CLP | Career Ladders Project

Competency-based Education at LATTC

CBE CASE STUDY AND DISCUSSION GUIDE | OCTOBER 2020

Los Angeles Trade Technical College's Journey

THE BEGINNING

Jess Guerra, Chair of the School of Advanced Transportation and Manufacturing, was instrumental in leading the redesign of pathways at Los Angeles Trade Technical College (LATTC) in 2010. Static success metrics, despite previous changes, spurred the faculty to take action for a redesign. Jess and the rest of faculty leadership planned to identify points of opportunity through market research on the needs of specific industries with high growth. The team used labor market databases, combed through job descriptions in the identified industries, and researched future skills and competencies that students will need to be successful in the workplace. With this research, LATTC built their Competency Model Framework and then mapped competencies to curricular pathways. Where a competency was not covered in existing curriculum, LATTC set out to revise the curriculum.

The redesign had unique challenges; as a trade school, LATTC differs from liberal arts schools in that their goal has been to provide well-defined pathways leading directly from education to successful post-matriculation careers in specific fields. Majors always included liberal arts courses, but LATTC hoped to achieve better liberal arts integration through their redesign, bolstering these courses as a crucial element in their basic competencies for 21st century careers.

LATTC considers a "competency-based curriculum" the bedrock element to their program, applicable across all subsequent career pathways. These include both traditional and modern soft skills--digital and computational literacy, math and English skills. Analytical skills, interpersonal skills, ability to execute, information processing, and capacity to change across digital mediums are all hallmark competencies of 21st century "hybrid jobs" in any industry.

At LATTC, these competencies are fused into their industry training via liberal arts courses in a STEAM framework. By working backwards, LATTC worked to reorganize programs of study into nine new distinct career pathways mapped to the core competencies. They also hoped to reduce logistical challenges by finding a way to consolidate student needs into fewer office visits so that counseling might be more effective and more frequently utilized.

IMPLEMENTATION

Implementation could be summarized in six steps:

1. **Preparation:** Alignment of goals and commitment; identification of key stakeholders and targeted industries
2. **Research:** Compilation of the data providing foundation for redevelopment
3. **Design:** The drafting and vetting process for the new institutional roadmap
4. **Build:** Integration of the course sequences which are buttressed by experiential learning activities and other co-curricular enhancements (e.g., internship opportunities)
5. **Launch:** New support roles and infrastructural changes facilitate implementation
6. **Evaluate:** Consistent review and revision of student success and industry professional feedback

CLP | Career Ladders Project

Planning the nine career pathways began in 2010, and implementation rolled out beginning in 2014 in groups of three to ease re-organization strain. Counseling and registration roles were consolidated under one roof and supported with a new counseling position, the Student Support Specialist, cross-trained in financial aid, academic counseling, and registration. The nine revised pathways were developed from a data-driven approach via information from ONet, MC, and other databases. LATTC vetted changes with industry professionals to ensure their efficacy in preparing matriculated students for those specific industries.

The result is nine successfully redeveloped pathways; each pathway is cross-cut with STEAM based core competencies, certificate programs, internship opportunities and workshops (see table for a sample pathway). Each pathway matriculates students through tiers of competencies, beginning with the most general and culminating in the most career-specific: Foundational Competencies; Academic and Career Readiness Competencies; Industry-Wide Competencies; Occupation-Specific Technical Competencies; and, finally, Specialty Competencies. Care was taken in preparing counselors to assist building graduate resumes that highlight the direct applicability of pathway courses and certifications for their desired industry. Extraneous classes across all LATTC programs were eliminated, reducing the number of units overall to complete programs--Automotive Development, for example, was reduced from 44 units to 36 units, facilitating greater retention and a higher completion rate.

Initial program reviews show promising results already, as reported in 2018 and 2019. Completion rates, post-program employment, and the number of students earning a living wage and beyond have all increased. Further data will be collected through the 2020-2021 academic year.

Timeline

2010
Preparation and Research

Design of new pathways with a data-driven approach

2012
Building new courses and integration

Vetted pathways for revision

2014
Launch of new pathways

2015–2018
Evaluation and revision of program

2019
Initial student success reviews

Career Ladders Project

678 13th Street, Oakland, CA 94612
www.careerladdersproject.org
(510) 268-0566

Los Angeles Trade Technical College

400 W Washington Blvd, Los Angeles, CA 90015
www.lattc.edu
(213) 763-7000

CLP | Career Ladders Project

LATTC Advanced Transportation and Manufacturing Pathway: Diesel Technology

BUILDING BLOCKS FOR ENTRY-LEVEL, MIDDLE-SKILL OCCUPATIONS*

SPECIALTY COMPETENCIES

Alternative Fuel/Hybrid Vehicles
- Compressed natural gas (CNG) engines
- Light duty hybrid electric vehicles

Environmental Compliance
- Environmental regulations and programs
- Vehicle and device testing
- Vehicle and device installation and servicing

OCCUPATION-SPECIFIC TECHNICAL COMPETENCIES

Occupational Safety – Unique to Position
- Occupational safety of specific occupation

Electro-Mechanical Calculations and Measurement
- Computation
- Measurement and estimation

Light Truck, Med/Hvy Vehicle, Bus, and Rail Inspection, Preventative Maintenance, Diagnosis, Repair
- Engines
- Electrical/electronic systems
- Drive train systems
- Suspension and steering systems
- Brake systems
- HVAC systems
- Auxiliary power systems
- Body systems and special equipment

Service Workflow
- Preparing vehicle for service
- Preparing vehicle for return to operation/customer

INDUSTRY-WIDE COMPETENCIES

Working with Tools and Technology – Also a Common Employability Competency
- Selects, uses, and maintains tools and technology to facilitate work activity [CES]

Checking, Examining, and Recording
- Completing forms
- Maintaining logs

Test-Taking
- Able to pass required exams

Realistic View of Industry
- Understands demands and nature of work in the industry

Vehicle Systems
- Knowledge of vehicle systems, components, and parts

General Safety
- General Safety
- Personal and shop safety

COMMON EMPLOYABILITY COMPETENCIES

Personal Skills
- Integrity [CES]
- Initiative [PACTS, CES]
- Dependability and reliability [CES]
- Adaptability [PACTS, CES]
- Professionalism [CES]

People Skills
- Teamwork [CES]
- Communication [CES]
- Respect [CES]

Critical/Analytical Thinking
- Critical/analytical thinking [PACTS and CES (adapted)]

Workplace Skills
- Planning and organizing [CES]
- Problem solving [CES]
- Decision making [PACTS,CES]
- Business fundamentals [CES]
- Service (customer) focus [CES (adapted)]

Information Technology
- See Information technology literacy and Internet and email competencies below

ACADEMIC AND CAREER READINESS COMPETENCIES

Reading
- Reading [PACTS, CES]

Writing
- Writing [PACTS, CES]

Connecting Reading and Writing
- Connecting reading to writing and thinking [PACTS]

Listening and Speaking
- Listening and speaking [PACTS]

Mathematics
- Mathematics [PACTS, CES]

Information Technology and Information/Digital Literacy
- Information technology literacy [PACTS, CES]
- Internet and email technology literacy [PACTS, CES]
- Information literacy [PACTS, CES]
- Digital literacy [PACTS]
- Computer literacy for students taking online classes [PACTS]

FOUNDATIONAL COMPETENCIES FOR COLLEGE AND CAREER SUCCESS

Self-Efficacy for College and Career Success
- Social and emotional intelligence [PACTS]
- Self-regulation and time management [PACTS]
- Interpersonal awareness and conflict management [PACTS]
- Decision making [PACTS, CES]

Awareness of Academic/ Career Options
- Investigative [PACTS]
- Self-aware and self-reflective [PACTS]

Academic and Career Goal Setting and Planning
- Academic/career initiative [PACTS]
- Academic/career planning [PACTS]
- Resource acquisition and management skills [PACTS]
- Goal management [PACTS]

Navigating and Accessing College/Community Resources
- Awareness of resource needs [PACTS]
- Accessing academic support resources at the college [PACTS]
- Accessing resources in the community [PACTS]

[CES] National Network of Business and Industry Associations (NNBIA) Common Employability Skills
[PACTS] Competencies from LATTC's Pathways to Academic, Career, and Transfer Success (PACTS) model
* We define "middle-skill occupations" as diesel-related occupations with strong, positive employment and economic mobility potential which are: (1) occupations that pay a living wage; (2) have sufficient, current employment opportunities, and (3) are projected to have near-term, future employment opportunities such as Bus and Truck Mechanics, Rail Car Repairers, etc.

WHY COMPETENCY-BASED EDUCATION?

The Vision for Success is focused on closing equity gaps across the state of California. The California Community College's Curriculum Committee has identified competency-based education (CBE) as one strategy that can provide the flexibility needed by some students to complete their educational goals. CBE is not meant to replace our traditional instructional model, but is meant to supplement college's instructional offerings for students. Some programs may be more appropriate for a CBE model than others. Furthermore, some programs may be appropriate for a direct assessment CBE model, while others may need in-person learning or activities to ensure student learning. These programs may be able to offer a hybrid CBE model.

(As of July 2020, the CCCCO is working to establish a funding model for Direct Assessment CBE programs.)

Overview of Competency-based Education

Current Model	CBE Model
Skills assessed at the course level	Skills/Competencies assessed at the program level often with key milestones
Courses operate as separate units	Competencies are mapped out throughout a student's pathway working together as a program
Based on course completion	CBE models can be course-based or direct assessment-based
Learning mastery varies based on grading scheme (A, B, C, D, F)	Learning mastery can vary in CBE that is course-based or it can be fixed, such as 80% mastery for completion

Types of CBE

Direct Assessment CBE	Course-based CBE
Not timebound	Based on academic terms
Completion determined by high level of mastery	Completion determined by completion of courses and other program requirements
"Credit hour equivalencies" are applied to student learning outcomes	Incorporates competencies into course and program student learning outcomes

CLP | Career Ladders Project

A GUIDE TO DISCUSSING CBE AT YOUR COLLEGE

Before convening a group to discuss the possibility of CBE at your college, have them review the following materials. Ask the group to bring questions and ideas about what they hear to your first meeting

CCCCO Webinars:
Webinar 1: Competency-Based Education: What Is It and How Is It Different from our Current Offerings?
Webinar 2: Advancing Competency-Based Education for California Community Colleges

CAEL Report: Competency-based Degree Programs in the U.S.

The Goals of the Discussion:

1. **To explore and reflect on CBE.** Give the group time and space to explore the models, discuss what excites them, what scares them, and what specific programs at the college work well with a competency-based model.
2. **To brainstorm.** Explore with the group where you can start and what it would take to begin identifying competencies in existing programs and assessments that can be used to assess mastery.
3. **To build excitement about CBE as a lever for closing equity gaps.** CBE will help students who desire a faster timeline to degree and certificate completion and who need flexibility. Explore with the group what programs may have high numbers of students with those needs. Bring in institutional research to help you identify the programs where more students may need flexibility.

Discussion Questions:

1. What excites you about what you heard in the webinars and read in the report?
2. What concerns you about how students, faculty, and staff might experience CBE?
3. What problem did you hear CBE presents a solution for?
4. Do you know of programs at the college that might work well in a CBE model? Why do you think they might work well?
5. Do you know of programs that you feel will not work with a CBE model? Why do you think that?
6. (In a smaller group of 4-5 people) Choose one of the programs that the group identified that might work well to pilot a CBE model. In a rapid brainstorm, try to visualize what a group working on this would need to do the planning, curriculum development (and possible revisions), and capacity-building to get the model off the ground. When thinking about this, design "backwards," starting with the end goal and mapping back to the starting point.
7. What would you like to see as next steps in moving forward with testing CBE in one program and assessing the model's success in closing equity gaps?