

DECONSTRUCTING CBE

*Portraits of
Institutional Practice*

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EXECUTIVE SUMMARY

After several years of heightened attention from educators, accreditors, federal officials, and vendors, the prospects for greater growth and deeper impact of competency-based education (CBE) remain mixed. Despite the compelling logic of liberating learning from seat time, and of recognizing the value of work and life experiences, most higher education CBE programs remain nascent, highly localized, and of limited size. The handful of institutions dedicated to CBE, such as Western Governor's University and Excelsior College, were founded in prior decades and continue to do well. However, for mainstream colleges and universities, large-scale CBE programs remain the exception.

In 2016, Eduventures conducted a survey of more than 250 schools in order to assess their current or planned implementation of CBE. This survey resulted in the publication of *Deconstructing CBE* in July 2016. In 2017, we turned to qualitative research and conducted interviews with key CBE stakeholders at seven institutions selected from the 2016 survey. In 2017, our primary goal has been to better understand why some CBE programs have moved beyond an experimental phase. Our focus has been on exploring the common and recognizable challenges facing CBE programming. We hope, therefore, that our 2017 portraits of practice expose lessons that may resonate with the typical, rather than exceptional, school experimenting with CBE.

Our 2017 research suggests several common patterns among schools where CBE programming has moved forward. At each of the schools we interviewed, a convergence of program stability and institutional readiness created the conditions in which efforts to build and grow CBE persisted. We observed "stability" at programs with consistent leadership and an ability to embrace, rather than blunt, the instructional changes created by CBE. We also noted the "readiness" of institutions to recognize the potential administrative and organizational disruption that CBE programming can bring.

Program stability and institutional readiness provided CBE innovators, whether faculty, administrators, or researchers, with an environment in which their ideas could grow.

Based on more than 30 hours of interviews with faculty, students, and staff from these seven schools, we note several characteristics of program stability and institutional readiness:

- **Legacy and Leadership.** Motivations to develop CBE programs are not new, but rather are a function of recently renewed interest in deepening learning and workforce readiness through outcomes-based education. At some schools, institutional commitments to CBE date as far back as the 1970s, and longstanding advocates tend to be the driving force of more recent experimentation. CBE program development remains a complicated and sometimes contentious academic intervention. Successful efforts tend to benefit from experienced stewardship.
- **Homegrown Backwards Design.** All schools reported the use of backwards design in the development of new CBE courses and programs. In most cases, this was driven by centralized and intentional administrative decisions. These schools tended to leverage in-house talent and expertise, rather than outsource to external consultants or curriculum development vendors. They leverage existing subject matter experts and localized knowledge of how their students learn.
- **The Power of the Self-Directed Student.** Student success at these schools is clearly tied to the self-directedness of students enrolling in CBE courses or programs. These schools describe self-directed students as significantly more able to organize, assess, and manage their own learning. Several participants explicitly identified “self-directedness” as an essential trait among prospective CBE students. Although many students may be motivated to make rapid progress through CBE programs, advisors actively discourage students from enrolling if they lack evidence of being self-directed, intrinsically motivated learners.

Our portraits also explore how these schools partner with employers and other third-party stakeholders. We examined obstacles to CBE program growth, ranging from technology and platform challenges, to financial aid processing and scheduling. Our 2017 portraits of practice suggest that such challenges are far from resolved.

This year’s qualitative research has generated new questions that we hope to address in the 2018 phase of our ongoing CBE research. For example, if greater scale remains elusive, should metrics of success for CBE instead focus on student experiences and the workplace viability of CBE graduates? How can small-scale CBE programs be more seamlessly integrated into their institutions? If access to federal financial aid remains limited, will direct pay by students or employer-sponsorship programs fill the gap and drive up enrollment? Are CBE-specific technology and platform solutions essential or peripheral to program growth?

These portraits suggest that while CBE remains a compelling instructional and organizational model, it still requires considerable effort to implement, let alone scale. This suggests that further growth of CBE can occur, but is likely to be incremental and gradual.

METHODOLOGY

Based on Eduventures' 2016 survey of CBE practice, seven schools were selected for the 2017 institutional portraits of practice. The goal was to highlight relatively recent but still small-scale CBE initiatives at a wide range of institutions, the thinking being that such examples would be most relevant to the typical institution interested in CBE. Our seven case studies also exhibited some success at problem-solving and progress towards their goals. The seven schools represent a broad spectrum of higher education institutions, from wholly online for-profits to community colleges to public and private four-year universities.

During the winter of 2017, representatives from each school participated in at least two hour-long interviews. Participants in these interviews included presidents, deans, provosts, faculty, instructional designers, and students. All participants were able to preview questions beforehand.

The portraits highlight the diverse ways in which schools are using CBE to address specific institutional challenges stemming from enrollment, student experiences, faculty roles, and prospects for employability. Rather than simply provide a description of their specific CBE programs or courses, each portrait attempts to explore the processes, challenges, and tactics employed by the school to develop and sustain CBE. Each portrait unpacks the divergent, and sometimes competing, perspectives within an institution about how and why CBE could be implemented.

INSTITUTIONAL PORTRAITS

Institutional Portraits in Context

Each of the seven portraits is designed to provide insights into the strategic and operational requirements of both creating and sustaining CBE, whether at the course or program level, or across an entire institution. In order to provide context, each portrait begins with a summary of the institution and its CBE effort. Summaries include the following information:

- Institution Type
- CBE Student Profile
- Enrollment in CBE programs or courses
- Year CBE was first developed at the school
- CBE Program Scope
- Pricing Model
- CBE Components:
 - o Attributes: characteristics of CBE offerings
 - o Student Experience: modality, pedagogy, and pacing

2017 INSTITUTION PORTRAITS OF PRACTICE

Institution	Carnegie Control	Primary Location
Kirkwood Community College	2-year, public	Iowa
Lipscomb University	4-year, private, not-for-profit	Tennessee
New Charter University	4-year, private, for-profit	Online
Salt Lake Community College	2-year, public	Utah
Texas A&M University-Commerce	4-year, public	Texas
Thomas Edison State University	4-year, public	New Jersey
Valdosta State University	4-year, public	Georgia



KIRKWOOD COMMUNITY COLLEGE: LEARNER SUCCESS THROUGHOUT A COMMUNITY COLLEGE

Institution Type	<ul style="list-style-type: none"> Public, 2-year community college
CBE Student Profile	<ul style="list-style-type: none"> Predominately traditional age learners, less than 24 years old. 24% adult learners Full time and part time
Enrollment in CBE programs or courses	<ul style="list-style-type: none"> Extensively used across multiple certification programs
Year Founded	<ul style="list-style-type: none"> 2013, based on efforts that date from the late 1970s.
CBE Program Scope	<ul style="list-style-type: none"> Courses with CBE components are distributed across 75 academic programs
Pricing Model	<ul style="list-style-type: none"> Consistent with standard institution pricing, including in-state and out-of-state tuition.
Attributes	<ul style="list-style-type: none"> Closely aligned with employer defined outcomes Conversion to credit hour; no direct assessment Competency-based learning (CBL) approaches also incorporated into developmental math emporium settings
Student Experience	<ul style="list-style-type: none"> Predominately blended Balance of self-paced and cohort-based pacing

Kirkwood Community College (KCC) is an established community college serving roughly 20,000 full and part time students in Cedar Rapids and seven surrounding counties in eastern Iowa. According to Al Rowe, Vice President for Institutional Effectiveness, KCC’s interest in CBE programming evolved from an institution-wide commitment to meeting the employment and educational needs of the surrounding community. Rowe and the KCC leadership describe their school as “the community’s college,” and highly responsive to local pressures and needs.

Although KCC’s current CBE programming dates from 2013, the institution first experimented with outcomes-based instruction in the late 1970s, when it received a grant through the federal Fund for the Improvement of Postsecondary Education (FIPSE) program. The grant enabled KCC to systematically assess student preparedness for college work, and established a baseline for further efforts to design and implement developmental education programs. More recently, in 2010, KCC’s leadership drove the development of a long-range strategic plan entitled the Kirkwood Learner Success Agenda, which shifted the institutional focus from simply providing student access to ensuring student success through heightened attention on student learning outcomes and assessment practices. This effort expanded in 2012, when the Iowa State

Legislature allocated budget to assess the viability of CBE across the entire K-12 system, with a reduced emphasis on the traditional Carnegie unit.

Within this context, KCC leadership has proactively supported faculty exploration of learner-centered assessment practices. These practices are designed to deepen students' ability to master learning outcomes, rather than simply attending and participating in class. For Rowe, KCC doesn't see CBE as an exotic instructional model, but as a logical extension of the competency-driven models in Iowa's K-12 public system. In this context, Kirkwood has created "Competency-Based, Personalized Professional Development," a project based at its faculty professional development center. The goal of this project is to give faculty first-hand experiences of CBE principles and practices through their own professional development. An outside firm, 2Revolutions, provides support.

KCC's theory of action is that if faculty experienced their own professional development through a personalized, CBE-based model, they would more readily adapt and shape its elements to fit their individual program and instructional contexts. Rowe and his colleagues report that KCC's early recognition of the need to engage faculty in experiencing the principles of CBE is paying off. Through a reliance on design-thinking processes, accelerated through a partnership with 2Revolutions, Kirkwood faculty is experiencing professional development consistent with principles of personalized learning and CBE.

Design Principles

KCC's Learner Success program is organized around four components:

- Student advancement based on mastery
- Utilization of relevant formative assessments
- Rapid and personalized support for learners
- Cultivation of knowledge and skill transfer

KCC is incorporating these broad design principles into a variety of non-credit and certificate and degree programs. Where core principles of CBE program design made sense, they have been adopted and blended into KCC's certificate and degree programs.

The Role of Metacognition in Helping Students "Learning to Learn"

As KCC's CBE programming is used across multiple departments, there is a parallel effort to equip graduates with not only the composite skills required for employment, but also the habits of mind frequently sought by employers. For Rowe and other KCC leaders, this has meant students, faculty, and staff who study within competency-based experiences are deepening a "learning to learn" disposition; an ability to reflect and adjust one's own learning. Although regional employers frequently reference this disposition, traditional instructional models struggle to measure these kinds of outcomes. As a result, the college is placing a greater emphasis on helping students strengthen their abilities to reflect, self-assess, and share evidence of growth as they study at Kirkwood.

Kirkwood's "Learner Success" program aims to provide a cycle of personalized instruction, assessment, feedback, and differentiated student support. This cycle is designed to grow self-directed students and help them better calibrate what they have mastered, what they need to practice, and what additional help they need. At KCC this "learning and support at the point of need" enables students to build mastery of required competencies and deepen their ability to

persist through challenging content and skills. The Learner Success programming fuses content mastery with persistence. An emerging emphasis on career-long learning has helped embed this insight into KCC's institutional culture and identity. KCC leaders see this as a crucial ingredient in how its programs are built and delivered to students.

Challenges and Prospects for Growth

Like many institutions, KCC struggles with achieving consistency in CBE programming across multiple departments, subject areas, industry domains, and faculty. KCC's leadership attempts to maintain fidelity to a competencies-driven model across the entire student lifecycle from enrollment, to academic achievement, to program completion—and hopefully—through to graduation. According to Dr. David Keller, Kirkwood's Curriculum and Assessment Specialist, a commitment to CBE has had to both create consistency in assessment models, while allowing for diversity in how content is developed and delivered. Each Kirkwood program includes a curriculum map, assessment plan, and clearly defined student learning outcomes. These elements provide consistency, and serve as guardrails for individual faculty, but without curtailing content-specific instructional techniques.

This approach has enabled greater faculty and staff collaboration. Faculty are seeking out one another's expertise and support in order to co-create strategies to better demonstrate mastery of essential content and critical skills. For Keller, this approach has telescoped the range of how faculty think about, and ultimately enact, their instruction, but has done so without imposing restrictive mandates. As a result, the logic and practice of CBE programming is more transparent to faculty, who are then able to recognize where it best fits at KCC.

External Partners and Internal Challenges

KCC's Learner Success program relies on established employer and industry advisory boards. KCC has leveraged its strong industry partnerships across its regional catchment area. Industry sector advisory boards enable KCC to gauge employer demand and skill requirements, which are then factored into program development in such areas as hospitality, healthcare, finance, information technology, and advanced manufacturing. Among these advisory boards, Kirkwood has articulated the logic of CBE and engaged industry representatives in helping frame essential competencies for relevant programs.

While KCC's effort to support CBE program development among faculty has been largely successful, the college has encountered steeper hurdles regarding technology. Since KCC's Learner Success model has been distributed across multiple programs and courses, it is difficult to determine which assessments and course-level activities are most effective across programs and departments. KCC leadership initially felt that capturing all assessment data in the learning management system (LMS) would enable a central repository of course level assessments and allow for systematic data collection and analysis across multiple programs and departments. However, after a pilot project with a leading commercial LMS provider and a second effort to integrate the LMS into a third-party assessment management system, it became clear that any technology integration would consume considerable financial and human capital. KCC leadership perceived that these activities diverted attention from improving student learning. Rather than force the institutional assessment plan to conform to the constraints of a technology solution, KCC leaders concluded that the student learning and assessment processes would instead guide the development of an integrated technology solution. While this has slowed the overall pace of implementation, it has enabled KCC to prioritize student learning rather than a technical infrastructure decision.



Lipscomb University – Cultivating CBE Degrees

Institution Type	<ul style="list-style-type: none"> • Private, 4-year
CBE Student Profile	<ul style="list-style-type: none"> • Adult, professional students, aged 30-35
Enrollment in CBE programs or courses	<ul style="list-style-type: none"> • Less than 200
Year Founded	<ul style="list-style-type: none"> • 2014
CBE Program Scope	<ul style="list-style-type: none"> • College of Professional Studies • Bachelor’s of Professional Studies (BPS) in Organizational Leadership • Accept credits based on prior learning assessments • Electives in business administration, integrated studies, various content concentrations (18 hours)
Pricing Model	<ul style="list-style-type: none"> • 126 credit bachelor’s degree price benchmarked below traditional undergraduate fees • Additional cost savings from learning assessments and transfer credit
Attributes	<ul style="list-style-type: none"> • Credit hour conversion; no direct assessment • Extensive use of in-person prior learning assessment (Polaris Competency Model) • Course-mapping and backward design practices
Student Experience	<ul style="list-style-type: none"> • Blended and online • Self-paced diagnostics, with options for social cohorts • Self-directed CBL pathways for credit and degree acceleration • Supported by professional coaches

Lipscomb University (Lipscomb) is a private research doctoral university located in Nashville, Tennessee, providing undergraduate and graduate degrees, pre-professional programs, and online, adult degree programs.

Lipscomb’s journey to its current CBE programming began with a long-standing commitment to assessing competencies through the use of the Polaris Competency Model, a behavioral science-based assessment program developed by Organization Systems International (OSI). OSI’s Polaris Model is a commercial product and originally designed to support outcomes-based corporate training. In 2005, as founding Dean of Lipscomb’s College of Professional Studies, Dr. Charla Long was seeking ways to improve the adult degree experience. She discovered OSI’s one-day assessment protocol and recognized its potential for higher education.

Dr. Long persuaded the College of Professional Studies (CPS) to adapt OSI's model for use at Lipscomb and began designing programs based on assessments of students' leadership skills. By 2013, Lipscomb had been granted approval from its regional accreditor, the Southern Association of Colleges and Schools Commission on Colleges, to award up to 30 hours of credit based on the OSI assessments.

Since 2014, Lipscomb's Competency Assessment Center has functioned as a clearinghouse for adult students entering the College of Professional Studies and seeking to demonstrate competencies attained through life and work experiences in order to complete a degree. Under the direction of Dr. Nina Morel, Dean of CPS since January 2015, Lipscomb combined online courses with professional coaching to help students develop competencies they had not demonstrated at the Assessment Center. In 2016, Morel and her team launched an entirely competency-based Bachelor in Organizational Leadership (PACE) and in 2017 expanded that program to include both a term-based and a six-month subscription tuition model for interested CPS students. Rather than create a new program whole cloth, Lipscomb has had the advantage of assembling and evaluating components from existing programs, all under the stewardship of leaders well versed with the challenges and potentials of CBE.

Course Mapping for Design Consistency

Lipscomb's willingness to award credit based on assessments of prior learning reflects an attempt to create a unified, institution-wide culture that recognizes the value of outcomes-based learning. The university's leadership has mandated that new CBE courses should closely resemble similar on-campus, traditional courses. Given this requirement, Morel and her team have leveraged existing, institution-based expertise rather than outsource course and program development efforts to a commercial provider. Adjunct faculty, subject matter experts, and instructional designers from across Lipscomb are recruited to help build new CBE courses. While this approach has been largely successful, it has also exposed several critical challenges.

As new CBE courses are being developed, it has become clear that there is an absence of uniform and consistent design principles. Many faculty members assume that their starting point for new course development would be their own broad content knowledge. Instead, Lipscomb's CBE course development team identifies measurable outcomes and competencies and then designs each course "backwards." To facilitate this approach, Lipscomb's lead instructional designer implements a course mapping approach, requiring each CBE course to contain a logical and measurable taxonomy of objectives, assessments, and content. Program outcomes are mapped to course outcomes, which, in turn, are associated with assessments and desired learning outcomes. Finally, specific content is then selected for inclusion in the course.

These course maps are instrumental in creating design consistency, while also allowing for reasonable variation. These maps also demonstrate that faculty need to focus on measurable learning outcomes rather than simply communicate content. For Lipscomb's instructional design team, the real value of this process is evident when faculty begins to transfer these backward design practices to their non-CBE and on-campus courses. "The light bulb went on," reported a Lipscomb designer, and faculty recognized, "Oh, this is what my students need to be able to do and this is how I can get them there."

The Self-Directed Student Experience

Lipscomb's CBE programming has also driven cycles of continuous program evaluation, data collection, and improvement. Based on intake assessment reports, CPS students pursue self-directed pathways toward demonstrating mastery of identified competencies. Typically, students successfully achieve mastery at least 80% of the time, since the program allows for multiple attempts to complete the required assessments. Within Lipscomb's CBE degree-granting program, student advisors and "success coaches" meet biweekly to monitor the progress of individual students.

Faculty and instructional designers keep close tabs on the performance of students attempting to demonstrate mastery of key competencies. During PACE's inaugural year, Lipscomb staff have noted that students have demonstrated mastery more slowly than program designers had anticipated. Based on follow-up interviews and a series of focus groups with these learners, Lipscomb discovered that many students were opting to complete the required mastery assessments more methodically than had been expected. "Students didn't want to finish so quickly," explained a Lipscomb team member. Having been told that they could pursue a program of study at their own pace, students were simply taking advantage of having more time.

This insight enabled Lipscomb's team to reassess its program metrics and adjust its interactions with students accordingly. While Lipscomb's high-touch, small-scale approach efficiently supports its current student load, staff costs are high and PACE depends on largely manual data collection.

The Blessings and Curses of Scale

Lipscomb's commitment to prior learning assessment stems from a belief that degree attainment can be made more efficient and relevant for adult learners. For Lipscomb students, the logic of learning assessments and CBE is powerful: responses from CPS students have been overwhelmingly positive. While the PACE degree program is enrolling enough students to cover operational costs, and the Assessment Center generates valuable revenue, Lipscomb's CBE advocates recognize that there remain significant challenges to broader impact.

CBE's growth curve at Lipscomb, and elsewhere, is tied to its ability to successfully design and launch programs across a broader range of content areas. This would, of course, entail a commitment from a broader range of faculty to extend CBE beyond CPS to the rest of the Lipscomb community. Further, growth will require a migration away from manual, labor-intensive data collection and towards a more systematic technology strategy.



NEW CHARTER UNIVERSITY – WHOLLY ONLINE CBE

Institution Type	<ul style="list-style-type: none"> • For-profit, 4-year
CBE Student Profile	<ul style="list-style-type: none"> • Adult learners • Career changing professionals
Enrollment in CBE programs or courses	<ul style="list-style-type: none"> • All students are enrolled in CBE programs and courses. Enrollment is roughly 500 students annually.
Year Founded	<ul style="list-style-type: none"> • Founded 1994 • 2010 completely online transformation
CBE Program Scope	<ul style="list-style-type: none"> • Institution-wide; dominant mode of instruction throughout the school • Programs include business, criminal justice, education, communication, information technology
Pricing Model	<ul style="list-style-type: none"> • Subscription model – Bachelor’s Degree up to \$12,432; Associates Degree up to \$6,216 depending on prior learning assessments and transfer credit • Masters up to \$12,000 depending on transfer credit • 100% self-pay, employer tuition reimbursement, donor sponsorship, accepts VA • Does not accept federal aid
Attributes	<ul style="list-style-type: none"> • Consistent and rigorous course structure • Standardized competency and assessment model • Instructional staff and advisors collaborate on supporting class groups and individuals. • Bifurcated faculty model to ensure objectivity of assessment results • Flexible pacing, student autonomy within term structure • Traditional GPA calculation
Student Experience	<ul style="list-style-type: none"> • 100% online, asynchronous and synchronous components • Student Advisor assigned for entire program and provides frequent contact

New Charter University (NCU) is an attempt to build a new online, for-profit school fully designed around CBE principles. Unlike other institutions aspiring to expand existing CBE programs, NCU has had the advantage of building its courses, programs, and departments from the bottom up. This approach is reflected in NCU’s name and branding: its URL is simply “new.edu”, and its marketing and promotional efforts invite prospective students to experience “a new you,” “education uncomplicated,” or “a university designed for you.”

Following a new round of investment and rebranding in 2012, NCU has developed a new set of CBE program offerings in business, criminal justice, education, and technology. NCU has leveraged the experience and expertise of several key administrators who had previously worked at institutions with established CBE programming, such as Western Governors University (WGU), Southern New Hampshire University (SNHU), and Utah State University (USU). This combined experience has expedited the development of institution-wide CBE policies and practices.

NCU offers a fixed-price degree model, priced to enable students to enroll and complete their programs without relying on any federal financial aid. Undergraduate programs are offered at a monthly rate of \$259 or \$300 per course. According to its website, an NCU bachelor's degree can cost up to \$12,432 and an associate's degree up to \$6,216. Graduate programs average either \$499 per month, or \$1,000 per course, and a master's degree is priced at about \$12,000. As an entirely CBE model, these costs may decrease if a student demonstrates their mastery of the required degree program competencies more quickly or if other credits and life experiences are factored in.

NCU's pricing model reflects a commitment to simplicity and affordability. Based on their experiences at other CBE-oriented schools, NCU leadership suggests that a reliance on federal aid may encumber an institution and stifle innovation while not adding significant value to the learning experience, and ultimately, the employability of its students. Further, eliminating a federal debt burden for NCU students resonated with the university's investors. According to NCU's leadership, the absence of excessive overhead costs for instructional practices and program design has enabled more innovation and positively impacted students. A lack of reliance on Title IV monies has meant that NCU has not had to hire administrators wholly focused on processing federal aid.

Unlike institutions that introduce CBE into existing degree programs, NCU views CBE as an essential component to meeting the needs of all of its students. This is largely a byproduct of having leaders who have experienced CBE programming firsthand. According to one NCU administrator, herself a former WGU employee and graduate, "it would be unfathomable for me to sit in a traditional class. With my prior experience, I was able to complete my bachelor's degree in 18 months." NCU leadership asserts that its for-profit model results in a lean business structure driven by carefully controlled costs. The business model also enables a considerable degree of design uniformity at the program and course level.

Self-Directed Students and Program Consistency

NCU programs feature a consistent course structure and schedule. NCU registers students weekly, on a rolling basis, with each term running 12 weeks. Course development is based on principles of backward design, in which the desired outcomes and mastery of competencies form the blueprint for the entire course. Courses feature both comprehensive summative projects and exams. Three formative exams form the backbone of every course, with ongoing formative feedback as students proceed through content at a pace of their choosing.

For NCU's administration, consistency in course design yields significant value when comparing completion rates across programs and departments. According to NCU's leadership, this enables a more precise collection and use of student and course-level data. As a result, NCU is able to operationalize a CBE-informed course design and assessment across the entire institution.

Within NCU courses, there is an explicit message to students that they need to be as self-directed as possible in their own learning. This poses both significant opportunities as well as challenges for NCU. Students who are already independent learners accelerate through their programs. Students who are less independent receive higher levels of support. An entirely flexibly paced, online program requires both student and institution to recognize the need for constant vigilance and communication. For Amie Ader-Beeler, NCU's Executive Director of Academic Operations, control over the learning path and pace must shift from the institution to the individual learner: "[New Charter] relinquishes control of the learning path. Then it's up to [students]. They are in control of their path."

As an entirely online school, NCU's premium on self-direction requires a significant effort to familiarize students with core CBE principles, strategic learning practices, and the operations of NCU's learning management system (LMS). Faculty and advisors maintain contact with their students through NCU's Canvas' LMS, utilizing conventional email, synchronous communication tools, and just-in-time web apps. One current student indicated that this toolset, as well as NCU's expectation for self-directed learning, resonates with his professional background and requirements for support. In a recent interview, Peter, a 36-year old midcareer software professional, reported, "I don't have time for a brick and mortar school. I'm more focused on proving my knowledge and skills I already have rather than how many hours I'm going to have to sit in your class. [New Charter] treated me like a person, and not a student or a source of income."

Prospects for Growth

Reflecting on their experiences at WGU and SNHU, NCU leaders are confident that their approach is scalable. NCU leadership seeks to build more partnerships with employers, humanitarian organizations, NGOs, and other institutions in order to expand its program offerings into new disciplines. From NCU's perspective, the value proposition of flexibly-paced CBE model is clear: employers want measurable evidence of personal work habits, as well as both hard and soft skill attainment.

The leadership, staff, and students at NCU describe their progress and efforts with the headiness and exuberance of a start-up. Given the reservoir of experience with other schools, NCU's leadership understands the complexities that often destabilize institutions experimenting with CBE. Despite their optimism, they realize that significant obstacles stand between New Charter and its next chapter of growth.

Although NCU is fully accredited by Distance Education Accrediting Commission (DEAC), enrollment in the domestic market remains low, as many U.S. students are wholly reliant on federal financial aid programs to fund their educations. International growth is increasing, yet questions remain about how quickly NCU's non-traditional approach to education will become accepted. Can NCU's fixed price subscription model remain low enough to attract students but still generate an adequate income? How valuable could a peer cohort be to student success, and should NCU pivot to include this experience? How much peer interaction do students want and need as they juggle the demands of adulthood?

As the wholly online degree market gets more crowded, NCU hopes to differentiate their approach and add new programs in order to attract new students.

Salt Lake Community College -
“Tearing it Down to the Studs” to Build a CBE Program



Institution Type	<ul style="list-style-type: none"> • Public, Community College
CBE Student Profile	<ul style="list-style-type: none"> • Adult learner • Career changing professionals
Enrollment in CBE programs or courses	<ul style="list-style-type: none"> • >300 self paid
Year Founded	<ul style="list-style-type: none"> • 2014
CBE Program Scope	<ul style="list-style-type: none"> • 12 certificate programs within the School of Applied Technologies. An additional 8 are in development
Pricing Model	<ul style="list-style-type: none"> • Subscription model – students purchase blocks of CBE course content • Pricing based on course sequences, and ranges from <\$1,000 to more than \$4,000; can be lower than traditional SLCC programs depending on credits
Attributes	<ul style="list-style-type: none"> • Third-party and employer-focused competencies • Direct assessment model, but not available for Federal aid; students self-pay or are sponsored
Student Experience	<ul style="list-style-type: none"> • Self-directed pacing • Blended and online

SLCC is a large community college, serving a broad range of students across multiple locations in the Salt Lake City metropolitan area. SLCC’s School of Applied Technology (SAT) began assessing the viability of implementing CBE in 2011. A \$2.3M grant in 2014 under the Department of Labor’s Trade Adjustment Assistance Community College Career Training (TAACCCT) program accelerated development. As of 2017, 12 of SAT’s 20 existing programs have been converted to a CBE model, with the balance under development. Currently, certificates span Computer and IT Support, Network Administration, Commercial Foods Administration, and Certified Nursing Assistance.

SLCC’s motivation in exploring CBE stemmed from two institution-wide goals: improving access to certificates and associate degrees for underserved students and strengthening workforce preparedness across all disciplines. The SAT was selected as the “greenhouse” for CBE since unlike other divisions of SLCC, it had greater autonomy in designing new programs. Additionally, there continues to be significant labor demand for the certificates targeted for CBE by SAT. SLCC plans to use these initial CBE projects as a springboard for implementing CBE in other SLCC schools and departments.

According to Dr. Eric Heiser, Dean of the SAT, SLCC's CBE program development has used a backward design process, beginning with summative assessments to identify the core competencies required at each course level. For Heiser, the process has been akin to tearing down a curriculum "to the studs," in order to expose the specific competencies. This approach presented several hurdles for the SAT.

Challenges of Consistency and Understanding Student Progress

SAT's CBE initiative is distributed across 12 current courses from multiple departments; efforts are underway to develop 8 additional courses. While this distribution responds to labor market demands and student preferences, it poses challenges given the broad range of faculty expertise. To help establish uniform standards of quality and course design, SAT has retained external consultants in assessment and program development to partner with faculty and instructional designers.

SAT's effort has also been slowed by several technical challenges. Existing enterprise investments in enrollment management and student information systems designed for traditional undergraduates have required SAT to make manual adjustments to accommodate year-round enrollment patterns and course-level pacing. According to SAT's registrar, students want to be able to purchase "a chunk" of CBE course-level work on a subscription basis and then complete the required assessments independent of the traditional semester schedule. Further, there is an expectation that these students will return to SAT's CBE programs at a later date.

To accommodate this "start-and-stop" enrollment, SAT has resorted to "a lot of hands-on monitoring" as students approach and then complete the required benchmarks in CBE courses. This becomes a time-intensive task given the distribution of courses across multiple departments. According to SAT administrators, the core challenge has been "not knowing exactly where a student was at within a course" While faculty and advisors invariably have an idea where students are within a course, SLCC administration has been "flying blind" with regard to enrollment and progress across all of its CBE courses.

SAT plans to respond to these challenges by inserting an externally developed middleware solution between its SIS and the Learning Management System (LMS), which delivers the CBE courseware to students. This approach would provide just-in-time, actionable data to faculty and advisors, as well as to the students themselves, through a set of course-specific dashboards. SAT anticipates that this middleware solution would provide "up-to-the-minute information at the fingertips" of key administrative stakeholders. SAT sees this technology as essential to ensuring the institution is best positioned to help students meet their goals.

Responding to Internal Demands and External Pressures

These internal hurdles have been compounded by several external factors. Most significantly, SAT has been unable to offer Title IV Federal Aid. An application to participate in the Department of Education's Experimental Sites Initiative (ESI) remains in limbo after more than a year. According to Dr. Heiser, SAT estimates that it could double its enrollment in CBE courses to more than 600 students if students could get federal aid. Dr. Heiser reported that many students have financed their tuition and fees themselves, or have secured external sponsors. SAT anticipates that if and when ESI approval is secured, the middleware solution referred to above would document a student's "satisfactory academic progress," a core requirement to access Title IV aid.

SAT has several key stakeholders supporting its CBE effort. It's regional accreditor since 1969, Northwest Commission on Colleges and Universities (NWCCU), has been very supportive, approving

the college's CBE courses over the last eight years. Secondly, SAT benefits from an array of statewide industry and governmental sponsors. These include private companies that help define course-level competencies, and in some cases, cover tuition and fees for their employees. Each CBE program meets regularly with statewide representatives through a Program Advisory Committee. Utah's Department of Workforce Services provides some funding for students to enroll in SAT's CBE programs and has been a key advocate for the initial development of CBE programming. According to SAT's leadership, the logic of a CBE program is compelling to these stakeholders, and many partners would like the CBE model to expand to other parts of the SLCC curriculum.

Finally, SAT's CBE programming has enjoyed the support of the President of SLCC and his cabinet. After initial enthusiasm about the TAACCT grant, the SLCC administration has directed Dr. Heiser and his team to provide measurable evidence that the CBE programs are having a positive impact on the employability and academic achievement of students. While some faculty have expressed concern that the efforts to support CBE programming may not be worth the effort, the SAT's CBE courses have become part of the SLCC fabric. There is early evidence that CBE programming may have a future outside of the SAT: a new National Science Foundation grant will be used to develop a CBE program in biotechnology, and SLCC's School of Business is exploring the viability of CBE courses for future development.

SAT's "down to the studs" model of CBE program development has yielded important insights and established a valuable toehold for further growth of CBE across the college. It has, however, also surfaced a range of hidden costs and unanticipated hurdles, ranging from technical pitfalls to an absence of federal aid. These factors may slow the growth of CBE, but leadership, faculty, partner, and student enthusiasm are expected to sustain and develop the model at SLCC for years to come.



Texas A&M University-Commerce A Statewide Enrollment Crisis Sparks CBE Program Development

Institution Type	<ul style="list-style-type: none"> Public, 4-year
CBE Student Profile	<ul style="list-style-type: none"> Average age is 38 85% are 25 and older 10% are veterans
Enrollment in CBE programs or courses	<ul style="list-style-type: none"> Less than 350
Year Founded	<ul style="list-style-type: none"> 2012 (funded with an Educause grant) Admitted the first class of students in January 2014
CBE Program Scope	<ul style="list-style-type: none"> Bachelor' of Arts and Applied Sciences degree in Organizational Leadership (BAAS) Additional CBE programming under development in a BS in Criminal Justice
Pricing Model	<ul style="list-style-type: none"> Depending on acceptance of existing credits, the degree can cost students between \$5,000 and \$15,000 Delivered via a subscription-based model; tuition and fees are fixed at \$750 for each seven-week term Students may accelerate and complete as many courses as possible at this flat rate
Attributes	<ul style="list-style-type: none"> Credit hour mapping; no direct assessment
Student Experience	<ul style="list-style-type: none"> 100% online individualized and self-directed instruction

Big Solutions for Big Problems

Texas A&M University-Commerce (A&M-Commerce) is a regional public institution serving a diverse range of traditional students and adult learners, including veterans and underserved populations. Beginning in 2012, it developed a broad effort to address a well-publicized, statewide finding that millions of Texas residents were facing significant obstacles to degree and certificate completion. Typically, these students were Texas residents who had been chronically underserved by the public education system.

Dr. Shonda Gibson, Associate Provost for Institutional Effectiveness, Acting Director of A&M-Commerce's Institute for Competency-Based Education (ICBE), recalled the data point that spurred the CBE effort. A 2012 statewide study found that there were over three million adults in Texas who had attended college but had not received a degree. In response, A&M-Commerce, along with the College for All Texans Foundation and South Texas College, created the Texas

Affordable Baccalaureate (TAB) program, a new CBE-based degree pathway. Dr. Mary Hendrix, Vice President for Student Success, has led the initiative.

A yearlong planning effort produced a blueprint for a \$10,000 degree, delivered wholly online, and consisting of 99 competencies defined by both faculty and industry. Students entering this program could satisfy degree requirements through transfer credit or prior learning assessment (PLA). The A&M-Commerce team also determined that in order to meet the needs of its target student population, it would be beneficial to remove conventional seat-time requirements for degree completion. Once seat-time requirements were suspended, the shift toward CBE became increasingly clear.

Hendrix prodded her team to avoid “being trapped in the model we live in today.” She urged her colleagues to leave normative assumptions about higher education behind, and instead envision an entirely new model of degree attainment.

A Blueprint for Change

Currently, A&M-Commerce runs a CBE-designed Bachelor’s of Applied Arts and Sciences in Organizational Leadership. This TAB degree is offered in a rolling seven-week term at a fixed price of \$750 per term for in-state students and \$2,500 for those from out-of-state. Students may accelerate and complete as many courses as possible for this flat rate. Academic advisors and instructors work closely with students to mentor and guide them through each module and competency in order to demonstrate mastery.

Close to 97% of students in A&M-Commerce’s TAB program have existing credits, typically from a community college. Many students leverage prior work experiences in order to demonstrate mastery of specific competencies. Students who demonstrate mastery of competencies at their own pace are able to proceed more quickly, and at a lower cost, towards degree completion. To date, almost 200 students have completed the TAB degree, at an average price of under \$5,000. A&M-Commerce estimates that the average time to completion is less than 6 TAB terms, or 1 year. Completion is equated with credit hours in order to qualify students to receive federal financial aid.

Despite this progress, A&M-Commerce has discovered that financial aid and state reporting requirements have created significant operational burdens. In response, A&M-Commerce hired a full-time staff person to manage financial aid processing and state and federal reporting requirements.

Insights into the Student Experience and Technology Platforms

A&M-Commerce has designed the TAB program for the returning adult learner. It is likely to be less suitable for younger, less experienced students. The TAB team conducts a thorough intake process with each prospective student, and often recommends that prospective students who appear to be at risk of being unsuccessful in a CBE format enroll in a more “traditional” online or campus program governed by conventional time constraints. In part, this reflects a belief that CBE programming requires significant self-direction and motivation. The most successful A&M-Commerce students entered TAB with about 75 transfer credit hours.

At A&M-Commerce, the TAB program designs and builds CBE content using a combination of in-house instructional design services and external resources, such as accessibility guidelines and the Quality Matters course rubrics. Akin to other institutions seeking to increase understanding and acceptance of CBE programming, TAB relies heavily on A&M-Commerce faculty to help

design courseware and assessments. While consistency in design has been critical, the TAB team stresses that the use of faculty expertise has been essential. Dr. Gibson explains that in the eyes of A&M-Commerce faculty, “they own this; it’s theirs, and this is especially important at a public university.” Maintaining control of its own CBE programs is a point of pride for A&M-Commerce, as it attempts to address gaps in local and statewide degree completion.

TAB students utilize a conventional LMS platform, soon to be replaced by a new LMS across the entire institution. According to the TAB team, this will require rebuilding virtually all of the existing CBE content used within the program. The TAB team has become accustomed to adapting available platforms and technologies to assess and meet the needs of their students. This ranged from manual data capture to creating customized tutorials for how CBE students access and use the LMS.

Significantly, the TAB leadership anticipates that future program growth will occur whether the new LMS is CBE-friendly or not. While the TAB team would welcome new technology to enable more adaptive assessments and personalization features, they are committed to working with whatever systems are in place.



Thomas Edison State University Using CBE to Help Adult Learners “Show What You Know”

Institution Type	<ul style="list-style-type: none"> • Public, 4-year
CBE Student Profile	<ul style="list-style-type: none"> • Adult, non-traditional students
Enrollment in CBE programs or courses	<ul style="list-style-type: none"> • Target of 200 in two bachelor’s degree programs, pending accreditor approval • PLA model used extensively across entire institution
Year Founded	<ul style="list-style-type: none"> • CBE has been referenced in course catalogues since the 1970s
CBE Program Scope	<ul style="list-style-type: none"> • Bachelor’s of Science, Business Administration • Associates of Arts, Liberal Studies
Pricing Model	<ul style="list-style-type: none"> • Pending approval by accreditor; will shift to a subscription pricing model
Attributes	<ul style="list-style-type: none"> • Competencies aligned to employer defined outcomes • Direct assessment model with conversion to credit hour, as required by the Middle States Commission • Utilizes an established prior learning assessment model
Student Experience	<ul style="list-style-type: none"> • Blend of online and on-campus instruction • Mix of cohort and self-paced

Thomas Edison State University (TESU) is no stranger to CBE. TESU was home to one of the earliest experimentations with CBE in the 1970s. TESU is also a pioneer of prior learning assessments (PLA) through its TECEP (Thomas Edison Credit-by-Examination) program.

Since its inception, TESU has been dedicated to serving non-traditional adult learners, who had struggled to complete degrees at more traditional branches of New Jersey’s state university system. Institutional research suggested that TESU’s target student population sought greater flexibility in career readiness programming. TESU knew that these learners would seek these programs elsewhere and online, if they could not find it regionally.

Modular Content for a Changing Student Demographic

Insights into what its students wanted have been amplified by a growing disconnect between TESU’s PLA assessments and a reliance on traditional course design. According to Marc Singer, Vice Provost at TESU’s Center for the Assessment of Learning, it has become clear that the learning gaps identified by its PLA assessments are not effectively solved by how content was organized and presented in standard three-credit courses. Rather than require students to repeat an entire course when they may only need to master one content segment, TESU research

suggested that modularized and disaggregated content could better serve these students. Further, Singer and team argue that workforce requirements emphasize the mastery of skills and information tools rather than traditional blocks of content knowledge. At TESU, it is a natural extension to re-engineer course content in order to better fit the learning gaps and workforce requirements of its target student population.

Beginning in 2012, TESU took a long look at schools using direct assessment CBE models, such as Western Governors University, Capella University, Northern Arizona University, and Southern New Hampshire University. These institutions have architected their CBE programs around direct assessment of student mastery of competencies and have devised “all you can eat” subscription models for enrollment. These schools represent a new phase of CBE, predominately online and relying upon enterprise software platforms to manage content and assessments. TESU envisioned a CBE program built atop its existing TECEP program, but with modularized content delivered through a unified platform. TESU hopes that this approach will best leverage existing institutional capabilities built around TECEP, while also providing students with more efficient pathways to complete their degrees.

A Step Forward; A Step Sideways

TESU is in the process of designing new CBE degree programs in business administration and liberal studies aimed at students whose prior assessments indicated content mastery short of a degree. TESU needs to now map measurable competencies to existing outcomes, as captured by traditional time-based courses. TESU has identified broad content domains, and then designed statements of desired competencies. Ideally, these competency statements include evidence of skills that can be easily transferable to workplace settings.

Despite this promising approach, TESU’s effort to build new CBE programs has progressed more slowly than expected. After receiving approval in 2016 to participate in the U.S. Department of Education’s Experimental Sites program, TESU has yet to receive approval from its accreditor, the Middle States Commission on Higher Education (MSCHE) for a substantive change request. This would be necessary in order for TESU students to benefit from any federal financial aid when enrolling in a reduced cost, individualized business administration or liberal studies degree program. Although TESU’s Experimental Sites project represents an opportunity to evaluate and measure the effectiveness of its self-directed degree programs, it remains at a standstill until its accreditor grant approval. By the spring of 2017, MSCHE has yet to approve TESU’s request, although their relationship with TESU dates back to 1977.

Secondly, TESU has been unable to resolve how its existing LMS would capture, model, and report data on student engagement with modularized content and demonstration of mastery. TESU had anticipated that investment in a new third-party CBE LMS would provide this functionality, but the vendor withdrew from the market. Unfortunately, it organized content as components of a “course” as the defining unit of content organization. A solution to address this issue was being engineered into a feature roadmap, when the vendor decided to discontinue the product. TESU is investigating alternative solutions.

The Brass Ring: Meeting Students Where they Are

These setbacks have slowed but not halted TESU’s efforts to build new CBE programming. Steve Phillips, Associate Director of TESU’s Center for Assessment and Learning, anticipates that once their accreditor grants approval, market demand will significantly drive up enrollment in stand-alone

CBE degree programs, by roughly 100-150 new students each year. But both Singer and Philips are careful to assert that CBE programs could operate in tandem with other courses at TESU. Rather than convert all degree programs, they see CBE fitting best where it has the greatest chance to provide flexibility and affordability for qualified students. At the same time, Singer and Philips recognize that the process of engineering CBE programs at TESU has informed how administrators, instructors, and course designers think about learning outcomes. An awareness of what CBE can offer, as well as what it cannot, strengthens the institution as a whole.

TESU is leveraging an extensive network of employer partners. Most notably, regional employers, such as JetBlue and the United Parcel Service, have expressed interest in the potential for a stand-alone CBE degree program. For these employers, CBE is a flexible and affordable pathway for employees to complete a degree.

TESU's new CBE effort illustrates how an established, adult-learner oriented institution has continued to search for ways to lower the barriers to enrollment and degree completion. TESU exemplifies a "first-generation" CBE-focused institution that has been able to successfully adapt to the resurgence of "second-generation" CBE programming.

Valdosta State University – Accelerating Teacher Professional Development



Institution Type	<ul style="list-style-type: none"> Public, 4-year
CBE Student Profile	<ul style="list-style-type: none"> Adult learner Mid-career educators
Enrollment in CBE programs or courses	<ul style="list-style-type: none"> Less than 200
Year Founded	<ul style="list-style-type: none"> 2014
CPE Program Scope	<ul style="list-style-type: none"> K-5 Science endorsement K-5 Math endorsement Teacher certification
Pricing Model	<ul style="list-style-type: none"> Consistent with state-wide online tuition rates
Attributes	<ul style="list-style-type: none"> Pre-enrollment CBE readiness and self-directed assessment Credit mapping
Student Experience	<ul style="list-style-type: none"> Predominately online

Valdosta State University (VSU) is a mid-sized, regional, public university serving southwest Georgia. VSU’s CBE program, YouSucceed, emphasizes employer-driven outcomes and self-paced learning to improve employability for licensed teachers. This effort is part of a University System of Georgia initiative to strengthen STEM teaching statewide. In VSU’s case, the initial target population for CBE programming has been elementary teachers seeking licensure endorsements in STEM fields.

Although VSU is focused on a relatively small-scale project, it has been able to deploy a robust range of CBE features and program components.

VSU’s YouSucceed program is embedded within a well-known and successful school of education. This CBE initiative effectively leverages existing relationships with local school districts and a solid understanding of the preferences and needs of area teachers. Based on existing engagements with regional school districts and teachers, there is an understanding of how these older, professionally focused students will respond to the opportunity to secure additional content endorsements through an outcomes-driven CBE approach. This initial calculation is reinforced by VSU’s reliance on a series of ongoing, intensive focus groups designed to provide ongoing feedback on critical components of CBE programs, such as instructional design and student support services.

YouSucceed is marketed to mid-career elementary teachers seeking to develop deeper subject matter expertise in math and science. The validation of this expertise, an endorsement to their state teaching license, will make these teachers more competitive in the job market. The program is predominately online, but VSU surrounds each learner with a success team, comprised of an advisory coach assisting with enrollment, an instructional leader or mentor, and an assessor providing feedback on required assessments. Programs are designed to be self-paced and require at least ten hours to complete to qualify for an endorsement, as mandated by the Georgia Department of Education.

In its current form, YouSucceed relies on a pre-enrollment, online assessment of a student's self-directedness, communication skills, and technology capabilities. Part behavioral analysis, part measurement of basic competencies, the "Readiness Assessment" serves to filter students into and out of YouSucceed. Students who do not meet the lowest requirement threshold, whether technical or motivational, are shifted to alternative enrollment opportunities.

In addition to these tools, VSU's CBE program relies on several key formative assessments in order to gauge student progress towards mastery. Built within an LMS environment at VSU, the YouSucceed program attempts to leverage a range of data about how students are learning in order to continuously improve the program and online experience. According to Dr. Anthony Scheffler, Associate Vice President for Academic Affairs at VSU, "this combined qualitative and quantitative approach to program assessment has helped to define a data-driven, continuous improvement process." Rather than relying only on click-stream learning data, Scheffler and his team attempt to derive a contextualized understanding of how individual students are progressing by analyzing responses to a series of formative assessments.

Lowering the Risk of Acceptance for CBE

VSU's CBE program reveals a number of important insights. Armed with an actionable awareness of what teachers want, VSU's CBE programming attracts highly motivated and qualified students to this STEM endorsement program. VSU's close relationship with area school districts makes YouSucceed an attractive and logical choice for local teachers.

Secondly, VSU's use of CBE prior readiness assessments and the use of pre-defined course outcomes can effectively prepare students to meet or exceed the State of Georgia's requirements for STEM endorsements. The presence of state-mandated content competencies has encouraged VSU to focus its CBE instruction on highly tangible and concrete outcomes.

VSU also conducted a series of focus groups, designed to provide ongoing feedback on critical components of CBE programs, such as instructional design and student support services. Finally, VSU's leadership recognizes that the development of its CBE programming is part of an ongoing and iterative process. A quality CBE approach cannot be built overnight, and will not effectively impact students without an ongoing flow of both qualitative and quantitative feedback.

These characteristics lower the threshold of entry for students without compromising quality. A CBE approach to professional teacher development and advancement is rationalized and made highly accessible to its target enrollment population.

CONCLUSIONS

In 2016, Eduventures drew several conclusions about the status of CBE across the U.S. higher education landscape:

CBE does not reflect a single learning modality, nor should it be considered simply a delivery mode. Instead, it is a complex and nuanced approach to how education can be enacted and measured. It challenges long-held conventions about how curricula are organized, instruction is designed and delivered, and skills and knowledge are assessed. CBE raises critically important questions about the roles that faculty and other support providers can play. These issues will not be resolved overnight, but rather require institutions to do something they do not always have the luxury to do: take a step back and assess the applicability of CBE to their own institutional contexts and strategic goals.

In 2017, our institutional portraits of practice validate these insights, but also provide further understanding into how and why some schools have been able to design and grow their CBE programs, even when on a small scale. Eduventures' analysis of these portraits suggests that progress towards greater scale and deeper impact of CBE will be incremental and gradual. For schools at the forefront of CBE innovation, some of which we interviewed this year, this is not a revelation. They have experienced first-hand the start and stop patterns of CBE program development, often reflecting the skepticism and shifting expectations from accreditors, federal regulators, and conventional educators.

For schools newer to CBE, or less successful in overcoming early obstacles, these results may suggest a different strategy. A rigorous self-assessment of institutional readiness is in order for any school intrigued by CBE. Are leaders informed and involved in early-stage analyses of CBE? Are resources available to modify existing financial aid and enrollment requirements? Has the school engaged in any market research into regional or national demand for proposed CBE degrees?

A similar approach is warranted at the program level. Can the program effectively identify students who can demonstrate self-directedness? Can the program offer appropriate alternatives to students who may not be successful in a CBE model? Does the program have access to backward-design and development capabilities? Are faculty, mentors, or coaches available and willing to rethink their respective roles in determining when and how a student may have mastered a specific concept or skill?

CBE remains an intriguing yet complex way to organize and deliver instruction. There is abundant evidence from both these portraits and Eduventures' 2016 report, "Deconstructing CBE," that it is neither a quick fix nor a simple implementation. But CBE's compelling logic and strong appeal to adult working learners and employers suggests that it will occupy an important place among other higher education innovations.

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