with industry.		\$150,000 (3)	\$5,000,000 (3)	\$5,000,000 (3)	\$4,137,931 (3)	\$5,000,000 (4)

Appendix B: Regional or Local Implementation Grants: Grant Amounts and Number of Grantees, by Year (continued)

Grant Category	2005/06 (# grantees)	2006/07 (# grantees)	2007/08 (# grantees)	2008/09 (# grantees)	2009/10 (# grantees)	2010/11 (# grantees)
Coordinated Regional/Local Implementation						
CA Partnerships Academies — structured as a school within a school, academies create a close, family-like atmosphere in which academic and career and technical education are integrated, and viable business and postsecondary partnerships are established. (CDE)			\$3,766,000 (49)	\$5,064,000 (87)	\$7,706,667 (147)	\$13,950,000 (187)
Health Occupations Preparation and Education — support community colleges to create a learning center focused on careers in a variety of allied health programs, provide ongoing support services for students currently enrolled in allied health programs, and identify and engage partner high school students to explore careers in health care.		\$998,962 (3)	\$1,000,000 (3)	\$1,000,000 (3)	\$827,586 (3)	\$1,000,000 (3)
Health Science Capacity Building — build quality programs statewide that will prepare students for jobs or for postsecondary options in the health science arena, with the end goal of ensuring that the state has an adequate number of qualified workers to meet the critical worker shortages in the health-care industry. (CDE)			\$2,500,000 (19)	\$2,500,000 (41)	\$2,500,000 (46)	\$2,500,000 (40)
Youth Entrepreneurship Program — EWD Small Business Development and International Trade Development Centers will provide statewide information/education to high school and community college young adults to help them understand entrepreneurship in the global environment as a viable career pathway.			\$2,000,000 (33)	\$2,000,000 (38)	\$1,655,172 (36)	\$2,000,000 (14)
Teacher Preparation Pipeline — align career and technical education curriculum and student support services so as to establish pipelines for students interested in teaching in today's CTE fields.		\$4,100,000 (15)	\$1,600,000 (9)	\$2,000,000 (9)	\$1,655,175 (10)	\$2,000,000 (10)

Note: Unless otherwise indicated, grant categories are administered by the California Community Colleges Chancellor's Office.

Appendix C: Statewide Infrastructure Grants: Grant Amounts and Number of Grantees, by Year

Grant Category	2005/06 (# grantees)	2006/07 (# grantees)	2007/08 (# grantees)	2008/09 (# grantees)	2009/10 (# grantees)	2010/11 (# grantees)
Infrastructure						
Statewide Career Pathways — established an infrastructure and processes for the articulation of secondary (high schools and ROCPs) CTE classes with community college courses.	\$4,000,000 (1)			\$1,500,000 (1)	\$1,241,379 (1)	\$2,000,000 (1)
Technical Assistance Center	\$565,909 (1)					
Articulation with Four-Year Institutions — CTE articulation between two- and four-year institutions of higher education and related issues, such as transferability of CTE course work, portability of credits recognized by four-year institutions, and relative degree of consistency in prerequisite requirements and credit recognized for community college course work.		\$750,000 (1)				
Evaluation — provide information about the ongoing achievement of objectives and activities; gather information about the final outcomes or products of the projects; determine ongoing technical assistance needs; and identify promising practices.		\$574,028 (1)		\$1,000,000 (1)	\$935,586 (1)	\$1,000,000 (1)
Data Project - develops systems and strategies for collecting and monitoring longitudinal data.						\$600,000 (1)
CTE Liaison, Initiative Hubs — To build a statewide system to link businesses and economic development work with career technical education efforts. One center in eight of the ten initiatives will connect on-going work on new certificates, enrollments and enhancements to career technical education.			\$1,000,000 (8)	\$1,500,000 (8)	\$1,241,379 (8)	\$1,500,000 (8)
CTE Online — Expand computerized, web-based systems for CTE teachers in all 15 sectors to improve course content and lesson plan information, including integrating academic and CTE curriculum, into the menu-driven system. (CDE)			\$500,000 (1)	\$1,000,000 (1)	\$1,000,000 (1)	\$1,000,000 (1)

Appendix C: Statewide Infrastructure Grants: Grant Amounts and Number of Grantees, by Year (continued)

Grant Category	2005/06 (# grantees)	2006/07 (# grantees)	2007/08 (# grantees)	2008/09 (# grantees)	2009/10 (# grantees)	2010/11 (# grantees)
Infrastructure						
"a-g" Guide Projects — develops industry specific model courses for statewide use that meet "a-g" requirements for all 15 sectors and 58 pathways. (CDE)			\$150,000 (1)	\$550,000 (1)	\$450,000 (1)	\$600,000 (1)
CTE Student Organizations — subject-based extracurricular activities for secondary/postsecondary CTE students to reinforce leadership and technical skills, deepen understanding of related industries, and facilitate internships and subsequent employment. (CDE)				\$1,333,333 (6)	\$1,333,333 (6)	\$2,000,000 (6)
Distance Learning — develop, implement, distribute, and support participation in CTE courses at a distance for residents in areas of rural California. (CDE)				\$500,000 (10)	\$500,000 (8)	\$1,000,000 (8)
New Teacher Workshop — provide sector specific instruction, particularly for those secondary and community college teachers without formal teacher training, on classroom management, instructional strategies, etc. (CDE)				\$1,150,000 (1)	\$1,250,000 (1)	\$1,750,000 (1)
Career Development and Workbased Learning Linkages to Professional Organizations — expand, identify, and provide strong career development and work-based learning opportunities.				\$496,667 (1)	\$551,724 (1)	
Leadership Development — conduct a variety of strategies based on effective models to develop future CTE leaders and the community college and secondary systems. (CDE)				\$300,000 (1)	\$300,000 (1)	\$300,000 (1)
Curriculum Planning for Emerging Industries — builds on 4 recent future-looking studies about the emerging industries of nanotechnologies, biotechnologies, digital manufacturing and intelligent transportation, and focuses on developing model curricula for instruction in those industries.				\$300,000 (4)		\$300,000 (4)

Note: Unless otherwise indicated, grant categories are administered by the California Community Colleges Chancellor's Office.

Appendix D: Data Sources and Periods Covered Per Grant Type

Data in this report were collected from various data collection tools. In most cases, data are cumulative through the duration of the grant and may include duplicates (e.g., one student may have taken multiple CTE courses over several terms and would be counted more than once). Majority of the data are through the 2009/10 academic year (ending June 2010) since 2010/11 data are submitted after this annual report is finalized. For example, 2010/11 data for Community Collaborative grants are not completed until late September 2011.

The following list details the source (in parentheses) and time period of the data reported in Table 1:

- Career Exploration, Strengthening CTE, and Faculty & Counselor Work Experience (2009 Governor’s report) — Grants ended 2007 and data are cumulative.
- Quick Start (2010 Governor’s report) — Grant ended 2008 and data are cumulative.
- Construction (WestEd’s online data collection via CTECentral.org) — Grant ended 2010 and data are cumulative.
- Community Collaborative, Supplemental, and Workforce Innovation Partnership (CTECentral.org) — Cumulative data through 2009/10 academic year (AY).
- Teacher Preparation Pipeline (Chancellor’s Office) — Cumulative data through 2009/10 AY.
- HOPE (Chancellor’s Office) — Cumulative data through 2009/10 AY.
- California Partnership Academies (CDE) — Cumulative data through 2009/10 AY.
- CTE Liaison Hubs (Chancellor’s Office) — Cumulative data through June 2009.
- Career Advancement Academy (Public/Private Ventures) — Cumulative data through December 2010.
- “a-g” Guide Project (grantee) — Cumulative data through 2009/10 AY.
- CTE Online (CDE) — Data through June 2010
- Youth Entrepreneurship Program (Chancellor’s Office) — Data for 2009/10 AY.
- Health Science Capacity Building (CDE) — Data for 2009/10 AY.
- Distance Learning Pilot Project (CDE) — Data for 2009/10 AY.

- New Teacher Workshops (CDE) — Data for 2009/10.
- Career Development & Work-based Learning Linkages to Professional Organizations (Grantee) — First event took place October 2010.
- Curriculum Planning for Emerging Industries (2010 Governor’s report) — Data for 2009/10 AY.
- CTE Student Organizations (CDE) — Data for 2009/10 AY.
- Statewide Career Pathways — Data through December 2010