

# Two Colleges Rethink Work-Force Pathways With Competency- Based Education



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PHOTO COURTESY OF MERCED COLLEGE

Merced College worked closely with local employers to gain a better understanding of the skills they need. Here, Cody Jacobsen (*left*), dean of agriculture and industrial technology at the college, consults with Danny Bernstein, chief executive officer of Reservoir, a nonprofit partner of the program.

## Working Together: Colleges and Employers at the Table

In August 2023, about 50 people met in a banquet room at the Harris Ranch Resort in California’s Central Valley — an area that produces [about 25 percent](#) of the nation’s food — to hammer out a competency-based certificate program that would serve the needs of both the agricultural industry and its workers.

The group, which included representatives from [seven community colleges](#) and about a dozen agricultural employers — which employ roughly 25,000 employees in total — spent two days discussing what the industry wanted from its workers and the best method to deliver that knowledge to students.

One of the major challenges: while the use of agricultural technology has expanded quickly over the past 15 years, too often farm laborers don’t know how to use it.

“There’s more computers, more GPS, more electronic-based systems,” says Carlos Márquez Jr., the operations manager at Live Oak Farms, who was at the Harris Ranch meeting. “Fifteen years ago, we were first starting to see tractors with GPS and autopilot. Now they’re everywhere — one person can operate 10 to 15 tractors.”

After surveying about 11,000 farm laborers around the valley — in the fields, at flea markets, at community events — on “how we should deliver this program,” says Cody Jacobsen, dean of agriculture and industrial technology at Merced College, the group decided to add a

competency-based curriculum for its recently established Agriculture Systems Technology certificate.

What came through loud and clear from the laborers is that they wanted flexibility so they could complete the course at their own pace, around their work, their family commitments, and the harvesting seasons. Most also said they preferred to be assessed at a college rather than at their workplace or home.

[Competency-based education](#) allows students to learn at their own pace as they master specific skills and knowledge. Rather than measuring success by time spent in class or traditional testing, the model requires students to demonstrate proficiency in a sequence of defined competencies through real-world projects. Students receive coaching and feedback from faculty members and others during the learning process and typically must score at least an 80 percent on each competency to move on to the next one, says Ryan Specht-Boardman, director of higher-education solutions with the Competency-Based Education Network (C-BEN), a nonprofit that works with colleges, employers, and state agencies to develop competency-based education.

“It is first and foremost, a pedagogy,” he says. “It’s a set of teaching and learning principles that guide how faculty and instructors and teachers work with learners to help them achieve a set of competencies to the level expected by employers.”

Specht-Boardman attended the two-day meeting at Harris Ranch and worked with participants to create the curriculum.

While not new, use of the model is gaining traction in programs aimed at preparing or upskilling workers for particular industries, particularly at community colleges and work-force and vocational programs.

Employers [find](#) that its emphasis on demonstrable mastery of specific skills that are aligned with



PHOTO COURTESY OF MERCED COLLEGE

A student builds his own wooden toolbox using power and hand tools during an assessment.

industry needs is just what they’re looking for. And the flexibility appeals to many students, especially those working full time.

## Merced Puts Competency Into Practice

In the fall of 2024, just about a year after the Harris Ranch meeting — as Jacobsen notes, that’s warp speed in the education world — Merced College began offering the only competency-based agricultural-education program in the state.

The certificate program was one element underwritten by a three-pronged, \$65-million grant awarded in 2022 by the U.S. Economic Development Administration as part of the Build Back Better regional challenge to revitalize the Central Valley; the state later added in \$15 million.

Six other community colleges also offer the certificate, but not a competency-based curriculum, although they are moving toward that, Jacobsen says.

At Merced, the 180 students enrolled in the program range in age from 18 to mid-60s, and almost all of them are already working on farms in some capacity. Many speak only Spanish, so all coursework is offered both in English and Spanish. The program is currently noncredit, but Jacobsen says the college is working to create an associate and bachelor's degree in the field.

Some graduate students at the University of California at Merced, located down the road from the college, have also enrolled, he adds, but for the opposite reasons; they have the digital-and-writing experience but not the practical skills.

Students learn 14 core skills asynchronously online, but they must demonstrate their mastery in person. The skills include: obtaining a level of digital literacy and interpersonal skills; reading and interpreting agricultural-industry documents and writing agricultural-technical reports; explaining the fundamentals of animal systems, plant science, and crop-production systems; and safely setting up, operating, and troubleshooting agricultural mechanical equipment.

As with any new program, an unexpected problem arose early — during enrollment of the initial entering class.

“We thought we could do it in groups of 12 to 14 at a time,” Jacobsen recalls, “but absolutely not. It did not work. The instructor had a really nice PowerPoint presentation put together of, I think it was 14 or 15 slides, and he got through slide two in an hour and a half.”

The trouble began at the first step, he says, when students were asked to register for the class by logging on to a computer and entering their email addresses. It quickly became clear that a number of students had never turned on a computer —

and didn't have an email address. “Half of them didn't know what a computer mouse was,” he says.

Merced moved to one-on-one meetings to assist students with enrolling in the course.

Digital literacy, the first required competency, is a big hurdle for many students, Jacobsen says. “It was like trying to climb this steep, steep mountain right from the start. We understood that we needed to build in some more support.” As a result, the program's two student-support coordinators spend more time helping with the digital-literacy competency.

The students initially had to master all the competencies in the same order; now, while digital literacy is still required first and interpersonal skills last, students can customize the sequence for learning the other core skills.



PHOTO COURTESY OF MERCED COLLEGE

A student (right) receives his certificate from Cody Jacobsen (left) at a December 2025 graduation ceremony.

“That was one of the major changes, because we were seeing after the first semester, students were getting so discouraged with digital literacy that we needed to have some successes early on so that they didn't drop out,” Jacobsen says.

The early dropout rate was 60 to 70 percent due to the digital-literacy difficulties and the growing pains of a new program. Now it is less than 10 percent, he adds, and 13 students have completed the program.

One of those students finished in four months, the fastest completion so far.

The student (who asked that his name not be used because of his immigration status) had an advantage — he'd completed high school and a brief stint in college in Mexico before moving to the Central Valley a few years ago. He landed a job on a poultry farm, but was eager to move up. His wife saw a flyer about Merced's program at a job fair, and he decided to give it a try. He was comfortable on a computer, but found a few other competencies tougher to master.

He practiced those skills repeatedly, he recalls, and "now I'm applying it at work," he said through a translator. He's in discussions with his supervisor to move up to manager.

Márquez, the Live Oak Farms operations manager, gave input into developing the certificate program and then earned one himself at Merced during the pilot phase; that resulted in a pay bump, he says. Four of his employees have also since completed the certificate and he's been happy with the outcome. "They came out with a better skill set and helped train other employees."

He particularly likes the competency-based model, noting that the flexibility helps them work and learn — and that after the course, "they implement those skills immediately."

## Designing for Mastery, Not Seat Time

Like Merced College, Northern Essex Community College, in Massachusetts, was responding to a need in the regional work force — in this case, one for early-childhood educators — when it designed its competency-based degree in [that discipline](#).

Initially, the framework was offered in only a few courses, but now students can choose to take solely competency-based courses to earn a certificate or an associate degree. The courses are primarily online, and most of the students are already working in early-childhood settings.

Jody M. Carson, interim assistant vice president for academic affairs, who studied competency-based education for her doctorate, helped create the program along with faculty members and an instructional designer. Carson was previously an associate professor of early-childhood education at the college.

Projects are a big part of early-childhood education, which is why "it lends itself well to competency-based coursework," she says. "We want them to practice the skills that they're doing with young children, reading books, creating lesson plans, and writing observation reports."

In order to assess that students not only have the knowledge they need, but can use it, she says, an instructor might replace giving a test at the end of a course with assigning students to write an observation report about the children's development and progress.



PHOTO COURTESY OF NORTHERN ESSEX COMMUNITY COLLEGE

Deirdre Budzyna, professor and program coordinator of the early-childhood education program, teaches an early-childhood education class at Northern Essex Community College.



PHOTO COURTESY OF ED COLLIER PHOTOGRAPHY

Jody M. Carson, interim assistant vice president for academic affairs, helped create the program at Northern Essex Community College along with faculty members and an instructional designer.

The biggest change, Carson says, is that the program now “has an incredibly intentional design.” Faculty members first identified the skills and knowledge students needed to acquire by the end of the program, and then designed it backwards from there to ensure that all the projects meet those goals.

They ran the curriculum past the program’s advisory board — made up of child-care professionals — to make sure that the competencies would meet their needs. They also ensured that the competencies lined up with state and national standards for early-childhood education.

One of the keys to building a successful competency-based program is to redesign holistically, not course by course, Carson says, and to be ruthless about what fits in and what doesn’t. She says she and other faculty members had projects “we were really tied to, that we loved, that the students maybe even loved. But we realized they’re spending a lot of time and sometimes a lot

of money doing these projects that in the end are not always going to help them” with what they need to know to work in the field.

“It’s a big mind-set shift,” she says.

Since the college offers both competency-based and traditional courses in early-childhood education, it can compare how students do — and according to Carson, those in the competency-based courses do as well or better than students in more traditional ones.

While it’s true that they can resubmit their project if they do poorly the first time, “that is what CBE is built around,” Carson says, “getting to that mastery.”

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### **A “Promising Bridge” to Employers**

The programs at Merced and Northern Essex illustrate a broader rethinking of how colleges are designing work-force pathways. Institutions are experimenting with competency-based models to better align learning with employer expectations and to create more transparent signals about what graduates know and can do. The approach is taking hold across fields, from community-college certificates to professional programs. Health care is an area particularly suited to the model. In 2019,

the American Association of Colleges of Nursing released a white paper urging a move toward competency-based pedagogy. Two years later, it published its [new standards](#) for professional nursing education, embracing competency-based education for bachelor's- and graduate-degree programs.

What prompted the move? “We were hearing from our practice partners that students were coming out unprepared because of the variability of the education they were getting,” says Susan Corbridge, the association’s chief education innovation officer.

In 2021, there were fewer than a handful of nursing programs at either the undergraduate or graduate level using competency-based training, Corbridge says. But in a 2025 [survey](#) of the association’s members, 92 percent of respondents said they were adopting it or planning to adapt their curriculum to align with the association’s competency-based model. More than 80 percent of undergraduate and graduate nursing programs in the United States are part of the organization.

An often-voiced concern about competency-based education is that it is solely skills-oriented, but Corbridge says that is not correct: It is skills combined with knowledge, abilities, and attitude.

It’s knowing how to give a shot or take blood pressure, but it’s also assessing a situation upon walking into a room, understanding a patient’s condition, and being able to “communicate articulately in a professional manner,” she says.

Haley Glover, senior director of Upskill America, an Aspen Institute initiative, has looked at

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PHOTO COURTESY OF THE AMERICAN ASSOCIATION OF COLLEGES OF NURSING

Susan Corbridge, chief education innovation officer at the American Association of Colleges of Nursing, says the group has embraced competency-based education for bachelor's- and graduate-degree programs because of concerns about 'students coming out unprepared because of the variability of the education they were getting.'

the role of competency-based education and employer needs; a [report](#) she co-authored called it “a promising bridge” that “offers a way to rebuild trust between employers and higher education institutions.”

While employers may not be familiar with competency-based education, they want what it offers, she says, such as clear expectations of what skills students have to master that are aligned with real-world needs, and transparent performance-based reviews.

“It is a very elegant answer to questions that employers are asking,” she says.

