

# Competency-Based Education: A Strategy for Skills Upgrading in California

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**The California EDGE Coalition's mission is to advance state policy and investments that create and sustain pathways into the middle class for all Californians.**

# Executive Summary

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One quarter of California’s workforce – almost 5 million workers – earned an average of \$13 per hour in 2018. Even more working adults are searching for ways to improve their skills and family incomes. As California struggles with ways to address this major concern for both residents and our business community, competency-based education (CBE) has the potential to be one very useful tool in the state’s toolkit.

CBE is a flexible approach to teaching and learning in which students earn certificates and degrees by demonstrating that they’ve mastered and can successfully apply the knowledge and skills required for a particular job or career. This approach has clear benefits to students, employers, and the state:

- Students benefit from well-defined learning goals, personalization to meet students where they are academically, and flexible pacing.
- Employers benefit from better information about job candidates—in the form of direct evidence of what graduates know and can do—and training programs aligned with local workforce needs.
- States benefit from effective workforce training with potentially better outcomes and lower costs to students and taxpayers.

Although CBE is not new, recent years have seen a resurgence of interest due to advances in technology and the science of learning, as well as concerns about the traditional education and training system. Numerous public colleges and universities, independent institutions, and non-institutional education and training providers have developed successful CBE programs for low-skill, working adults. Several of these programs have documented high completion rates, shortened completion times, and high employment rates for graduates, highlighting the potential of this approach.

California policy makers can take several actions to advance the development of CBE in the state. Key recommendations include amending laws and regulations that limit the state’s ability to develop or support CBE, and providing incentive funding tied to clear expectations for developing high-quality CBE programs that are aligned with the state’s workforce needs.

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# Introduction

For a full-time, low-wage worker with no education beyond high school and a family to support, going back to school can feel near impossible. How does a person fit classes, labs, homework, and studying into an already hectic schedule of work, kids' activities, and other family responsibilities? And yet, the stakes are high: a postsecondary credential valued by employers could be a ticket out of poverty and into stable employment, with family-sustaining wages and benefits. So, many try. A fraction succeed in completing an education or training program and moving up the economic ladder. But far too many get discouraged when their complicated lives intrude on their efforts to move up, and they never finish.

“Competency-based education” allows students to move flexibly through an education program that’s designed to make sure they know and can do what’s expected of graduates. Though many types of students can benefit from a competency-based approach, its flexibility is especially attractive to working adults. Competency-based education can help students avoid the discouraging setbacks that so often doom their efforts. Here are just a couple of the ways this innovative approach differs from the traditional postsecondary education model.

- **In traditional courses**, students earn grades based on how much they’ve learned. A student who grasps 70 percent of course content might get a C and pass. One who masters half would get an F, fail the course, and get no credit for any learning. That student could start over, pay tuition again, and do all the coursework—including the content already mastered. But a child’s illness, a work emergency, or a parent’s needs could again derail our student’s journey. This all-or-nothing approach to learning is just one of the reasons students become discouraged and give up. It’s also a reason costs to students, institutions, and states are so high, especially relative to outcomes.
- **In a flexible, competency-based program**, a student who masters half the content of the course on the first try still moves forward. Instruction is modular, and the student can pick up where she left off to work on the next set of competencies instead of repeating the entire course from the beginning. She can accelerate through topics in which she has particular aptitude or on-the-job experience, and slow down on others where she needs more time. She has several ways to learn, not only in class during scheduled sessions but also off hours—including through online modules, exercises or simulations, and individual consultation with instructors. The school meets the student where she is academically and provides assistance as needed to help her get to the next step, and the next, all the way to earning a meaningful credential.
- **In traditional programs**, graduates earn certificates or degrees that show they passed a set of required courses with acceptable grades. The courses are usually developed by individual faculty members who also do the teaching in the course and determine grades. Some of those instructors might meet with local employers to align their courses with workforce needs. Employers, in turn, use graduation from the programs as a rough proxy for what students have learned.
- **In a flexible, competency-based program**, industry participation in program development is expected; faculty members work with employers to identify the competencies needed to succeed in an industry. As a result, students know in advance the competencies they need to demonstrate to earn a certificate or degree. And they know those are the competencies employers are looking for. Students demonstrate proficiency by doing tasks and projects just like those they’ll face in the workplace. Their learning might be validated by a separate professional, not the instructor, to improve objectivity. The credentials they earn show directly, in far more detail than conventional transcripts, what they know and can do—taking the guess work out of hiring.

By meeting the needs of working adults and other nontraditional and underserved students, this more transparent and flexible approach to learning can help move low-wage workers out of poverty while helping California fill its projected gap of 1.5 million skilled workers with certificates, associate degrees, and other college experience below the bachelor’s level.

# Defining Competency-Based Education

Competency-based education and training (CBE) is one promising strategy for helping low-wage workers in California upgrade their skills and earn industry-valued credentials. The following concepts and definitions help to clarify what CBE is—and is not.

- **CBE is an outcomes-based approach to teaching and learning.** Students earn certificates and degrees by demonstrating that they've mastered and can successfully apply clearly articulated competencies. Competencies, in turn, describe in detail what students need to know and be able to do in a particular job or workplace. Students demonstrate mastery through rigorous assessments (such as tasks, projects, and exams).
- **Progress is measured by learning, not time in class.** A student might progress quickly to mastery in some areas and take longer to become fully proficient in others. Instruction can occur in a classroom or lab setting, online, on the job, or through a blended approach. Regardless of the instructional settings or amount of time involved, students make progress only when they demonstrate the required knowledge and skills.
- **The faculty role differs.** As in traditional programs, faculty members are the content experts. The way they teach, however, differs. As students progress through carefully structured material, faculty members might serve as facilitators and coaches instead of holding regular classes and delivering lectures. In addition, in some CBE programs faculty members specialize in course development, instruction, or assessment.

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- **Student support services are integral.** CBE requires students to actively participate in their learning. It also calls on institutions to actively foster success with academic and student support services designed for the students they serve. Recommended services include intensive orientation to the CBE model and how it works. Orientation can also include help with basic skills, study skills, time management and other organizational skills, and career mapping. Ongoing coaching, advising, and counseling are integrated throughout CBE programs. Non-academic support services might include a case management function to help students with financial aid and referrals for child care, health care, transportation, and food and housing needs.

One note: Prior learning assessment and credit for prior learning are not the same as CBE. These terms are often conflated. Prior learning assessments can be used to identify subjects a student can skip or to award credit within a traditional program. CBE programs also can use prior learning assessment but CBE is an entire pedagogical system—an intentional approach to teaching and learning that provides ways for students to acquire knowledge, build skills, and demonstrate mastery of clearly identified competencies.

# National Competency-Based Education Landscape

## Resurgence of Interest

The U.S. Army and other military branches have practiced competency-based education and training for decades. Until recently, the services had no widely accepted way to document and communicate soldiers' learning outcomes for audiences outside the military. In recent years, however, the Army developed a credentialing system (MIL-CRED) and digital resume (learner profile) for this purpose. This system facilitates colleges' and universities' assessment of military veterans' prior learning.

Another early provider of CBE is Western Governors University (WGU), founded by 19 state governors more than 20 years ago to better serve working adults. Several institutions offered some elements of CBE before WGU, and many have adopted CBE models since.

More recently, advances in learning science, instructional technology, and data management have transformed the landscape for CBE. Adaptive learning technology is helping personalize instruction by targeting content and exercises to students. New ways to track student progress are ensuring timely student support. Portable electronic transcripts that document competencies and credentials are extending the value of CBE across institutions and employers.

Concerns about the traditional higher education system are also driving renewed interest in CBE. For years, national and state leaders have contended with rising higher education costs and poor student outcomes. Leaders in several states are turning to CBE as a central strategy for making postsecondary education more accessible, affordable, and effective for a broader range of individuals.

## National Growth

### Expansion in public colleges and universities.

Several major universities, including the University of Wisconsin, Texas A&M Commerce, and Northern Arizona University, are offering flexible learning options for working adults based on the CBE model. Among community colleges, growing numbers of institutions are adopting CBE either alongside current programs or as separate structures. These include:

- *Salt Lake Community College's School of Applied Technology* offers a broad range of workforce-oriented certificate and degree programs. All programs are delivered in a flexible, competency-based framework. The school attracts students with weekly enrollment, flexible scheduling, low costs, programs aligned with the job market, and transferability of credits toward the college's other programs. All programs blend in-person and online components. Early evaluations show that students are completing programs notably faster and in higher proportions. Based on the school's success with CBE, Utah state legislators have allocated funding to create a full set of competency-based general education courses that will be accepted for transfer statewide.

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- *Austin Community College (ACC)* offers Career ACCelerator programs designed for military veterans and unemployed and underemployed adults. Programs focus on addressing central Texas' growing information technology sector. ACC has reported low withdrawal rates in the ACCelerator programs, as well as high completion and employment rates and shorter time to reach milestones such as completing developmental math and earning a credential.
- *Sinclair Community College* in Dayton, Ohio offers a range of certificate and associate degree programs in a CBE framework that it calls *FlexPace*. To develop these programs the college partnered with employers, redesigned curricula, and introduced new models of program delivery and student support. The online, self-paced programs are offered in advanced manufacturing, business management, information technology specialties, and retail management. Sinclair has also documented significantly better outcomes for CBE students. Based on Sinclair's success, Ohio officials are supporting efforts to expand the use of CBE statewide.

**Growth in nonprofit sector.** Western Governors University, described earlier, is the largest provider of CBE in the nation – with more than 110,000 students – and enrollment is growing by 20 percent annually. The university offers bachelors and masters' degrees in education, business, information technology, and health professions. Instruction is mainly online, but some programs have field components in classrooms and other settings. Compared to traditional programs serving similar students, WGU has high completion rates, low average costs to degree, and exceptional student and employer satisfaction. Other major nonprofit institutions providing CBE include California's Brandman University and Southern New Hampshire University's College for America. For-profit colleges are outside the scope of this brief.

**Innovation in non-institutional settings.** In addition to postsecondary institutions, a number of other organizations have developed competency-based programs to upgrade the skills of low-wage workers. These are a few of many examples:

- *180 Skills* provides online instruction designed to take learners from zero manufacturing background to earning an industry-valued credential and gaining employment in a manufacturing-related job within three months. Its career programs focus on displaced workers, adults with low basic skills, veterans, and high school graduates with some or no college education. Instruction is through short, highly interactive courses designed to keep learners engaged from start to completion. Content includes hard technical skills for aerospace and automotive manufacturing, soft skills and employability, and health, safety, and quality practices. Typically, a community college, adult education program, or workforce center contracts with 180 Skills for access to courses.
- *Northstar Digital Literacy Assessment* was developed by the Minnesota Literacy Council in response to the needs of job seekers needing digital skills to apply for jobs, gain employment, and perform tasks at work and in daily life. Users can take the assessment modules online any time or go to an approved testing location to earn the nationally-recognized certificate. The *Solano County Computer and Digital Skills Center* in Fairfield, California is one user of the Northstar certificates. The Skills Center offers individual and small group instruction for adults leading to the Northstar certification. Students complete the assessment to gauge their baseline skills. They then receive customized, hands-on instruction ranging from four to ten weeks, depending on each individual's or small group's entering skill level and learning pace.

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## Efforts to establish national ecosystem for CBE.

Networks of CBE providers and policy experts are working on several initiatives to advance CBE nationally. These involve:

- *Promoting a common language* in terms of competencies to describe credentials. This turns credentials into a form of currency with established value among institutions, employers, and their students and workers.
- *Creating a technology infrastructure* to track individuals' competencies and credentials. This will help learners, employers, and counselors make informed decisions about credential options, pathways, and their value in the labor market.
- *Ensuring quality of credentials* and equity of opportunity to earn credentials. This involves refining quality frameworks, standards, and quality assurance processes, and finding ways to address disparities in access and provide robust student support in CBE programs.

**Federal agencies and accreditors recognize CBE as a valid form of instruction.** Although federal student aid programs are mainly geared to traditional higher education, the federal government has developed ways for CBE programs to qualify for student aid. Also, the Western Association of Schools and Colleges (WASC) and other regional accreditors have set common criteria for approving CBE programs.

## California Competency-Based Efforts

California has implemented a variety of CBE efforts but recently our state has begun to wade more seriously into these waters. Some examples of the efforts underway include:

- **Silicon Valley's technical certifications and other "microcredentials."** California's technology industry was an early leader in the use of competency-based credentialing. Cisco, Microsoft, and other technology companies popularized the use of technical certifications starting in the early 1990s. While

the number of different certifications proliferated early on, prompting comparisons to the Wild West, the field eventually developed standards for recognized, verifiable credentials built on clearly defined competencies. Examples include the Cisco Certified Network Professional, Microsoft Certified Solutions Expert, and Google IT Support Professional certifications. Some academic programs at colleges and universities incorporate these credentials as building blocks within their certificate and degree programs.

- **New online community college.** In 2018, California authorized and approved start-up funding for a new community college to provide CBE for working adults. The college is slated to launch its first program, in health care business services with a certificate in medical coding, in fall 2019. The next programs to be developed include cybersecurity, information technology support, and an occupational pathway for first-line supervisors in various industries with high demand for this role. Programs will blend hands-on learning at job sites with online study material, reviews, testing, video chats with mentors, and student support services.
- **State support for new apprenticeship models.** Assembly Bill 235 (2018) changed the rules for apprenticeships to allow the term of an apprenticeship to be measured either by hours of on the job training and related instruction, the attainment of competency, or a combination of the two. The revised law defines a competency-based approach as measuring skill acquisition through an individual apprentice's successful demonstration of acquired skills and knowledge, as verified by the program sponsor. A competency-based apprenticeship must include at least six months of on the job training, compared to two years for many traditional apprenticeships. A competency-based program also must describe the competencies, identify ways to assess them, and meet industry-recognized standards or certifications. California is in the process of developing and piloting competency-based apprenticeships in information technology and accounting/auditing.

# The Case for Expanding Competency-Based Education in California

Workforce education and training is transformative for individuals and the state's economy. An analysis of California community college outcomes shows that students who complete an associate degree nearly double their pre-degree earnings after two years in the workforce, and nearly triple them after five years. Those who earn a certificate nearly double their prior earnings in that time. Given this potential, California educators and policy makers are searching for ways to help students move through education programs in ways that make sense for them. For some students, CBE can be that pathway, with clear benefits for individuals, employers, and the state.

## Benefits to Students

- **Clear and transparent expectations for learning.** With well-defined learning goals linked directly to workforce needs, CBE engages students as active partners in their own learning. It suits different learning styles by offering various ways for students to learn, and allows students to demonstrate previously learned skills to progress to credentials more quickly.
- **Personalization.** CBE programs can meet students where they are academically and give them the opportunity to learn what they need. This is especially

valuable for adult learners who may start their educational journeys with skills and knowledge acquired in nonacademic settings.

- **Flexibility.** The self-paced nature of CBE programs, not tied to weekly class schedules and traditional academic calendars, makes them more feasible for working adults. This is key for low-wage workers looking to increase their skills and earn credentials that can move them into sustainable employment.

## Benefits to Employers

- **Better information about candidates.** Instead of using a degree as a rough proxy, an employer can recruit candidates who have demonstrated the specific knowledge and skills required for their jobs.
- **Responsive to workforce demand.** CBE programs typically are developed with industry partners, ensuring graduates are being prepared to meet documented local workforce needs. As advances in technology bring about changes in job requirements, ongoing collaboration allows rapid adaptation.
- **Opportunities for current workforce.** CBE can be faster, cheaper, and more responsive than traditional training for keeping workers equipped with the latest knowledge and skills. Moreover, the flexibility of CBE lets workers stay productive in their jobs while upgrading their skills.

## Advantages of Competency-Based Education

### Benefits to Students

- Clear and transparent expectations for learning.
- Personalization.
- Flexibility.

### Benefits to Employers

- Better information about candidates.
- Responsive to workforce demand.
- Opportunities for current workforce.

### Benefits to the State

- Can help address skills shortages.
- Potential to lower costs for students and taxpayers.
- Accountability for learning.

## Benefits to the State

- **CBE can help address skilled worker shortage.** CBE's flexibility and clear pathways to skills and credentials can serve some of the millions of working adults in California who have not completed postsecondary education—many of whom might not otherwise enroll in an education or training program due to family and work demands.
- **Potential to lower costs for students and taxpayers.** With more specialized roles for faculty members, smart uses of technology, and reduced course repetition, CBE opens the door to new business models that could significantly lower the costs of postsecondary education while improving outcomes.
- **Accountability for learning.** Because CBE students demonstrate mastery to earn credentials and graduate, policy makers can hold programs accountable for what their graduates know and can do.

## Stumbling Blocks Exist but California Is Well-Positioned for Expansion of Competency-Based Education

### Barriers to Implementation

Despite the clear advantages of CBE for some individuals, there are real barriers to implementation. These include institutional barriers in colleges such as restrictive federal student aid rules, start-up costs, lack of expertise, and existing academic and business processes. Funding mechanisms and tuition and aid policies that are based on credit hours can also impede CBE development. In addition, the start-up process at a college requires substantial dedicated time to collaboratively design clear, measurable, and relevant competencies and competency

## California Advantages and Opportunities

- Existing education-industry partnerships have set the table.
- CBE served the state's equity and economic mobility agendas
- California has scale.
- New online community college and other online community college efforts can serve as laboratories.

demonstrations. Policy experts also have identified several challenges in designing CBE for underprepared students. For example, students might struggle with online learning and face difficulties navigating related technology.

### California Advantages and Opportunities

These are real challenges but California also has major advantages that can help support the implementation of CBE. These include:

- **Existing education-industry partnerships and workforce initiatives have set the table.** The California Community Colleges (CCC) Doing What Matters initiative has focused on developing regional partnerships across the employer, education, and workforce communities. Similarly, the California Workforce Development Board, through numerous grants and initiatives has focused on strengthening regional partnerships.
- **CBE serves the state's equity and economic mobility agendas.** CBE could allow employers, by relying on validated competencies, to move past traditional hiring patterns that are subject to various types of bias. As such, CBE has the potential to help level the playing field for hiring and promotion.

- **California has scale.** The sheer size of the state's community college, adult education, and employment training systems provides a distinct benefit to California. Competency descriptions, learning modules, and assessments, once developed, could be shared and adapted by multiple institutions to greatly reduce startup time and costs per student. The state's scale also gives it leverage with software vendors in efforts to adapt their systems for California's needs.
- **New online community college and other online community college efforts can serve as laboratory.** As the online college and other online efforts at community colleges around the state develop and implement their programs, they will identify and resolve numerous challenges, many of which cannot be anticipated. This will clear the way for the colleges to implement CBE more broadly, using in-person and hybrid as well as online models.

## Opportunities for Policy Makers

California policy makers can take several actions to advance the development of CBE in California:

- **Remove policy impediments.** State leaders could appoint a work group to review current state laws and regulations to identify barriers to CBE. For any new policy and budget proposals, policy makers can ask, "Will this support or hinder CBE?" Finally, policy makers could adapt state financial aid programs to address the needs of adults in CBE programs.
- **Support responsible innovation.** State leaders could provide incentive funding for institutions to develop CBE programs. Resource needs include release time, professional development, technical assistance, and adaptation of academic and business processes, student support services, and related systems to accommodate CBE. To ensure these efforts result in high quality

## Opportunities for Policy Makers

- Remove policy impediments.
- Support responsible innovation.
- Incentivize colleges to partner with existing, non-accredited CBE providers.
- Educate other stakeholders and the public about the advantages of CBE.

CBE programs, the state could require, as a condition of participation, that institutions use a recognized quality framework such as one developed by the Competency-Based Education Network.

- **Incentivize colleges to partner with existing, non-accredited CBE providers.** Leaders could encourage colleges to evaluate learning from industry certification programs, coding boot camps, large employers' training programs, and other nontraditional education providers as potential building blocks for stackable credentials that could fit into institutional offerings. Progress already is being made with respect to military training.
- **Educate other stakeholders and the public about benefits of CBE.** The value of CBE will rest in part on familiarity and acceptance by employers, workforce agencies, the higher education community, and the public.

## Conclusion

One quarter of California's workforce – almost 5 million workers – earned an average of \$13 per hour in 2018. Even more working adults are searching for ways to improve their skills and family incomes. As California struggles with ways to address this major concern for both residents and our business community, CBE is not a panacea but has the potential to be one very useful tool in our toolkit.

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