



California
Community
Colleges

California
Virtual Campus

Analysis & Recommendations for CBE Technology 2023-2024

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Learning Management System: Canvas

CBE Scope of Work, 2023-2024

Goals	Strategies	Outcomes / Products
<ul style="list-style-type: none"> • Appropriate stakeholder awareness. • System use and function trainings. • Identification of system functionality and areas for enhancements. • Seamless implementation and testing. 	<p>Working with CO, JFF, and DII, CBE partners and pilot college:</p> <ol style="list-style-type: none"> 1. Advise and coordinate messaging to public/vendors regarding key decisions made as needed. 2. Work with chosen LMS provider to collect/develop trainings and support aides for pilot college personnel to develop effective CBE programs within the chosen LMS. 3. Assist colleges in identifying possible plug-ins and/or possible enhancements. 4. Assist colleges as needed with installation, testing, and integration efforts. 	<ul style="list-style-type: none"> • Communication to LMS providers and other stakeholders. • Trainings which may include but are not limited to <ul style="list-style-type: none"> ○ CBE Course ○ Video recording ○ Written guide • CBE sandbox of developed modules • Recommendations to improve chosen LMS. • Implementation at colleges as needed.

Introduction

In 2023-2024, the California Community Colleges Chancellor’s Office (CCCCO) confirmed Canvas will be the recommended Learning Management System (LMS) for Competency Based Education (CBE) in the California Community Colleges (CCC) system. This was communicated to all stakeholders, including the eight pilot colleges and alternative LMS providers with whom the California Virtual Campus (CVC) engaged (D2L/Brightspace, Strut Learning, ConexEd).

This year, work focused on helping the pilot colleges use Canvas most effectively to develop and deliver CBE programs. Instructure and CVC presented and recorded six Zoom webinars on various topics toward this goal: [Training for Developing CBE Courseware with Canvas](#).

Instructure also developed and CVC shared, via Jobs for the Future (JFF) Canvas Course Year 3, the following online help aids to support colleges in the development and delivery of CBE courseware:

- Instructure’s [Competency Based Education webpage](#)
 - Canvas users can subscribe to this community, post questions, and receive answers. It also Includes a written guide: [Instructure Competency Based Education Prospectus](#)
- Video walkthrough of an example CBE course shell: [Customer Service CBE - Learner Experience](#)
- Video walkthrough of an example CBE course shell: [Web Development Fundamentals](#)
- Recording from InstructureCon 2023: [Create MasteryPaths Aligned with Outcomes](#) (an option for CBE instruction in Canvas)

- Two examples of CBE course shells (the Customer Service and Web Development courses noted above) were shared with the CBE Collaborative via the JFF Canvas Course Year 3. See the Discussion entitled, “CVC Hosted Webinar Series: Developing CBE Courseware with Canvas.”

Instructure and CVC also provided Zoom consulting sessions for individual pilot colleges and smaller groups of colleges to help them address special challenges they are facing in their programs and use of Canvas.

In addition, information was also collected from the pilot colleges (and other sources) ideas for possible Canvas enhancements that may better support the development and delivery of CBE courseware in the future. To document these ideas, CVC and Instructure have created this joint document: [CVC Desired Canvas Enhancements for CBE 2024](#). These ideas are being shared with Canvas development managers.

Throughout this work, it remains clear that Canvas can be used effectively to develop high quality CBE courseware and deliver CBE programs online. However, there are common opportunities and challenges the pilot colleges have encountered in developing courseware in Canvas which will help inform future efforts.

Instructional Design

Most of the pilot colleges have noted the importance of quality instructional design in the development of online CBE courseware. This type of support or training for faculty could improve the quality of online courses and therefore improve student learning outcomes and program completion. However, the pilot colleges reported that these are often busy team members at their districts, and several indicated their desire to have more support.

Instructure has a dedicated [Instructional Design \(ID\) offering](#). This requires an additional fee, but the service can include a full-time person or partial dedicated ID (set of hours that can be used each week to consult, build courses, etc.). In the absence of a dedicated ID, colleges may wish to license an application such as [Cidi Labs DesignPlus](#) to help their local faculty design/develop online courseware. In addition, another CBE Collaborative partner, the [Competency-Based Education Network \(C-BEN\)](#), may be able to assist the pilot colleges with advice on direct assessment CBE courseware design.

Outcomes/Competencies

Those familiar with Canvas will know that entering “Outcomes” into the LMS can help in the assessment of student learning and the reporting/sharing of those results. In CBE, Canvas Outcomes are the competencies defined by the college program. Competencies/Outcomes are generally installed at the root Canvas instance, something for colleges to note if they share an instance among sister colleges in a district. Note: Some of the colleges involved in this CBE pilot are exploring the possibility of sharing competencies with each other, especially for those that may be common among them (e.g., GE competencies, common programs).

Courseware developers can link Canvas Assignment rubrics to Canvas Outcomes/Competencies, which is especially important for each CBE program's summative assessment that will measure student mastery. There are choices in setting up rubrics. For instance, developers can create traditional rubrics with points on a scale (with some point threshold representing mastery). They can create rubrics with just two rating options—'mastered' or 'not yet mastered.' For consistency in student experience, faculty are encouraged (but not required) to share their CBE courseware for the same competencies, especially assignments and rubrics.

Third party products, such as eLumen, can also help with Outcome/Competency achievement tracking and reporting. Recently, eLumen developed a product called [Insights](#) which integrates with Canvas. A few California Community Colleges are implementing Insights at the writing of this report, and CVC stands ready to gather their feedback for any CBE pilot colleges interested in this product.

Gradebook

The Canvas Gradebook also offers choices for CBE. The discipline department may decide to use the Canvas [Learning Mastery Gradebook](#) and/or [change the gradebook schema](#) for CBE course shells from the traditional A, B, etc. to the M+, M that will eventually need to appear on each student's competency transcript. Additionally, each department may decide to keep the standard Canvas Gradebook in points/percentages to offer each instructor a more granular way to sum up student performance on competency achievement into an average grade for the traditional equivalent course (required by Title 5) per the college's CBE program map or "crosswalk".

Competencies per Shell & Student Progress

A critical administrative and instructional choice for a college offering CBE is how many competencies will be presented in each Canvas course shell. (This will relate to a later section in this report on the "Dual Transcript" required by Title 5 regulations.) Depending on its requirements/preferences and how the college defines a "CBE Module," the college may decide to offer:

- One CBE module = one competency in each course shell, or
- One CBE module = multiple competencies in each course shell.

Using either approach, the courseware developers could create lessons that offer an adequate amount of introductory material, presentation of instructional content (concepts and skills), the opportunity for students to practice those skills, at least one summative assessment for each competency that will determine if the student has achieved mastery, and a process to lead students back to learning content if mastery is not yet achieved. (Please note that a "CBE module" as defined by Title 5 is not necessarily the same thing as a "module" in Canvas.)

Developers may also want to consider how (and if) students can move on to work on new competencies as they wait for faculty evaluation of prior summative assessments. This will depend on the relationship between competencies (i.e., if mastering one competency is required before moving to the next), which may be noted in the program crosswalk. If moving on is possible while waiting for evaluation, this can be easily facilitated if there are multiple competencies in each Canvas course shell.

If there is one competency per shell, the college may want to devise a mechanism or notification method to encourage students to enroll in a new course section if they complete prior sections ahead of expectations. [Canvas Self Enrollment](#) may be considered for this (offering students a secret web link or enrollment code for a future section upon successful completion of a prior section), but colleges will need to confirm this is done after students have officially joined the CBE program, are recognized by the college SIS, and already have a Canvas account in the college's instance. We advise against using Canvas Self Registration or Open Enrollment as this can attract individuals who create Canvas accounts for nefarious purposes (e.g., gaining unauthorized access to college systems, sending out spam).

(Note: Canvas Self Enrollment is tricky as anyone with a Canvas account in that instance could theoretically access and enroll in a course. This could be mitigated by creating a separate subaccount in the college instance of Canvas just for CBE sections. Also, using self-enrollment, students could access any CBE section at any time. This will be problematic if there is a prescribed sequence of instruction with achievement of some competencies required before moving on to others.)

It is also recommended that colleges have a plan for courseware updates and versioning, keeping track of which version of the courseware that each student completes, so that future updates will not confuse or delay the student progress. These updates could be scheduled for any downtime planned for between terms or subscription periods. Colleges may decide to allow students to continue work in course shells from the prior term/period, even as they create new course shells for new students for future terms/periods. In summary, as they do now for traditional course updates, faculty will need to consider how CBE courseware updates may affect student progress through each competency module and the program.

Instructional Strategies and Canvas Applications

There are some additional strategies and tools that CBE content developers can use. For instance, using Canvas [Mastery Paths](#), faculty can offer students different learning paths depending on their experience and prior knowledge. A pre-test might be offered to help determine this. Students could also be given a chance to move directly to the summative assessment. If mastery is achieved, they can move on to the next competency. If mastery is not achieved, the student can be ushered to a full instructional pathway with all scaffolding and support. If partial mastery is achieved, the student can be invited to an abbreviated learning path that focuses only on what that student did not demonstrate as mastered in the incoming test. In any case, using Mastery Paths or not, it is advisable to create multiple and equivalent summative assessments for each competency, unless taking a single summative assessment

multiple times will not invalidate the test results. For CBE, these summative assessments would ideally include authentic, project- and/or problem-based challenges that require each student to demonstrate mastery of skills and not simply content/concept knowledge.

Other Instructure Canvas applications to be considered:

- [Pace Plans](#) (requires additional license fee) – Provides progress tracking and goal date forecasting in variable-paced, open-entry courses. Can provide nudges and notifications/reports to students, faculty and/or college staff to help keep students on track. Pace Plans does not currently have a VPAT and so we cannot verify its compliance with accessibility mandates. In addition, Pace Plans is not compatible with Mastery Paths, so both applications cannot be used in the same course shell.
- [Course Pacing](#) (part of native Canvas, no added fee required) - similar to Pace Plans but without some of the features. Course Pacing does have a VPAT but, like Pace Plans, this application cannot be used along with Mastery Paths. Both Pace Plans and Course Pacing require faculty to enter Assignment deadlines, but these can be treated as recommended milestones and not strict requirements.
- [Canvas Credentials](#) (requires an additional license fee) - Formerly known as BadgrPro, this application can allow colleges to provide students with digital badges for confirming (and sharing) a student's mastery of certain competencies and subskills.
- [Canvas Badges](#) (part of native Canvas, no added fee required) – similar to Canvas Credentials, but without all of the features and functions.
- [Canvas Portfolium](#) (requires an additional license fee) – full featured e-portfolio application for uploading, storing, and sharing student learning, accomplishments, and credentials/badges. Integrated in Canvas, linked to Assignments. This could be a value-added product for colleges offering CBE programs, especially when students are creating artifacts or products to be assessed and shared. Artifacts can be shared after graduation, for instance, if a graduate wishes to share work with a prospective employer.
- [Canvas ePortfolio/Folio](#) (part of native Canvas, no added fee required) – Similar to Canvas Portfolium, but without all the features and functions.
- [Impact by Instructure](#) (requires an additional license fee that is currently funded by the state Chancellor's Office; college pay installation fee) – This application can streamline the use of Canvas and related technology with in-line, contextual messaging to faculty and student users along with analytics to help improve support strategies.

Canvas Data

The [New Analytics](#) application in Canvas can help faculty (and students) track the progress and success of CBE students. However, it does not pull and present all data immediately from the Canvas database and it does not provide all data that could help students in a self-paced CBE program stay on track. In addition, New Analytics does not automatically provide reports and nudges to faculty and students. This is possible, but will require additional integrations, programming, and/or applications and use of [Canvas Data 2](#). The [Canvas Custom Dev](#) team (an add-on, fee-based service) can help with integration work involving Canvas.

Add-On and LTI Applications of Interest

Most of the eight pilot colleges mentioned they are currently using or considering using add-on or LTI applications to be integrated with Canvas for their CBE programs. These include:

- [eLumen](#): Bakersfield College uses to assist with Outcome tracking and could use it for tracking Competency achievement. [Insights for Canvas Outcomes](#) is a tool developed by eLumen specifically for Canvas integration, but CCCs now implementing it have reported mixed results (pros and cons).
- [JobSpeaker](#): Coastline College plans to use this tool to help track, record and transcript student competency achievement.
- [Feedback Fruits](#): Coastline plans to use this tool to enhance the native features in Canvas to provide more engaging learning experiences for students.
- [Mursion](#): Coastline plans to use this provider of immersive learning/assessment tools for its CBE program.
- [Tableau](#): Shasta College mentioned this product, integrated with Canvas, can be used to present student progress/completion data to students and college faculty/staff.
- [CidiLabs](#): Several of the pilot colleges are considering CidiLabs applications including [DesignPlus for Canvas](#) (instructional design tools) and [UDolt](#) (accessibility assistant). CidiLabs new [ObservEd](#) application provides student performance monitoring in Canvas and may assist with CBE.

Finally, over the last year, in assessing the needs/wants of the CBE Collaborative colleges, a [CBE Collaborative Wishlist Related to Canvas](#) was collected to address future needs.

Customer Relations Management (CRM) System

CBE Scope of Work, 2023-2024

Goals	Strategies	Outcomes / Products
<ul style="list-style-type: none"> Recommendation of a statewide CRM in alignment with CO-DII priorities that best suits the needs of Competency Based Education (CBE) 	<ol style="list-style-type: none"> Provide explanation of what a CRM is and how it benefits CBE programs. (Pre- program, active in program, post-program) Explore current CRMs existing in College-Buys and compare their functionality to the leading CRMs used by colleges with DA-CBE programs. Make recommendations of the best CRM(s) for system-wide adoption to DII and ESLEI leadership. 	<ul style="list-style-type: none"> Presentation on the benefits of a CRM, capturing recommendation. <ul style="list-style-type: none"> Audience: CCCCCO Executives CRM comparative analysis. Written analysis report and recommendation.

Introduction

Customer relationship management (CRM) systems originated as tools to help salespeople generate leads as well as to remain engaged with their clients. In their basic form, features range from storing client/prospect background and contact information, to notes from every meeting and to full visibility of interaction history, all in support of initial and repeating sales. In short, CRMs have been the sales equivalent of a case management system.

A shortcoming at CCCs is that Enterprise Resource Planning/Student Information Systems (ERP/SIS) usually do not have a prospect or tracking component. This is somewhat natural because CCCs are open institutions with a mandate to accept almost anyone, and because CCCApply decouples the application/intake process. As a result, evaluation of outreach efforts is very difficult because there tends to be little or no means to cross-reference prospects that become students. CRMs (or SRM, for Student Relations Managers, as some call it) can help bridge this divide.

Selecting the “best” CRM for CCCs in support of CBE programs is challenging because CRMs have evolved into multi-functional tools that can offer different benefits to different constituents. The CCC Chancellor’s Office (CO) has focused our work on the following areas of potential benefit for colleges developing CBE programs:

1. Pre-program (e.g., promotion, outreach, onboarding, supplemental applications)
2. In-program (e.g., communications between college personnel and students as they pursue their certificate/degree - can include presentation of student progress data)
3. Post-program (e.g., communications with graduates and employers, fundraising, advancement)

Review Considerations

After reviewing multiple rating articles, an initial insight was that, for CCC CBE programs (and alignment to CO priorities), the two most important selection criteria will be **integration with Canvas LMS** (the delivery method for CBE online courses) and **integration with each institution's SIS**. The quality of these integrations is important too. Integrations that can be automated and initiated by events (such as completion of an assignment) or lack thereof (missing a deadline or lack of activity on the LMS) are qualitatively better than manual, batch, or file-based integrations. To a lesser degree, features like cohort communication, multiple channel communication coordination, support for workflows, data presentation (reporting) and, lately, having AI tools to help with task automation and prompt responses are still needed and helpful. All CRM features are greatly enhanced when accurate, timely data are available. Ideally, current information (instead of a nightly snapshot) should be the undergird for timely communications, workflows, and AI tools as well as feeding staff and student interfaces.

On another dimension, **cost, ease of use**, sustainability, implementation effort, and **ongoing vendor and IT support** are very important for the health of any CBE program. This line of inquiry brings questions about **ownership of the system/data** and burden of maintenance, support, and innovation once the system has been implemented. Clear expectations and transparency during implementation are important factors for the success of CRM projects.

CRMs can provide several benefits such as:

- Structured process to outreach efforts and onboarding
- 360° view of student records
- Platform for appointments with Student Services departments
- Workflow automations for multi-step processes
- Timely notifications of upcoming campus events, service appointments and college/program deadlines, a platform
- Alumni engagement and event planning and management including attendance collection

There are many CRM vendors available and some of them market their offerings to educational institutions. However, most of them only specialize in recruitment and/or maintaining a relationship with alumni for advancement (fundraising) purposes. This is understandable because those two processes resemble the original purpose of a CRM (a sale). In addition, some CRM vendors are platform providers. Platform providers present a “white canvas” that requires the client to develop service requirements and adjust the software to their specific use cases. In most situations, vendors offer professional services to customize their platform to the client's needs. This type of offering is not well suited to the requirements of this project because it would entail an increased integration and implementation effort, often at a higher cost.

Most CRM vendors refer to in-program support as “student success” with no detail as to what that entails. Since CBE programs are to be delivered using the Canvas LMS, having a strong integration to gain visibility of how a student performs within a course shell or CBE module is

paramount. As a result, preference is given to vendors that have Canvas LMS and SIS integrations. The prevalent SISs at CCCs are Ellucian's Banner, Ellucian's Colleague, and Oracle's Peoplesoft.

For colleges using Ellucian ERPs, an important consideration is their new portal, Ellucian Experience, which leverages the Ethos platform and Canvas ILP modules to present information from Canvas and the SIS in an integrated manner. Although it has the connectivity requirements, Ellucian Experience is a portal and not a CRM. Therefore, trying to use it as such would have severe shortfalls.

There are several integration platforms that could help with CRM-ERP-LMS integrations. However, it would involve yet another vendor thus increasing the complexity of the implementation, cost, and the burden of administration. Unless offered as a standardized package by the vendor or supported at the state level, it would likely be unsustainable in the long run.

Selection

Based on set parameters, the initial evaluation of about 30 CRM products was based on vendors having an "education practice" to start with. Although some vendors had an education practice, they designed their products primarily to interact with other products within their offerings, thus building an ecosystem of their own. Other vendors were dedicated to specific processes such as student's college application handling, enrollment/scheduling optimization and advancement (alumni donations). A few vendors offered a platform style offering which inherently made their implementation more costly in terms of effort. At this point there were 10-15 vendors remaining. The next evaluation delved into finding vendors that have established Canvas and the relevant SIS integrations with a preference for RestFul API type (real-time/transactional integrations).

The CRM products we selected as best aligned with the needs of the CCCs CBE program and CCCCCO guidelines, presented in no particular order, are:

- - [Technolutions Slate](#)
 - [Element 451](#)
 - [EAB Navigate 360*](#)
 - [Liaison TargetX*](#) (built on Salesforce)

* Foundation for California Community Colleges CollegeBuys contract already in place

It is no coincidence that all but one of the above listed vendors are either implemented or in process of implementation at least at one CCC. This validates the colleges' due diligence in selecting products for their own use case. Also, two of these vendors have a statewide purchasing agreement via CollegeBuys, which streamlines procurement.

As in most cases, there is no single solution that will be a perfect fit for all institutions. The best CRM for a given institution will be a function of their available skills, resources, and organizational structure. Although the CBE project has a focus on in-program support that most other use case scenarios lack. All the listed vendors can perform well at all levels in the institution. In other words, any department will be able to benefit from the use of the above listed CRM products.

Evaluation Criteria

The remainder of this section evaluates the products across six key criteria along with a summary of each product.

1. **Cost:** In some cases, initial price can be surfaced via the CCC foundation or existing clients. This is based on the price for the initial implementation and first year of licensing. *(Rated as Low, Medium Low, Medium, Medium High, and High)*
2. **Implementation Effort:** How much effort (staff + time) will the implementation require. *(Rated as Low, Medium Low, Medium, Medium High, and High)*
3. **Maintenance and Ongoing Effort:** Outside of functional usage, what additional staff resources and renewal costs are needed to keep the product going. *(Rated as Low, Medium Low, Medium, Medium High, and High)*
4. **Integration:** What level of capabilities does the vendor provide and does the vendor have pre-existing integrations with needed SIS/LMSs. *(Rated as Minimal, Average, Better, and Exceptional)*
5. **Compliance:** Products are rated based on their VPAT documentation for accessibility, and SoC2 documentation for security. *(Rated as No Mention, No Documentation, Partial Compliance, Fully Documented and Current Compliance)*
6. **Feature Set:** How does the product's feature set (including AI) compare to others in this list. *(Rated as Minimal, Average, Better, and Exceptional)*

Product	Cost	Implementation Effort	Maintenance	Integration	Compliance	Feature Set
Slate	Medium (2)	Medium (2)	Medium (2)	Average (2)	Partial Compliance (2)	Better (3)
Element 451	Medium (2)	Medium Low (3)	Medium Low (3)	Better (3)	Current Compliance (4)	Exceptional (4)
EAB Navigate 360	Medium (2)	Medium High (1)	Medium High (1)	Exceptional (4)	Fully Documented (3)	Better (3)
TargetX (Salesforce)	High (0)	High (0)	Medium High (1)	Average (2)	Fully Documented (3)	Exceptional (4)

Product Summaries

Technolutions Slate

Cost: Medium
Implementation Effort: Medium
Maintenance and Ongoing Effort: Medium
Integration: Average
Compliance: Documented Compliance – WCAG AA 2.1 compliant | SOCII docs
Feature Set: Better

Slate is an open-source, comprehensive CRM tailored for higher education institutions. It has all the typical CRM features along with workflow automation and integration with other education systems. It has strong analytics and reporting tools. Slate covers prospects, students, and alumni – the entire student lifecycle. Expect significant investment to configure and customize Slate for your institution. (NOTE: Slate has been installed at Coastline College and Southwestern College.)

Element 451

Cost: Medium (Only product that does not require an initial setup cost)
Implementation Effort: Medium Low
Maintenance and Ongoing Effort: Medium Low
Integration: Better
Compliance: Current Compliance – WCAG AA 2.1 compliant | SOCII compliant
Feature Set: Exceptional

Element 451 is a relatively new player in the educational CRM market that leverages Learning Language Model (LLM) AI throughout the platform. Chatbot, messages and landing pages all take advantage of AI to help you craft content. Another notable feature related to LLM is that you can supply references that feed the LLM model – you get to decide where the AI is sourcing its “knowledge.” Element 451 is unique in that it is the only vendor that publishes their prices. Since they do not rely on value-added resellers (VARs), they better control the price as well as the implementation efforts. (NOTE: Element 451 has been installed at Bakersfield College.)

EAB Navigate 360

Cost: Medium
Implementation Effort: Medium High
Maintenance and Ongoing Effort: Medium High
Integration: Exceptional
Compliance: Fully Documented – WCAG AA 2 partially compliant; SOCII compliant
Feature Set: Better

EAB's Navigate 360 includes features such as student profiles, communication tools, appointment scheduling, and analytic dashboards. These features enable institutions to create

personalized communication plans, identify at-risk students, and provide targeted interventions to support student success. Navigate 360 is the only vendor that has pre-existing integrations for the SIS/LMSs used by CCCs. Overall, Navigate 360 aims to streamline student support services and improve overall student outcomes in higher education. (NOTE: EAB Navigate has been installed at Mt. SAC.)

TargetX (Salesforce)

Cost: High

Implementation Effort: High

Maintenance and Ongoing Effort: Medium high

Integration: Average

Compliance: Partial Compliance – WCAG AA 2.0 compliant | SOCII documented

Feature Set: Exceptional

TargetX's strength is built upon Salesforce, a leading CRM platform, which allows institutions to leverage Salesforce capabilities along with TargetX's higher education-specific features. TargetX provides workflows and support for the student lifecycle, from recruitment to graduation. Although TargetX integrations with the ERPs are well established, their LMS integration is not as developed and will require significant efforts to support in-program CRM features. (NOTE: TargetX is the only vendor that is not being installed or used at one of the eight CBE pilot colleges.)

Products that Merit Special Mention

Ellucian's CRM Advise: CRM Advise has been implemented at Shasta College with success but required considerable effort. It should be noted that CRM Advise is only one component of the family of products that encompass CRM Recruit and CRM advance. Although Ellucian's products have a strong integration with its own ecosystem (Ethos and Experience), integration will be more challenging with products outside the Ellucian family, such as Peoplesoft.

EnrollmentRx: Similar to TargetX, EnrollmentRX is developed on the Salesforce platform which brings along a strong cost consideration. College of San Mateo has implemented the product and is continuing to develop capabilities several years after its implementation. (Note: EnrollmentRX requires the purchase of the "Education Cloud" license from Salesforce while TargetX does not.)

Ready Education: It is a powerful integration, workflow, and portal platform. However, it does not have the communications component which would require the implementation of a separate CRM to complement it. Under this study, the product does not align with the others, making comparisons very difficult. (Note: Ready Education has an agreement with the FCCC CollegeBuys as an Online Student Engagement Platform, not a CRM.)

Salesforce: Salesforce is now being used by a few private and nonprofit universities that offer CBE, and it has consistently developed an environment within its system dedicated to education

(Education Cloud). However, the clean slate approach (i.e., a blank slate requiring configuration and setup) implies a significant amount of work for the institution. It is reported that the Los Rios CCD is in the process of implementing this product.)

Final Recommendations

CVC recommends any of the four CRM systems that can help colleges improve the outcomes of both their CBE and traditional programs. These systems provide benefits that the typical college Enterprise Resource Planning (ERP) and Student Information Systems (SIS) do not offer. Given the self-paced, self-directed nature of direct assessment CBE, these benefits could be more critical for CBE student success.

While a CRM system could be an excellent addition to the suite of technologies available to colleges for recruitment, progress reporting, and communications with students, most colleges can move forward with their CBE programs without formal adoption of a CRM. There are other systems and/or manual processes that colleges can deploy to mimic the benefits of CRM systems.

Two of the vendors recommended above already systemwide purchasing agreements. It is recommended that College Buys establish agreements with all recommended vendors or the preferred vendor for the system. If the CCCC wishes to provide additional statewide contracts and/or centralized funding for a CRM to support CBE, CVC recommends use of the table on page 4 to establish a comparison and selection process.

Additional Supporting Information

- [Ellucian Partner Network](#)
- [Integrations — Technolutions](#) (Slate)
- [CRM for Higher Education: 15 Best Options to Consider | Element451](#)
- [The Top 10 CRMs for Universities & Colleges: Tools for Managing Students, Marketing to Prospectives, and More | Smith.ai](#)
- [The 7 best school CRM products that educational institutions should be using \(appvizer.com\)](#)
- [Selecting the Best CRM for Higher Education | OHO Interactive](#)
- [15 Best Higher Education CRM 2024](#)

Financial Aid: Regent Education

CBE Scope of Work, 2023-2024

Goals	Strategies	Outcomes / Products
<ul style="list-style-type: none"> • Appropriate stakeholder awareness. • System use and functionality training. • Alignment between program structure and FA awarding streams. • Implementation of chosen Financial Aid System where applicable. 	<ol style="list-style-type: none"> 1. Advise and coordinate messaging to public/vendors regarding key decisions made as needed. 2. Work with chosen Financial Aid Tech provider to collect/develop trainings and support aides for pilot college personnel to develop effective CBE programs within the chosen Financial Aid Technology. 3. Assist colleges as needed with installation, testing, and integration efforts. 	<ul style="list-style-type: none"> • Communication to Financial Aid Tech providers and other stakeholders. • Trainings and support aids. • Implementation support as needed

Introduction

Early in the 2023-24 academic year, the state CCCCO and CVC announced to the CBE Collaborative that [Regent Education](#) was selected to provide software to support financial aid processes for CBE students. Regent is the leading, and perhaps the only, financial aid system currently focusing on competency-based education.

With assistance from CVC, the CCCCO then negotiated and finalized an agreement with Regent for implementation at the pilot colleges starting 2/15/24. The agreement funds implementation of the following applications and, after that, licensing for use of these products for two years:

- Regent Award
- Regent Review
- Advisor Assist (provided through a limited-use license of Regent Plan)

This effort was specifically designed to be a pilot to gauge the Regent Suite’s suitability for use by all California Community Colleges’ CBE programs and students. In the future, colleges may decide to use Regent products for all their financial aid processes. But this initial pilot is focused on supporting students in subscription-based CBE programs at the eight pilot colleges.

Progress & Planning

A [Kick Off meeting was held via Zoom](#) on Mach 15, 2024 in which Regent presented the [initial implementation plan](#) to the colleges. The meeting generated requests for changes from the colleges, which Regent responded to with [adjustments](#).

Coastline College was the only college ready and willing to begin Regent implementation immediately, so plans were made to start work with that college in a Phase 1 of the project with a Phase 2 implementation for other interested colleges to start later in 2024. A launch meeting for Coastline was held on May 3, 2024, to walk through more specific steps and requirements for both Regent and the Coastline team. Additional meetings will be scheduled throughout 2024 toward the goal of full implementation by late fall 2024 or no later than winter 2025.

CVC and Regent have scheduled the launch meeting for the Phase 2 colleges for November 4, 2024. By then, the experience with Coastline's implementation should provide valuable information to help the other pilot colleges.

At the time of this report, two of the eight pilot colleges have decided not to implement the Regent Suite: Shasta College (which will offer term-based CBE) and Merced College. Shasta is pursuing a term-based module for its CBE program. Merced offered these reasons for not joining Phase 2:

1. It is a new financial aid system. We already use CampusLogic as our platform to perform verification, Regent would not replace it, it would just add additional software for staff to learn and use.
2. If CBE really grows as a modality, either CampusLogic or Colleague will most likely develop a module which we could more easily integrate and for less cost long term.
3. Until the system reaches hundreds of students utilizing CBE as a modality, manual verification will remain an easier option for financial aid.
4. There are still manual components and overall responsibility for mistakes on our FA from Regent. Staff at colleges already understand the errors that take place in our current system. With Regent, we would also have to learn how to deal with new errors that take place. Additionally, there are still manual components of Regent that they would need to do, so it will not completely automate systems.

Regent Education received the feedback from Merced and responded with the following:

1. Regent Review can replace the CampusLogic verification platform as it is identical to the verification platform from CampusLogic. While it would be an additional cost, it could save substantially from what the college currently pays CampusLogic.
2. CampusLogic is not a financial aid management system, although it provides some functions that can help the financial aid office. In addition, Regent is talking with other Banner/Colleague institutions across the country that are either doing or developing CBE. Regent cannot say that Ellucian will not ever support CBE, but it does not appear to be on the Ellucian roadmap for the foreseeable future.
3. If the college uses Regent Review in place of CampusLogic for verification with all students selected at Merced, they will have consistency in their process for non-CBE and CBE students since Regent Review is part of the Regent Financial Aid platform for the CBE pilot institutions.

4. Most tasks can be automated during implementation. And, although the current license, paid for by the state CCCCCO, is a pilot for CBE, the Regent Suite can be configured to support both traditional and CBE financial aid processes.

Another pilot college, Madera College, cited long-term funding for the Regent Suite as a concern.

Dual Transcripts

CBE Scope of Work, 2023-2024

Goals	Strategies	Outcomes / Products
<ul style="list-style-type: none"> Gain clarity on technology needs to crosswalk CBE transcripts to traditional transcripts. Have inventory of other initiatives that could benefit from or are exploring dual transcription. Identify best Dual Transcript solution 	<ol style="list-style-type: none"> Confirm needs/wants, gap analysis and desired specifications for technology to crosswalk CBE transcript to traditional transcript. Seek out other initiatives within or adjacent to the California Community Colleges to explore possible dual-transcription solutions and points of synergy. 	<ul style="list-style-type: none"> Gap analysis Recommendation of tech solutions, synergetic opportunities, and next steps

Introduction

[California Title 5 regulations](#) require colleges to provide “dual transcripts” to students in competency-based education (CBE) programs. A dual transcript documents not only the student’s achievement of individual competencies but also shows the traditional credit-hour units the student has earned per the college’s “CBE program map” (AKA, crosswalk that relates CBE program competencies with equivalent traditional program courses). Additional [Title 5 regulations](#) provide insights on approval of direct assessment CBE programs, however these are both under review for changes and updating.

The CCCCO allows colleges to fulfill the dual transcript requirement in either of two ways:

- Combined Transcript:** Provide students with one transcript that shows both CBE competency achievement AND traditional course equivalents
- Separate Transcripts:** Provide students with two transcripts—one that shows only CBE competency achievement and another that shows only the traditional course equivalents.

Colleges should consider the different ways these transcripts might be used. For instance, students may wish to show just competency achievement to prospective employers, while needing to display traditional course equivalents to colleges and universities for the purpose of transfer. Furthermore, providing multiple transcripts may increase costs to students, depending on college and transcript vendor pricing policies. The combined transcript option may be more student-centered, as transcript requests are typically designed to charge students per transcript, per institution.

Each college utilizing CBE programming should:

- Comply with relevant Title 5 and federal regulations,
- Store all student performance/completion data in the student information system (SIS),

- Use its existing systems/applications, the extent possible,
- Create processes that can be automated, when possible, and
- Provide students the option of both electronic and/or printed transcripts, while also complying with the [Ed Code requirement](#) to provide the first two copies at no cost to the student.

Several vendors offer applications that can help deliver dual transcripts. These vendors include two currently used by California Community Colleges (CCCs):

- [Parchment](#) by Instructure, currently used by most CCCs after its acquisition
- [Certree](#)

Another system that may eventually help with the delivery of dual transcripts is XAP's [eTranscript for California](#). However, at the present time, this system is simply a delivery service. To use it, colleges would need to format the appearance of dual transcripts and set up integrations themselves to move data to them. Colleges could do this work themselves or pay a vendor (such as the two noted above or others) to assist with this work. Current work on [California's Cradle-to-Career Data System](#) could eventually help in this area as well.

Before selecting a specific transcript vendor/application, each college should discuss how student performance/completion data will be transferred from Canvas where it will originate. The CVC recommends each college store all CBE student completion data in the SIS (system of record). This includes both individual competency achievement and related traditional course equivalents earned. Although this is not a regulatory requirement, it is recommended to store student information in the SIS in support of other processes; this will also allow the college to store the data securely and easily access it for expected reporting (e.g., MIS, apportionment, financial aid).

Therefore, the general strategy for each college will be to:

1. Collect student performance and completion data from Canvas,
2. Transfer that data to the SIS, and
3. Feed that data to a new dual transcript application or adjust the current transcript to display CBE data

An important consideration for each college will be how it defines a CBE "module" (referred to in current Title 5 regulations) and how it develops/manages these modules in Canvas. Here are two possible approaches to defining the CBE module:

Option 1: One CBE Module = One Canvas Shell, with One Competency

1. Colleges create course sections and related Canvas course shells, one for each competency.

2. They push each competency achievement evaluation (e.g., M+, M) to the SIS field associated with each course section.
3. Within the SIS, they then calculate and award related equivalent traditional course grades/credits per the student's competency scores and the program crosswalk.

Using this option, each Canvas shell will be equivalent to one CBE "module," and will include multiple learning activities leading toward student achievement of a single competency. When each student successfully completes the associated summative assessment(s), or at the end of the term/subscription period, the evaluation score for that module/section is moved to the SIS in the usual fashion (e.g., faculty manually posting grades from Canvas to the SIS, or using automation like Ellucian's ILP to post the grades directly from Canvas). The evaluation symbols may include a PW (progress withdrawal), IN (incomplete) or IP (in progress) depending on student's performance and college policies.

Colleges may opt to change their [Canvas gradebook scheme](#) as well to reflect the CBE program evaluation format (e.g., M, M+) or they may wish to retain a points or percentage format to assist the calculation of average grades for the equivalent credit courses as or after this data is moved in the SIS.

For example, if a particular program crosswalk relates three competencies to one traditional course, and each summative assessment is scored with one to 100 points, a student's summative assessment scores of 88, 95 and 87 would provide an average score of 90, which translates to an A grade for the equivalent course. But, using the same student example, the college could decide to use the student's M, M+ scores on the summative assessments, and average those to a B grade for the equivalent course (using M+ = A and M = B). To confirm, per Title 5, individual competency achievement must reflect the required evaluation format (e.g., M+, M, PW).

To calculate and record a grade for the equivalent credit courses, colleges may consider using existing equivalency processes like those used for transfer courses and credit for prior learning (CPL). In any case, care must be taken to avoid awarding credit twice (once on the CBE section and again on the equivalency). This brings about another consideration: Will CBE sections be defined as a different credit type or recorded as zero units? Both choices have implications on how the transcript process will consume CBE section and equivalent course information.

The CCCCO has confirmed that the colleges have local authority to determine the policy/process for converting competency achievement scores into traditional equivalent course grades. However, that process must be documented, applied consistently, monitored, and not in conflict with other district grading policies.

Option 2: One CBE Module = One Canvas Shell with Multiple Competencies

1. Colleges create course sections and related Canvas course shells to mimic the eventual traditional credit equivalent courses.

2. They push each final traditional course grade (e.g., A, B) to the SIS field associated with each course section in the usual fashion (e.g., SIS self service).
3. In addition, they move each individual competency summative assessment score (M+, M) into related non course/exam fields provided by the SIS.

Using this option, each CBE module, course section, and Canvas shell reflects courses in the traditional program; only these sections are reserved for students in the CBE program. Each shell includes multiple learning activities toward the achievement of multiple competencies, those that align with a traditional program course per the CBE crosswalk. Upon successful completion of each course section, the faculty member provides an overall grade (e.g., A, B) using the average of all summative assessment scores, which becomes the grade for the traditional credit equivalent course. Note: Colleges may wish to edit SIS grade options for CBE course sections, removing all but A, B, PW, IN, and IP. Faculty teaching CBE courses will need to be advised that they should only use these grades for CBE sections, and not C, D, F.

In addition, for Option 2, the college will need to move the summative assessment scores for each competency (e.g., M+, M) to the SIS into records that are often called “non course” or “exam/test”. Those records are commonly used by the credit by exam, AP scores, midterm exams, and/or placement exams processes. This can be accomplished through a manual batch process (Canvas gradebook file download/ SIS upload), or by creating an integration that transfers the gradebook data just for the summative assessments and uploads it into the SIS. In addition to the competency scores, for the ultimate transcribing, the college will need to store other competency information in the SIS, like the competency description, related subskills, value in the workplace, etc. This can be captured in the notes and/or description field(s). Another option is to create a new table for the competency information.

Option 1 or Option 2?

Colleges will want to consider scalability and workload in choosing between the two options described above. In the CBE Collaborative, one institution is developing a program with just under 20 competencies, thus making the first option manageable. However, another institution is developing a program with over 400 competencies, making the second option perhaps a more viable approach.

Option 1 may also require the college’s curriculum committee to create new “courses” for each competency in their program to facilitate the creation of individual sections and Canvas shells for each competency. Option 2 could avoid this extra effort. That option would require the college to simply create a new section of the traditional credit course for CBE students only. Another factor that may affect this choice is whether CBE sections are created in a separate program or a modality (an instructional method in the same, existing program) in the SIS.

Of course, the student experience should also be considered in choosing between these options. The college would want to select the option that provides a more supportive and seamless experience to students, one that avoids any possible confusion, given the program

and competencies. This would include the college's workflow for how students will move to a new competency (or course shell) after completing the summative assessment for a prior competency, which was discussed in our Learning Management System (LMS) report. Given that students currently associate shells with entire courses, the second option may be ideal to build upon those previous uses of Canvas at the K-12 as well.

At the writing of this report, three pilot colleges using Colleague (Merced, Southwestern, and Shasta) are working on what can be considered a third option for dual transcript planning, involving the deployment of parent/credit courses and child/module courses. Individual competencies are created as courses to enforce requisites. (See this [draft diagram](#) for more details on this solution that is still in development.)

Appearance of Dual Transcript

Colleges have leeway in designing the appearance of the dual transcript, especially the CBE elements. In addition to the name of the program, a brief description, a list of competencies achieved, and the achievement level (e.g., M, M+, IP), the competency transcript could also summarize how the program and/or individual competencies might benefit the student in the workplace and/or offer a list of sub skills associated with each competency. However, despite this local choice, it is strongly recommended that colleges utilize an existing guide for learner records. For example, the American Association of Collegiate Registrars and Admissions Officers (AACRAO) published a paper in December of 2021 entitled "[Implementation of the IMS Global Comprehensive Learner Record Standard: A Practical Guide for Campus Personnel](#)" with strong guidelines for both defining and establishing standards.

Transcript vendors can help bring standard and non-standard information into transcripts. Notes and descriptions are relatively easy to add to transcripts. Custom tables and fields may require some additional customization to surface the data for the transcripts, which may require additional work by the college and/or an additional set-up fee by the vendor.

Transcript template examples include:

- [Merced College - Agricultural Technology program](#) (courtesy of Merced College)
- [Univ. of Maryland Global Campus - MBA program](#) (courtesy of Parchment)
- [Temple University - Bachelor of Business Administration in Accounting program](#) (courtesy of Parchment)
- [Mockup of a Skill Transcript](#) (courtesy of Parchment)
- [Mockup of a Skill Resume](#) (courtesy of Parchment)

As they evaluate options for dual transcripts, colleges may benefit by considering the concept of a Comprehensive Learning Record or CLR. According to [7 Things You Should Know About...The Comprehensive Learner Record](#) (EDUCAUSE Learning Initiative), a CLR is "a digital asset that helps students both better understand their learning and share a verifiable record of their knowledge and accomplishments. ...a CLR can include a learner's skills,

competencies, learning outcomes, and accomplishments as demonstrated via assessments, courses, programs, and degrees, as well as co-curricular experiences such as internships. The CLR is not a replacement for the academic transcript but is a more useful student record for students, employers, and others who need to understand and validate postsecondary learning.”

Implementation, Integration & Data Considerations

As noted above, colleges may choose to enhance their current transcript process to include a section for CBE data, or they may create a separate competency transcript. In any case, there will be an impact on the college or transcript vendor to support the new data elements required for the CBE program. In addition, each college will want to decide whether they intend to flag traditional equivalent courses as earned via a CBE program. Such a flag is not required by Title 5 but could potentially be required by local articulation agreements.

As options are considered, there may be an incentive to generate transcript information directly from Canvas. Although this is feasible, there must be a great deal of care in preserving data integrity. Since SIS is the system of record and not Canvas, we recommend that any activity or report originating in Canvas be in accordance with the records stored in the SIS.

[Canvas Credentials](#) offers a way to provide information that could mimic a competency transcript. And these credentials provide digital badges that can be transported and shared by the student with anyone they choose (at no cost to the student as the college pays for the license). This product could add value to the student experience. However, relying on Canvas Credentials alone to provide the competency elements of a dual transcript may or may not satisfy Title 5 requirements. If a college chooses to use an application such as Canvas Credentials, it is recommended that the same competency data be stored in the SIS as well for security and other potential reporting purposes (e.g., MIS, Title IV, accreditation). Note that Instructure is also currently developing a “Learner Passport” for release in the future.

If a college has personnel expertise and capacity in-house, it may choose to create or add the competency transcript elements to its current process. If not, there are viable vendor options available, for added fees, to create new processes.

For instance, several CCCs in the San Joaquin Valley are developing new CBE programs in Agriculture Technology. Merced College is leading the effort to develop a dual transcript solution. They have hired [Strata Information Group \(SIG\)](#) to work on custom coding and integrations to move data automatically from Canvas to their SIS (Colleague), and to a dual transcript. (See an early prototype of the Merced transcript in the bulleted list above.) Other colleges are considering the use of [Ferrilli](#) consulting to do the same type of work.

The transcript vendor [Parchment](#) offers a solution that can provide either an academic transcript or a CBE transcript (based on learner choice) if an institution has licensed both Parchment Award Transcript Services and CLR Services along with their automation tool RoboRegistrar.

Colleges that now license these applications are encouraged to contact Parchment to discuss this cost-effective option.

The Parchment Award CLR Services product supports use cases that learners and employers would have for an official CBE record. See current examples in the bulleted list above—from the University of Maryland and Temple University. Supporting the ability to provide a single document that is both the traditional academic transcript with course equivalents and a CBE transcript with more detail would require an enhancement of the Parchment platform, and therefore additional funding. This also would require the college to license both Parchment Transcript and CLR Services.

Parchment offers integration services like those of other vendors noted above, with the goal of making the process automatic. The cost of these services depends on various factors, including related technology and systems in use at the college. It is not uncommon for these integration efforts to require 12 months from contract date to have the services active.

Another transcript vendor being used in the CCC System is [Certree](#). They have not created competency transcripts yet, but they are a software company and are willing to pay for this development themselves to add this new document type. Like Parchment, Certree is an Ellucian partner and offers services to integrate Canvas and Banner/Colleague to the transcript solutions. They anticipate a PeopleSoft integration in the spring of 2025.

Certree provides a secure, private vault for storing personal documents, allowing students to decide what information to share and with whom. Any records can be added to the student vault with an online request. Artificial Intelligence elements help recognize and validate new incoming credentials. The company recently signed a purchasing agreement with CollegeBuys, and Bakersfield College, one of the CBE Collaborative pilot colleges, is a current Certree customer.

In choosing vendors to assist with dual transcripts, colleges should consider the following:

- Any existing relationship with the vendor, current licenses, and experience or references from peer institutions
- Features/functions - can the vendor's solution create a combined transcript or separate transcripts with the necessary data for each student automatically
- Cost (including setup, implementation, integration, and ongoing licensing and support)
- Data security/accessibility

References

- [COMPREHENSIVE LEARNER RECORD \(1EDTECH\)](#)
- [Comprehensive Learner Record \(NASPA\)](#)
- [Innovative Credentials \(AACRAO\)](#)
- [Standardized Components for a Competency-Based Educational Record \(AACRAO\)](#)

Technology Needs Assessment

CBE Scope of Work, 2023-2024

Goals	Strategies	Outcomes / Products
<ul style="list-style-type: none"> Develop and deploy an evaluation plan for CBE technology ecosystem (part of the larger evaluation for the entire CBE pilot) 	<ol style="list-style-type: none"> Develop an evaluation plan to assess the effectiveness of the CBE technological ecosystems at each college. Implement evaluation plan. Develop recommendations for all CCCs for future deployment and use of technology for CBE. 	<ul style="list-style-type: none"> Evaluation plan and report. Include assessment of technology costs for colleges (provide template) Interoperability & customizations needed to integrate FA and LMS

Note: CVC did not develop and deploy an evaluation plan per se because the pilot colleges have not yet installed/used enough technology for CBE to provide valid and reliable information. Instead, after consultation with the CCCCCO and the CBE Collaborative, CVC deployed a needs assessment survey to clarify the colleges' expectations regarding technology for CBE. (See [Needs Assessment/Evaluation Questions for Pilot Colleges](#) and [Needs Assessment Responses](#).) Some colleges chose to answer these questions via live interviews rather than the online survey. Seven of eight pilot colleges responded including Bakersfield, Coastline, Madera, Merced, Mt SAC, Shasta, and Southwestern. The following report summarizes the responses along with other information gathered via CBE meetings.

Introduction

The environment in which pilot colleges are developing their CBE programs is in flux. CBE development teams are learning and adapting as they progress, through regulatory agency approvals, pending Title 5 changes, general education curriculum alignments, etc. In the meantime, each college is developing new models and methods to create and deliver their direct assessment CBE programs that, in turn, will require new systems and processes to onboard and support students. It is difficult to firmly establish now exactly what is needed in areas of technology to assist the pilot colleges. However, based on surveys and interviews conducted over the last year, we can make certain recommendations.

Some of the colleges were too early in the implementation process to offer definitive information. However, the colleges that were well into the process provided a wealth of information that may help guide the Chancellor's Office (CO) efforts to support the eight pilot colleges and those that follow in developing CBE in the future.

Since the CBE survey was organized in topic areas, this summary will follow the same structure.

Learning Management System (Canvas)

Although Southwestern College's CBE program will be delivered in a hybrid format, the rest are fully online, so the delivery and the tracking of progress will rely primarily on Canvas.

To automatically create sections and student rosters in Canvas, each college will first create sections and enrollment workflows in their respective student information system (SIS). As

noted in the LMS and Dual Transcript sections of this document, there are different ways to do this (e.g., single competency per section vs. multiple competencies per section). Most colleges currently have a semi-manual method for posting final grades to the SIS (e.g., Banner/Colleague self service). Because it is recommended that both individual competency and equivalent credit course achievement be stored in the SIS, colleges need to decide which option for creating sections will be most effective and scalable as CBE student enrollments grow.

Some colleges expressed the need to improve communication with students due to the self-paced nature of direct assessment CBE. For example, the college may wish to inform students of their program progress in real time and/or to send alerts to staff and/or faculty if students pause or stop out. The crafting or pre-formatting of messages is another desired feature. The Canvas database ([Canvas Data 2](#)) is robust and stores information that can help with this communication, but few colleges have taken full advantage of this because it requires significant time and expertise to set up. Future work could help colleges implement applications, integrations and processes that can assist with communications (e.g., CRM systems, data presentation dashboards).

Many of the colleges have expressed interest in sharing the competencies they develop for their programs, especially in general education areas that all colleges will have in common. In addition, there are some colleges that would like to explore sharing the finished CBE courseware associated with these competencies—either by developing that courseware in collaboration between colleges, or by individual colleges dividing the development work between them and sharing the results. This sharing could be facilitated by central coordination and technology.

As explained in the LMS section of this report, colleges are using or considering many native Canvas tools to develop and deliver CBE instruction, including Outcomes, Rubrics, Mastery Paths, Impact, Learning Mastery Gradebook, Course Pacing, Canvas Badges, Folio, etc. Other Instructure tools that require additional fees are also being considered, including Canvas Credentials, Pace Plans, Portfolium, Impact, etc.

In addition, some colleges are using or considering third-party applications that either integrate with Canvas or are used concurrently. These include Adobe Articulate, CidiLabs Design Plus/UDOIT/ObservEd, the CVC-OEI Online Course Design Rubric, eLumen (or Insights for Canvas), Feedback Fruits, Flipgrid, GoReact, H5P, Jobspeaker, LibreTexts, Mursion, Padlet, Panopto, Perusall, Playposit, PopeTech with Dashboard, Pronto, Tableau, Turnitin, etc.

The applications chosen will depend on the specific needs of each college, each program, and local faculty and students. Additionally, the eight pilot colleges have asked the CCCCO for additional help in paying for applications considered to be most critical.

Although there are many potentially useful tools to consider, two issues were noted by several colleges:

1. Most pilot colleges have requested additional help around instructional design and development, to help with the assembly of effective, self-paced learning modules in Canvas. This could be delivered by individuals with this expertise and/or the CidiLabs application DesignPlus, which can assist faculty in developing quality courseware.
2. At present, Canvas Course Pacing (and the more robust, pay-for version, Pace Plans) cannot be used with Canvas Mastery Paths. Both could be useful for CBE. CVC has notified Instructure of this need, and they are currently exploring ways to make these different applications compatible.

While the colleges have made progress towards a smooth delivery of CBE content, there are a few points that need to be addressed:

- A method is needed to pre-assess and/or orient students and chart their pathway through the competencies of the CBE program (and have the LMS facilitate their progress). It may help here to assist students in estimating the time they have each week to work on the program and therefore how many competencies they might complete during any one term/period. At the same time, if CBE courseware developers estimate the average time required to complete each competency, students can make reasonable enrollment choices. This work can be facilitated by counselors, but it would be useful to offer technology and/or resources to help assist with these processes.
- A clear method is needed to allow students to continue coursework while waiting for the evaluation of a summative competency assessment, whether it is starting the next competency module in one Canvas section or inviting enrollment in another section. (It is understood that some competencies may be prerequisites for those that follow, which may require students to pause as they wait for faculty evaluation.)
- A dashboard is needed to display each student's progress toward competency achievement in real time and is highly desired for use by both students and supporting faculty/staff.
- There is a desire to use micro-credentialing directly from Canvas, either via Canvas Badges or the more robust, pay-for Canvas Credentials. (As a reminder, although badging could be considered one way to "transcript" individual competency achievement, CVC recommends that all student performance data be stored in the SIS and not the LMS. For more details on this, please review the LMS and Dual Transcript sections of this report.)

Recommendations

- Provide the pilot colleges with instructional design/development resources and additional LMS expertise in the form of trainers from Instructure and CVC. If feasible, individual colleges or the CO may also consider a limited duration license of CidiLabs DesignPlus.
- Support a process and/or technology to assist colleges in developing and sharing common competencies and courseware. This may involve CBE workgroups, such as the GE Workgroup already in existence.
- Provide resources and consulting to help the colleges move to the next level of LMS/SIS integration. This will help colleges transfer/store both competency and equivalent credit

course achievement in the SIS and assist in presenting relevant data to all CBE stakeholders (e.g., administrators, faculty, staff, students) in a timely manner. This could be achieved by supporting vendors in implementing integrations, having a third party create an LTI (custom programming), or providing technical consulting to help individual colleges develop their own solution.

- Create a process to assist the pilot colleges in selecting, implementing, and using third-party tools in Canvas, including the support of training provided by each vendor. This may also include communities of practice for the most used applications.

Customer Relations Management (CRM)

Five of the eight pilot colleges reported that they have installed CRM systems, but most of those have only just started using them, even for their traditional students. The colleges that do not have a CRM showed interest in acquiring one and are aware of the potential benefits for promotion, in-program communications, and post-graduation engagement. CRMs have many use cases and varying features which makes it difficult to recommend a single system for all California community colleges. Integration with the LMS and the SIS are paramount to support the CRM features needed for CBE programs. Implementing a CRM is a major effort, and licensing and ongoing maintenance are legitimate concerns. For a more detailed review, please see the CRM section earlier in this report.

Recommendations

- Provide advice to colleges selecting a CRM system based on CVC's research and analysis. Also, provide consulting for all pilot colleges in how each CRM can be used to migrate and present data for use by CBE program stakeholders.
- Encourage recommended CRM vendors to work with the CollegeBuys to enter into systemwide purchasing agreements.

Financial Aid (Regent)

At present, Coastline College is implementing the Regent Education Suite to support financial aid processes for their CBE students. Other pilot colleges will start their implementation during the fall 2024 term. However, all the colleges have expressed concerns about the labor required to use two different systems for financial aid. For this reason, two pilot colleges (Shasta and Merced Colleges) have decided to process financial aid for CBE students manually, using their existing SIS FA module, and later figure out how to scale as CBE enrollment grows.

As noted in the prior section of this report on Financial Aid, the CCCCO secured and funded the implementation agreement and two-year use license for a pilot to explore whether the Regent system is a viable solution for CBE in our System. It is therefore important to encourage the colleges to participate to gather information about this product.

Regent Education reports that their system can ultimately be used for both CBE and traditional students and may be more cost effective compared to other systems and/or modules that may be in use now.

Recommendations

- Continue supporting the Regent Education team as they work to implement their suite at the pilot colleges, gather the experiences of each college, and report this feedback to the CCCCCO and Regent.
- Continue to encourage other pilot colleges to join this pilot of the Regent Suite, and remind them that this system, if proven cost-effective, can be used for all students.

Dual Transcripts

Some colleges are confident in their ability to adapt current processes to support the needs for CBE dual transcripts, while others are not.

As mentioned in the earlier LMS and Dual Transcript sections of this report, the temptation for colleges to use their LMS or third-party tools to produce CBE transcripts brings about the risk of data integrity in the system of record (SIS) or not bringing the data to the SIS at all. Taking such a path could make financial aid processes and MIS (and other) reporting difficult due to lack of consistent, reliable information within a single system. This is why CVC recommends that student completion information be “pushed” from Canvas to the SIS, and then to the system/process that produces transcripts in order to uphold data integrity and security standards.

As noted in the Dual Transcript section above, colleges have choices in how they move data from Canvas to the SIS. Most intriguing from CVC’s standpoint, is the solution that has colleges creating course sections with multiple competencies, so each section reflects the eventual credit course equivalents (per the college’s CBE program crosswalk). This could remove or reduce the work of curriculum committees in creating/approving new one- or half-unit courses associated with each single competency and reduce the work in scheduling all those sections. The multiple-competency sections are graded in the same way traditional courses are graded, and data pushed to the SIS in the usual fashion. However, this option will require the college to develop a way to move individual student achievement scores (e.g., M, M+) to designated fields in the SIS.

Recommendations

- Advise pilot colleges as they implement technology and processes necessary for the development of dual transcripts for CBE students (per Title 5 requirements). This may include coordination between consultants and/or platform vendors such as Parchment (now owned by Instructure).
- Consult with colleges attempting to use the multiple competencies per course shell option, to help them develop a viable method to automatically move individual

competency achievement data from Canvas to their SIS for transcribing and required data reporting

Ongoing Discussions

A recent meeting of three pilot colleges, all of which use Ellucian's Colleague SIS, highlights several challenges.

- Would/Should students need to go through pre-assessment before starting CBE coursework?
 - This seems to be a local decision and colleges have existing tools and processes to address it (e.g., conditional release of a second Canvas module after a student successfully completes the first assessment module).
- Will CBE sections be publicly promoted in the class schedule? Do colleges need to restrict enrollment to CBE sections to a specific group or cohort of students?
 - Beyond onboarding requirements, colleges may or may not need to restrict enrollment to students on a specific academic program or other characteristic which brings complexity to the management of the enrollment process. The discussion presented many options to address the restrictions ranging from pre-enrollment counseling, to add authorization, to student petition processes.
- Can students take CBE and regular courses concurrently?
 - It would be difficult, perhaps impossible, to prevent a student from taking traditional credit courses that are unrelated to the CBE program. What is clearly not allowed is for students to take traditional credit courses to help complete a CBE program. However, students may be able to use college credit for prior learning programs to expedite their CBE pathway before they begin.
- How much detail will be needed for MIS reporting?
 - It is uncertain if MIS will eventually require CBE program, module, individual competency, and/or activity level data. This requirement has important implications on what data needs to be imported from the LMS and where it can be stored.
 - The level of detail needed may determine if storing competency data could be accomplished by using course-section or non-course/test type records in the SIS to meet the reporting requirements.
 - Using course sections for the competency completion data will incur a significantly greater data entry and processing effort. New courses for each competency may or may not have to be approved by the curriculum committee, but sections will have to be created for every term/period in the SIS and populated in Canvas, and students need to be enrolled in the correct sections (competencies). If test (non-course) records are used for competency data, no new courses will need to be approved and fewer sections will need to be scheduled, thus only requiring a direct mapping between Canvas modules and

non-course/test records (i.e., a process/integration to extract competency completion data from the LMS and move it to the SIS).