Career Technical Education Pathways Initiative

California Community Colleges Chancellor’s Office
Erik Skinner, Acting Chancellor

Jessica Gallegos got a job working at Northrop Grumman’s Space Park after just two classes at El Camino College’s Career Advancement Academy.

(Photo credit: El Camino College)
October 19, 2012

The Honorable Jerry Brown
Governor of California
State Capitol
Sacramento, California 95814

Dear Governor Brown:

I am pleased to present to you the Chancellor’s Office 2011/12 report on the Career Technical Education Pathways Initiative.

The Career Technical Education Pathways Initiative prepares students to succeed in the workforce through partnerships between the California Community Colleges and the California Department of Education. These partnerships provide students with a seamless career technical education from the middle grades through community college.

This report captures the most recent highlights of our progress in three key areas: monitoring statewide coordination of regional pathways, building human and organizational support, and sharing data/progress monitoring.

If you or your staff have questions regarding this report, please don’t hesitate to contact me at (916) 323-7007 or eskinner@cccco.edu.

Thank you for your interest in these programs and the students they serve.

Sincerely,

Erik Skinner
Acting Chancellor
Introduction

The California Community Colleges play a vital role in supporting the state’s economy by educating more than 2.4 million students each year. A large percentage of these students are enrolled in career technical education (CTE) programs. These students include individuals preparing for their first job, as well as incumbent and dislocated workers. In the California Community Colleges, CTE instruction integrates core academic coursework with technical and occupational knowledge to build the skills, attitudes and experiences required for youth and adults to succeed in postsecondary education and high-wage employment.

Among the activities of the California Community Colleges Chancellor’s Office (Chancellor’s Office), the programs of the Division of Workforce and Economic Development bridge the skills and jobs mismatch to prepare California’s students for 21st century careers. The 112 colleges provide students with career pathways aligned with regional and industry sector needs, workforce development training and certificate and degree programs in order to enable students to be competitive for high-wage careers and prepared for transfer to four-year colleges and universities.

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 priority of CDE is to increase the number of high school graduates who are ready for college and career.

The Chancellor’s Office and CDE are together preparing students from the middle grades and beyond for successful careers in the 21st century workforce by providing students with the CTE knowledge, experience, and skills they need. In order to achieve this goal, the two agencies have collaborated to develop and implement the Career Technical Education Pathways Initiative, which passed into law in 2005 (Senate Bill 70). Community colleges utilize this funding to work hand-in-hand with K–12 schools and districts along with employers, organized labor, local communities and other partners to provide the programs necessary to close skills gap and foster successful student completion so that students are ready for the jobs in emerging markets and fast-growing sectors of the economy.

In 2007, the Chancellor’s Office and CDE commissioned WestEd, a nonprofit education and human development research agency, to conduct an ongoing statewide evaluation of the Initiative and its grant-funded projects. An annual summary report, prepared by WestEd,
highlights the impact and activities of the overall Initiative. This report includes all available data through 2010/11 and is organized as follows:

- Background and Vision of the CTE Pathways Initiative;
- Key Findings;
- Initiative Projects: Purpose, Activities and Outcomes; and
- Recommendations for Next Steps.

Background and Vision of CTE Pathways Initiative

The Chancellor’s Office and the CDE support the development of local and regional CTE pathway systems and have helped to integrate those systems into a statewide network. This network closely follows the CTE Pathways Initiative’s vision, which is organized into six themes:

1. Career Pathways and Articulation for CTE Students. Align K–12 CTE — including Regional Occupational Centers and Programs (ROCPs) — with California’s community colleges and universities to increase the number and quality of career pathways and CTE courses, as well as student enrollment in CTE.

2. Career Planning and Development. Strengthen career awareness, exploration and guidance; develop individual college and career plans; and connect with industries and businesses to offer internships, apprenticeships, and work-based learning opportunities.

3. Programs for Underserved Students. Increase enrollment in CTE programs.

4. Business and Industry Engagement in CTE. Expand opportunities in work experience, work-based learning, job shadowing, community classrooms and internships/apprenticeships; and build a statewide system to link business and economic development with CTE.

5. CTE Teacher Recruitment and Professional Development. Increase the number of students enrolled in CTE teacher preparation programs; develop in-service strategies for new teachers; and offer CTE professional development activities.


The Chancellor’s Office and CDE award Initiative grants to both California community colleges and K–12 schools and districts that place a high priority on CTE, focusing on at least one of the themes above.
Key Findings

There is a great deal of compelling and innovative work happening in the field of career technical education across the state. The combined efforts of CTE Pathways Initiative grantees are impacting the lives of students, employees, and local industries.

Key findings include all available data from 2005 through 2010/11. CTE Career Pathways Initiative funding has helped:

• Serve more than 1.19 million students.
• Build 6,500 partnerships.
• Develop or revise close to 1,500 courses.
• Provide trainings or externships to over 56,000 faculty and staff at high schools and community colleges.

The data were collected from WestEd’s analyses of grantees’ compliance and accountability reporting along with site visits and phone interviews.

In addition to the data collection, WestEd’s evaluation in 2011/12 emphasized developing strategies to collect and analyze common metrics that facilitate student success for all of the Chancellor’s Office Division of Workforce and Economic Development programs.

Below are highlights of efforts toward developing and implementing a comprehensive data collection system designed to support adoption of common metrics for student success:

1. California’s K–12 and community college systems collect and analyze student outcome data independently of one another. Working separately, these two entities have been able to measure pockets of student success in both the classroom and the workforce, but to a limited degree.

Still unknown are important indicators of student success, such as what community college CTE program a high school student has chosen; whether students complete CTE courses and earn certificates (especially those recognized or issued by industry); whether students who participated in an Initiative-funded project are employed; in what capacity are they employed; and their income.

2. To answer these types of student-outcome questions accurately and consistently, K–12, community college, and the state’s Employment Development Department (EDD) data systems must no longer be isolated from one another, and must be bridged.

1 It is possible for a student to be counted more than once because of participation in multiple activities within a semester and across years.
The Chancellor’s Office Division of Workforce and Economic Development and EDD recognize the importance of bridging all three data systems. As such, 32 practitioners, researchers, policymakers and representatives from statewide organizations gathered on June 12, 2012 to discuss how student success outcomes could be better aligned, collected, analyzed and reported across all CTE and workforce programs. This was an important first step toward outlining a comprehensive student outcome data system and providing a framework to support developing and adopting common metrics.

3. A case study of available data looking at courses funded through the CTE Pathways Initiative illustrates some student-level outcomes. Data analyses for the Initiative’s Community Collaborative grantees focused on student-level outcome data for those enrolled in designated Initiative-funded courses. The Initiative programs have worked with more than 7,400 students in 18 community colleges during the 2005 to 2011 period. State-level data show that these students have a course completion rate of 76 percent. The Initiative funded 743 course sections during the 2005–2011 period.

For each of the years reported in this report (2005 to 2011), Community Collaborative grantees identified course identification numbers that were designated as Initiative-funded. The Chancellor’s Office staff then queried its Management Information System database to identify students who enrolled in each of these identified courses for each year. This allowed us to produce an unduplicated head count of students. Similarly, a query identified the number of community colleges that provided Initiative-funded courses.

These highlights are further elaborated on in the Recommendations for Next Steps section on page 19.

**Initiative Projects: Purpose, Activities and Outcomes**

This section, organized by the six themes in the Pathways vision, highlights select Initiative projects, by providing a brief description of each project and an overview of 2010/11 activities and outcomes. Included are spotlights on specific grantees and their students or programs as examples of the initiative projects in action. These stories were selected to showcase the range of creative, innovative and meaningful approaches currently being used by CTE educators across the state.
Theme: Career Pathways and Articulation

CTE Community Collaborative, Supplemental and Workforce Innovation Partnership

CTE Community Collaborative and Supplemental projects provide coordinated and strategic leadership for CTE efforts in various industry sectors. Community Collaborative grantees may also apply for Workforce Innovation Partnership grants.

Workforce Innovation Partnership projects identify high-quality career pathways and training priorities related to high-growth industry sectors. These projects facilitate a seamless system of CTE between secondary and postsecondary education by: expanding career exploration and development for 7th and 8th grade students; strengthening CTE programs linked to industry sectors; strengthening teacher and faculty externships with business and industry; and strengthening professional development for those implementing CTE programs.

Project partnerships must include community colleges, K–12 districts, ROCPs, and the adult education, business and industry sectors. In addition, partnerships can include Workforce Investment Boards, youth councils and economic development agencies.

AT-A-GLANCE
Total amount awarded: $29,742,243
52 Community Collaborative, 32 Supplemental and 20 Workforce Innovation Partnership grantees

Highlights
• More than 400,000 students
• 10,826 students participated in job shadow, internship, or apprenticeship
• Provided 755 K–12 and community college staff with work-based externships

Roseville High School Geometry in Construction

High school teachers in Roseville are taking a radical approach to teaching geometry by contextualizing classroom instruction and learning to build a house from the ground up. With the support of the Sierra STEM Collaborative, Roseville High School implemented the Geometry in Construction curriculum in 2011. Students learn rigorous geometry concepts and skills in the classroom so that they can apply their developing knowledge at the construction site where they, in turn, learn about green building techniques, construction and leadership/employability skills.

Geometry in Construction is taught by a geometry teacher and a CTE construction teacher, with support from industry partners. Beyond the initial investment to start up the program, Geometry in Construction is self-sustaining as the proceeds from the sale of the house fund the following year. Both Geometry in Construction teachers are eager to talk about the curriculum — how it’s challenged and engaged the students in new and different ways. Tyson Maytanes, the geometry teacher, noted that not once this year has he heard a student ask, “Why do we have to learn this?” — a common refrain in his other traditional math classes.
**California Partnership Academies**

Structured as a school within a school, a California Partnership Academy is a three-year program for students, grades 10–12, who are at risk of academic failure. California Partnership Academies improve students’ academic performance and postsecondary outcomes by: creating a close, family-like atmosphere for students and staff; integrating academic and CTE courses; and establishing viable business partnerships.

Students must apply for, and be interviewed and selected to attend a California Partnership Academy, on the basis of need and interest. One half of the incoming class must meet specified at-risk criteria — 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 economically disadvantaged status.

California Partnership Academy teachers — whether they are CTE instructors or core academic content teachers — and business and employer representatives work together to improve the academic and career outcomes of students. Employer representatives play several key roles. They serve on a steering committee that oversees the program; help to develop the career and technical curricula; provide speakers for classes; host field trips; provide student internships and summer jobs; and provide mentors who volunteer to be a career-related and/or caring adult.

**McClane High School Business Academy**

In April 2011, McClane High School became the first California high school to host its own student-run bank branch. Union Bank, in partnership with the Fresno Unified School District, opened a branch as part of McClane High School’s Business Academy, which provides students with real-world financial education and experience. Through an elective course offered by the Academy, student bankers are overseen and coached by a Union Bank branch manager.

Course content includes financial literacy, credit and fraud. Participating students apply what they’re learning in class to a real-world environment. They work an hour a day in the bank and receive a stipend as well as a college scholarship when they complete the course. The branch runs as a normal bank and is open from noon to 4 p.m., three days a week.

Bradley Berrett, the instructor for the McLane Business Academy, has seen a change in the students, who come to work proudly wearing their Union Bank attire.

**AT-A-GLANCE**

Total amount awarded: $11,316,000

184 grantees

**Highlights**

• 13,880 students enrolled
• 86% of 12th graders plan on continuing on to a community college (55%) or a four-year university (31%).
Theme: Career Planning and Development

Health Science Capacity Building Program

Often, students have an interest in the medical field, but they need direction or focus. The Health Science Capacity Building Program provides middle and high school students with a strong academic foundation as well as exposure to the range of medical specialties, particularly through partnerships with local health care providers. Specifically, the Health Science Capacity Building Program:

- Develops curricula;
- Aligns curricula with California CTE standards and health science content;
- Offers professional development for educators;
- Offers students leadership opportunities through California Health Occupations Students of America and workplace learning activities; and
- Purchases related equipment and laboratory materials.

Students can begin preparing for the health sciences pathway as early as the 7th grade. By the 12th grade, participating students are able to identify their specific interests in medical science, having had opportunities such as mentoring middle school students, being mentored by college students, participating in internships and job shadowing at local hospitals.

Health Science High and Middle College

Health Sciences High and Middle College is a public charter school in San Diego designed to help students prepare for careers in health science and medical technology. This is achieved by combining rigorous, standards-based “a-g” coursework with community college courses in health and real-world work experiences via internships.

Working with counselors and mentors, students identify and develop health science pathways that fit their needs. These pathways prepare them to meet and exceed University of California or California State University entry requirements as well as gain employment in health careers.

Strong partnerships with Sharp Healthcare, San Diego State University professors and the San Diego Community College District enable every student (approximately 520 students in 2011/12) to participate yearly in a health or medical technology job shadowing environment or internship.
Career Technical Student Organizations

Career Technical Student Organization chapters nationwide provide CTE teachers and their students with training and experiences geared toward cultivating career, leadership, personal and citizenship skills.

Initiative funding supports six statewide Career Technical Student Organizations: 1) Distributive Education Clubs of America or DECA (an association of marketing students); 2) Future Business Leaders of America; 3) National Future Farmers of America Organization; 4) Future Homemakers of America — Home Economics-Related Occupations; 5) Health Occupations Students of America or HOSA; and 6) SkillsUSA.

Palm Springs High School Health Occupations Students of America

Palm Springs High School is host to a California Partnership Academy — the Palm Springs Academy for Learning Medicine — which gives students the opportunity to study about allied health careers.

Closely integrated with the Palm Springs Academy is a highly successful Health Occupations Students of America (HOSA) program. Palm Springs High School expanded the California Partnership Academy model to include articulation with the feeder middle school. Through collaboration with the middle school science department to include CTE standards in the 7th/8th grade science curriculum, the high school is able to recruit and link middle school students with high school HOSA students.

The high school’s HOSA program grew from six students to over 60 students and earned Honor Roll status at the annual HOSA State Leadership Conference. In addition, the academy’s CTE teacher, Michael Ventura, was named 2010’s HOSA California Advisor of the Year.

AT-A-GLANCE
Total amount awarded: $1,333,333
6 grantees

Highlights
• Career Technical Student Organizations hosted at least 15,000 students at regional and state leadership conferences
• Membership and industry partners continue to increase every year

2 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; public service; and transportation).
Youth Entrepreneurship Program

The Youth Entrepreneurship Program brings business ownership concepts to youth who might not consider self-employment and business ownership as a career. The intent is to increase awareness and aspirations of self-employment as a legitimate lifetime career path providing reliable wages. The sponsoring entities, the Small Business Development Centers, Centers for International Trade Development and the Business and Entrepreneurship Center are situated within the community college system and provide expertise to the program.

Feather River Business & Entrepreneurship Center

Feather River College sophomore Gina Rangel has a passion for writing but never thought it could lead to business ownership.

Gina, a first-generation, low-income college student, dropped out of high school at age 16 and, four years later, reluctantly enrolled at Feather River College. Gina was recruited for Youth Entrepreneurship Program’s Integrated Online Marketing Plan project, and soon become a leader because of her excellent writing and interpersonal communication skills with business owners.

Gaining valuable business contacts through this project, Gina has since developed a writing and marketing business of her own. She is a free-lance writer for a regional magazine and contracts with local businesses for marketing projects.

Gina credits the hands-on experience of project-based learning for keeping her in college. Without the immediate relevance of how academic concepts and skills relate to the real world, she doubts she would have lasted a semester at college. Gina plans to continue her studies at the University of California, Berkeley.

AT-A-GLANCE

Total amount awarded: $2,000,000
15 grantees

Highlights
• 25,113 students attended entrepreneurship activities
• Partnered with 226 community and business organizations
• Resulted in over 70 student businesses to date
**Health Occupations Preparation and Education**

Health Occupations Preparation and Education projects are another way the Pathways Initiative seeks to increase high school student interest in the health care industry. The projects accomplish this by:

- Developing an on-campus health preparation learning community/facility modeled after the Mathematics, Engineering and Science Achievement program for prospective and current health occupation students.
- Establishing an on-campus location to house the health preparation learning community/facility.
- Providing counselors for students to develop education plans.
- Linking with a work experience coordinator to develop mentorships, internships and work experience placements for students interested in health careers.

**Theme: Programs for Underserved Students**

**Distance Learning Pilot Project**

Administered by CDE, the Distance Learning Pilot expands the range of courses available to students in rural schools. It also provides highly qualified teachers in subjects where qualified teachers are scarce, and improves the technology skills of both teachers and students.

**Sacramento County Office of Education**

Participants in Sacramento County Office of Education’s Career Technical Online Project created new online course content or modified existing content using Moodle (an online course management system). Twelve teachers attended three training sessions over an eight-month period. One teacher stated, “This was the single most effective professional development program I have ever participated in.”
**Career Advancement Academy**

Career Advancement Academies establish pipelines to college and high-wage careers for youth — some who might not be enrolled in the K–12 system — and adults (18–30 years).

Students enrolled in Career Advancement Academy courses are primarily from low-income communities, are underprepared for college-level work and face multiple barriers to college and career success. They offer a variety of support strategies: integrate work readiness, career guidance, contextualized basic skills and technical training; 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 schools, adult schools, ROCPs, Workforce Investment Boards, social service agencies and community organizations; work across the private sector to recruit, support, prepare and place participants — maximizing efficiency, impact and reach; work with employers to target careers most in demand in the region as well as to ensure that skills and competencies taught are what employers need; and provide a framework for accountability to track participants, evaluate the programs and document and share effective practices.

**Green Transportation Collaborative**

The Green Transportation Collaborative builds on the success of the Career Advancement Academies. A partnership among Skyline College, Contra Costa College and Long Beach City College, the Green Transportation Collaborative brings together automotive faculty, industry and workforce leaders to: develop hybrid and electric vehicle repair training programs; improve on automotive career pathway designs; and train individuals for entry level and advancement in jobs using these technologies.

By targeting the aftermarket repair and green transportation sector, the Collaborative situates itself at the intersection of social values and improving economic conditions for individuals and businesses, and improving the environment. For more information, visit the website at http://www.careerladdersproject.org/initiatives-programs/green-transportation-collaborative/.
Theme: Business and Industry Engagement in CTE

Career Technical Education Liaison Hubs

The Chancellor’s Office administers eight CTE Liaison Hubs throughout the state to promote relationships between community colleges and businesses and industry.

The CTE Liaison Hubs:

• Ensure high school and ROCP courses align with community college CTE programs.
• Promote models for integrating community college coursework, student internships and faculty externships.
• Improve the quality of work-based learning, career exploration and career outreach materials, with a focus on emerging industries.

Volunteer Match Software

Getting industry volunteers into the classroom is important for student learning but can be logistically difficult. This is also one of the goals of the SB70 CTE Hub grant. To make this process easier, City College of San Francisco CTE Hub — working with the Center for Applied Competitive Technologies — created a software program called Volunteer Match to connect teachers with engineers who volunteer to talk to students about careers in technology. Silicon Valley Engineers Council tested the software, and it is available for free to any educational organization in California whose goal is to get more industry volunteers into the classroom.

By June 2011, over 270 teachers, representing 7,400 students, requested assistance via Volunteer Match and over 470 volunteers signed up for the program.

For more information, visit the Volunteer Match website at http://www.californiatechedresources.org/volunteermatch/svec/index.php.

AT-A-GLANCE

Total amount awarded: $1,500,000
8 grantees

Highlights

• City College of San Francisco offered free two-week iDesign summer courses to K–14 students about manufacturing and engineering careers
• Mary Pickford Institute’s mobile film classroom (partner organization) benefits 5,000 8th graders
• Introduction to Sustainability curriculum piloted to over 300 students
Career Development and Work-Based Learning Linkages to Professional Organizations

The Career Development and Work-based Learning Linkages to Professional Organizations, also known as the California Career Café, is overseen by the Chancellor’s Office in conjunction with Irvine Valley College. The Career Café connects educators and college students to professional associations and the workplace. It creates learning and career development activities, tools and resources delivered by a network of trained counselors and career professionals.

Project work has resulted in the development of a professional association database to connect students to the workplace. The project also developed Ning, a social network that connects counselors and career professionals to explore and share successful practices and resources related to student success and career development.

Career Café in Action: Webinar Series on Visual Thinking Strategies for Career Coaching


Brooks presented strategies for helping students map their interests, strengths, weaknesses, professional networks and career timelines and options.

AT-A-GLANCE
Total amount awarded: $666,667
1 grantee

Highlights
• 881 counselors and career professionals participated in staff development activities
• 667 students across 10 regions participated in Road Trip Nation
• http://www.cacareercafe.com had 104,000 visits, 78,000 unique views and 435,000 page views
Theme: CTE Teacher Recruitment and Professional Development

Statewide Career Pathways — Creating School to College Articulation

School-to-college articulations are formal agreements in which credits earned at one institution of higher education can be honored by another. Statewide Career Pathways, also known as Regional Curriculum Alignment, increase the number, efficiency and transportability of articulation agreements among secondary schools, ROCPs and community colleges. Specifically, this project:

- Develops templates to facilitate articulation.
- Creates and maintains a comprehensive database of existing agreements.
- Facilitates an easy student transition from high schools and ROCPs to college CTE programs.
- Provides support for local colleges to host events (e.g., Regional Articulation Days) that help establish new articulation agreements and renewals of old agreements.
- Supports a statewide marketing campaign to stimulate interest in California CTE programs.

AT-A-GLANCE
Total amount awarded: $2,000,000
1 grantee

Highlight
As of December 2010, 1,425 new articulation agreements were posted in the Statewide Career Pathways public database (http://www.statewidepathways.org/showagreements.php)
**Teacher Preparation Pipeline**

The Teacher Preparation Pipeline creates opportunities for community college students interested in pursuing a teaching career in CTE.

These students are often professionals who have many years of industry experience and expertise, but have limited knowledge on how to translate that experience and expertise into effective classroom instruction.

Teacher Preparation Pipeline — in partnership with community colleges, K–12 districts, ROCPs, California State Universities, and the University of California — strengthens teacher preparation, specifically in CTE.

**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 as well as help students build academic skills and meet “a-g” requirements.

CTE Online (http://www.CTEOnline.org) was created to offer these resources to CTE professionals. It boasts a database of model curricula for all industry sectors, classroom resources and teacher training opportunities, as well as links to CTE TEACH and the Leadership Development Institute (see page 18).
New Teacher Workshops (CTE TEACH)

New Teacher Workshops, also called CTE TEACH, is a web-based and on-site CTE teacher training program offered by the Colton-Redlands-Yucaipa Regional Occupational Program and administered by CDE.

Created in 2009/10, CTE TEACH is designed to increase teacher retention, teacher training, teacher effectiveness and student learning through a system of ongoing support.

CTE TEACH also provides an early orientation program for new CTE teacher credentialing that helps industry professionals make the transition to the classroom. Participating entities include K–12 school districts, community colleges, adult schools, ROCPs and charter schools.

The program has shown encouraging results, with new teachers reporting more confidence, informed instructional practices and increased professional growth.

For more information, visit the CTE TEACH website at http://www.cteonline.org/go/groups/cteteach.

AT-A-GLANCE

Total amount awarded: $1,750,000
1 grantee

Highlight
• 1,584 teachers trained

CTE TEACH Institute, December 2011

Nearly 100 administrators, mentor teachers, teachers and support personnel attended the CTE TEACH Institute in Ontario, CA.

Institute highlights included a presentation designed for the Institute by Harry and Rosemary Wong on “How to Create Effective Schools and Teachers,” a workshop on cognitive coaching by Linda Jungwirth of Convening Conversations and program exhibits by ROCP teachers and students.
“a-g” Guide Project

The “a-g” Guide Project expands the number and types of CTE courses that qualify as “a-g” courses — high school courses that students must complete to be eligible for admission to the University of California and California State University.

High school students must complete a minimum of 15 academic courses that fall into one of seven categories, known as the “a-g” subjects. Courses must meet the requirements specified by university faculty before they are placed on an “a-g” course list. All California public schools use this list to guide their own course offerings.

Through the “a-g” Guide Project, the University of California Office of the President helps high school educators develop these courses. These efforts include:

- Professional development;
- Creating and maintaining the University of California Curriculum Integration Institute; and
- Improving the infrastructure at the University of California Office of the President that handles course submissions and approvals to speed turnaround and provide more feedback on submissions.

**Dos Pueblos Engineering Academy**

Dos Pueblos High School in Goleta is home to the Dos Pueblos Engineering Academy — a four-year engineering program, established and led by teacher and 2010 MacArthur Fellow, Amir Abo-Shaeer. The Academy consists of five courses: Engineering Technology (9th grade), Engineering Sculpture & Design (10th grade), Engineering Physics (11th grade), and Advanced Engineering Physics (12th grade). All four of the Engineering courses were approved via the “a-g” Guide Project process. These are capped off with the final class: FIRST Robotics, an ROCP course provided in partnership with the Santa Barbara County Office of Education, which comprises the award winning FIRST Robotics Team 1717.

**AT-A-GLANCE**

Total amount awarded: $600,000
1 grantee

**Highlights**

- Conducted 2 University of California Curriculum Integration institutes with over 250 participants
- Over 2,000 participants in 45 technical assistance workshops
Leadership Development Institute

The Leadership Development Institute offers staff development for new and/or aspiring CTE administrators, coordinators and department chairs in the form of Professional Development Modules. Focused on the preparation for future CTE administration, Professional Development Modules vary in length from half day to full day events and are taught by content experts from the field on topics such as organizational leadership, curriculum and budgets among many others. The Leadership Development Institute is administered by CDE.

AT-A-GLANCE
Total amount awarded: $300,000
1 grantee

Highlight
• 28 new and/or aspiring administrators trained
• Established the Leadership Development Institute professional learning community with 35 members to date
Recommendations for Next Steps

Preparing students with knowledge, skills and experiences for 21st century employment is a vital strategy for turning around California’s economy. The Career Technical Education Pathways Initiative has: 1) positioned community colleges, K–12 educational institutions and their partners to provide career exploration opportunities and pathways to current and future careers, 2) offered professional development to faculty and staff so they can better prepare students to be competitive in higher education and careers and 3) increased collaboration between local and regional businesses, workforce organizations and others to better link CTE programs and industry.

While many colleges have compelling stories and pockets of data about the impact of CTE on students, practitioners and policymakers are looking for more comprehensive information on student success in these programs. This need is driven by many factors, including increased accountability reporting requirements, the desire to use data to improve outcomes and the necessity of explaining the role that CTE education plays—particularly as many colleges are now cutting CTE programs. Furthermore, practitioners need support to apply this information to decision making.

WestEd, in collaboration with the Research and Planning Group for California Community Colleges developed the “Common Metric Data Launchboard,” a preliminary data and technical assistance framework that would facilitate adopting, reporting and acting on common metrics for student success (see page 21).

The Launchboard illustrates three key areas for common metrics:

- **Pathways** — identifying how students are moving from K–12 through community colleges and beyond;
- **Credentials** — documenting college-issued certificates (including those low-unit), industry-recognized certifications and licensure as recognized by higher and industry; and
- **Employment** — understanding how participating in high school and community college coursework impacts students’ wages and employment opportunities, as well as the relationship of programs of study to both industry needs and students’ ultimate employment.

This approach is significant because it will allow practitioners and policymakers to better understand students’ journeys through the education system and their outcomes once they enter the workplace. It does so by bringing together a number of data sources to provide a clearer picture. For example, if students in a program have high course success rates, low community college certificate attainment, significant numbers of industry certificates and
improved wages, CTE decisionmakers would be prompted to examine the structure of that program—perhaps they have put too many courses in the sequence. This would also indicate that this program may be worth keeping, an assessment that might not be made if only community college certificate rates were examined.

Developing common metrics is also important because variations in which types of CTE success data are tracked make it difficult to look at information across high schools and community colleges. With more consistent metrics, K–12 and community colleges would be better able to adopt regional strategies that align course or program offerings with industry needs and consolidate CTE programs given budget reductions. Aggregating data at the state level would enable the K–12 and community college systems to clarify the role of CTE in career pathways, economic development and job retraining. Finally, more consistent measures will foster a better understanding of what types of programs are being successful, so that effective practices can be shared.

However, establishing common metrics is not a straightforward task. Many of the measures needed to understand student outcomes are not readily available to those implementing CTE programs. A set of pilot grantees will compile data on these metrics and technical assistance will be provided to them on using data during 2012/13. This will allow for: 1) determining which data elements can be readily collected and how best to gather them, 2) identifying obstacles to data collection and possible solutions, 3) ascertaining whether this suite of measures is useful for documenting and driving CTE success and 4) determining the types of support that community colleges and their K-12 partners need to use these metrics.

By gathering comprehensive information and ensuring practitioners have the ability to engage with these data for planning and decision making, they can increase the impact of K–12 and community colleges on students’ futures and the state’s economy.
SB 70 Common Metric Data Launchboard

By presenting practitioners with the types of information needed to tell the CTE story, we can drive program improvement and respond to the full range of accountability requirements. Ensuring practitioners have the ability to engage with the data for planning and decision-making, they can increase the impact of K–12 and community colleges on students’ futures and the state’s economy.

Pathways
- Course completion/success
- Course topic
- Program of study that the course aligns with
- Achievement of milestones (e.g., stackable certificates)
- Alignment with K–12 CTE programs
- Characteristics of the student experience (e.g., basic skills placement, services received)
- Apprenticeship data

Credentials
- Industry recognized certifications
- College issued certificates
- Associate degrees
- Transfer and successful completion of bachelor’s in the same program

Employment
- Wage gain
- Job retention
- Job type or level
- How many jobs students are holding
- Wage gain, job retention, industry of employment
- Labor market trends
- Alignment of programs/courses to workplace needs

Information within and across higher educational institutions

Infrastructure
- Professional development
- Online resources
- Repository of model curriculum and articulation agreements

Practitioner engagement with data for planning and decision making
Acknowledgments

California Community Colleges
Chancellor’s Office

Erik Skinner
Acting Chancellor
Van Ton-Quinlivan
Vice Chancellor, Workforce and Economic Development

Dr. Debra Jones
Dean, Career Education Practices

Ron Selge
Dean, Policy and Systems Alignment

Jacqueline Escajeda
Specialist,
Career Technical Education Pathways Initiative

Cynthia McFarland
Program Assistant II,
Career Technical Education Pathways Initiative

Office of Communications

Paul Feist
Vice Chancellor, Communications
Paige Marlatt Dorr
Director, Communications

California Department of Education

Dr. Patrick Ainsworth
Assistant Superintendent; Director,
Career and College Transition Division

Dr. Lloyd McCabe
Administrator,
Career Technical Education Leadership and
Instructional Support Office

Michelle Oliveira
Education Consultant

WestEd, Health and Human Development Program

June Bayha
Project Director

Dr. Cindy Wijma
Research Associate

Carol Kim
Research Associate

Willard Hom
Research Associate

Tom Ross
Research Assistant

Rebeca Cerna
Senior Research Associate

Dr. Jeff Polik
Research Associate

Zeta Heiter
Research Assistant

Laurie Maak
Senior Research Associate

Amanda Badorek
Administrative Assistant

Dr. Tony Fong
Senior Policy Associate,
Regional Educational Laboratory West

Coast Community College District

Dr. Andreea M. Serban
Vice Chancellor,
Educational Services and Technology

Susan Coleman
Project Director

Dejah Swingle
Interim Coordinator,
Education and Grant Services