OCTOBER 2023

Postsecondary Competency-Based Education Program Model Map: Research Brief

AIR® | Ascendium® Elevating opportunity

Contents

Exhibits

Executive Summary

This research brief shares emerging insights from a survey of postsecondary competency-based education (CBE) programs in the United States about their design features. This research brief aims to share, along with the updated Postsecondary Competency-Based Education Program Model Map Framework, a framework for understanding the different design choices and models evident in the field, as well as an initial analysis of the frequency with which certain design choices (such as which faculty model to use) are made.

This report presents findings related to three key CBE design principles:

1. **Flexibility.** How and when can learners enroll and move on (pace/progress)? Do learners have control of their journey through the curriculum and opportunities to personalize their path? Do pricing and financial aid decisions facilitate or limit certain kinds of flexibility?
2. **Support.** What structural and programmatic efforts and resources are provided to support CBE learners?
3. **Competency and Learning.** How do programs structure their curricula? How do programs design assessments? What processes are in place to measure continuous improvement?

Generally, we find that CBE program designs vary widely on most of the design features included in this study; very few design options are common across CBE programs. Despite general variation in design choices, there are some areas of CBE program design in which the field is in greater alignment than in others (e.g., in 78% of surveyed programs, learners all started with an identical set of courses or competencies). These data also provide valuable insight into (a) the most commonly (and less commonly) selected design choices, as well as (b) the areas in which there is the most variation in choices across surveyed CBE programs. We conclude this brief by presenting potential use cases for the data that this brief includes, as well as the Postsecondary Competency-Based Education Program Model Map Framework.

This research brief shares emerging insights from a survey of CBE institutional leaders. The survey also informed the refinement and updates to the **Postsecondary Competency-Based Education Program Model Map Framework**, which is a resource for people designing or refining CBE programs regarding the design feature options evident in the field.

Overview

The American Institutes for Research (AIR) developed the CBE Program Model Map Framework in partnership with the Competency-Based Education Network (C-BEN) and key advisors from leading CBE programs. The Postsecondary CBE Program Model Map Framework was developed to document and understand the diversity of CBE program model designs in place at colleges in the United States. CBE programs follow principles and components, including designing curricula around specific competencies; advancing learners on the basis of demonstration of competency; and allowing variation in the time it takes for learners to demonstrate a competency. Although CBE programs align with these principles, individual programs vary on several key dimensions. This variation represents important innovation and experimentation but can cause challenges for researchers, practitioners, and policymakers trying to understand the most common program design features and the way in which they affect learner outcomes.

This research brief shares emerging insights about the prevalence of specific design choices, whether there are certain "flavors" of CBE, and the degree to which the field has settled on specific design components of postsecondary CBE programs. The purpose of this research brief is to serve as a snapshot in time, as of spring 2023, to help practitioners and researchers understand the current diversity of CBE program models aligned with the major design principles of CBE. Ideally, this piece will prompt further research and practice advancements that help the field understand what works, and for whom, including a full understanding of the efficacy of CBE. Findings in this brief are organized from a learner centered perspective to emphasize learner's experience with program design (see 'Framing the Data' section).

We anticipate two primary user groups for this research brief: practitioners and researchers. We hope program leaders, faculty, and staff can use the brief to reflect on their program design and identify practices or structures that could best serve different student populations. We envision researchers using the brief to study prevalence of CBE model components and produce better evidence about what works and for whom. This tool is not designed to define CBE or identify which design choices constitute CBE; instead, it intends to support description and communication in the field. Further, this tool frames each design feature in a vacuum, each decision mutually independent from another. However, we realize that, in application, there are dependencies and interactions that lead to potential clustering of certain design choices as result of a myriad of factors, including institutional context. This version of the framework does not analyze these relationships but is well positioned to support anyone wishing to explore them.

Methods

In fall 2022 and winter 2023, AIR developed a survey to learn about design choices in CBE. The survey was developed using past research, such as the National Survey of Postsecondary Competency-Based Education; current resources, such as the Competency-Based Education Network's (C-BEN's) Quality Framework for Postsecondary CBE Programs,[1] and the research team's knowledge of the field to identify the design features of focus. AIR then convened an advisory group of CBE program administrators, staff, faculty, researchers, and other thought leaders, including C-BEN leaders. This advisory group provided preliminary testing and helped refine the survey items and response options. After incorporating the group's feedback, AIR launched the survey in March 2023; it remained open through May 2023.

Because the number of institutions with CBE programs in which students are already enrolled is relatively limited (with many more in a planning phase), AIR opted to send a participation invitation to all institutions known to be offering at least one active CBE program, as well as many institutions last known to be in the planning phase in case they had launched a program for which they could respond. Institutions had the option of submitting one response on behalf of all their programs, particularly when they had a shared CBE model—or they could submit a different response for each program design. Of the 25 institutions, 23 chose the former. This is important for interpreting the data throughout this piece, as one response might represent dozens of programs following a single model, whereas at another institution, one response might represent one program. To analyze the data, AIR used a combination of descriptive analysis and thematic analysis of the responses to identify trends within and across domains. We emphasize exploring whether the field has converged around particular design choices, to help inform ongoing conversations.

In summer 2023, the AIR Research team led five user-testing sessions with individual CBE researchers and practitioners. Feedback from these sessions was incorporated into the framework and potential use cases are highlighted in the "Looking Ahead" section of this brief.

[1] C-BEN's Quality Framework offers quality standards for CBE programs, remaining agnostic about program model. This CBE Program Model Map tool is intended to complement that tool, offering a descriptive tool for program model design choices without any judgment about quality.

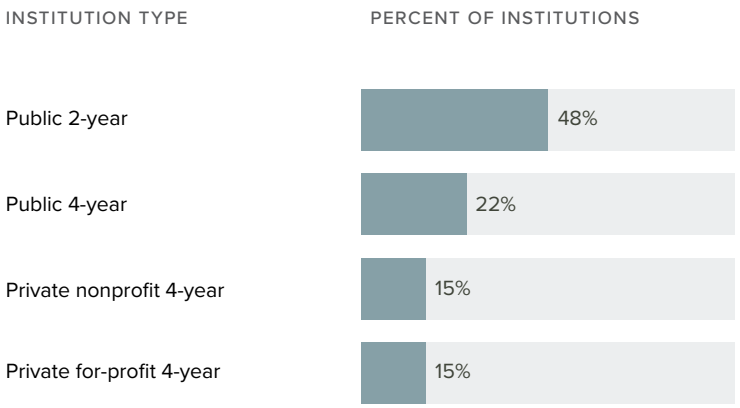
Institutional Characteristics

In total, representatives from 25 institutions—representing hundreds of CBE programs—responded to the CBE Program Model Map survey in spring 2023. While this number does not include every CBE program in operation at the time of this project (as of 2020, we estimated that number to be 128 institutions), these data include information on nearly all the longest operating CBE programs, which we estimate represent more than 80% of the CBE learners enrolled nationally. The following graphics provide information on characteristics of institutions that participated in the survey.

As shown in Exhibit 1, survey participants represented four institution types, with approximately half representing community colleges. When assessing which institutions did not respond to the survey (to understand which institutions this may underrepresent), community colleges are disproportionately represented in that group.

EXHIBIT 1.

Institution Type



[2] Estimate comes from the 2020 National Survey of Postsecondary Competency-Based Education.

Exhibits 2 and 3 provide additional context related to the types of credentials offered by the surveyed programs, as well as information on where programs reside within their respective institutional structures. Generally, these respondents represent a mix of program types (including some that offer multiple types of programs/credentials). They also represent a mix of CBE locations within their institutional structure, although most are housed within a traditional school, college, or department, alongside comparable traditional programs.

EXHIBIT 2.

Program/ Credential Type

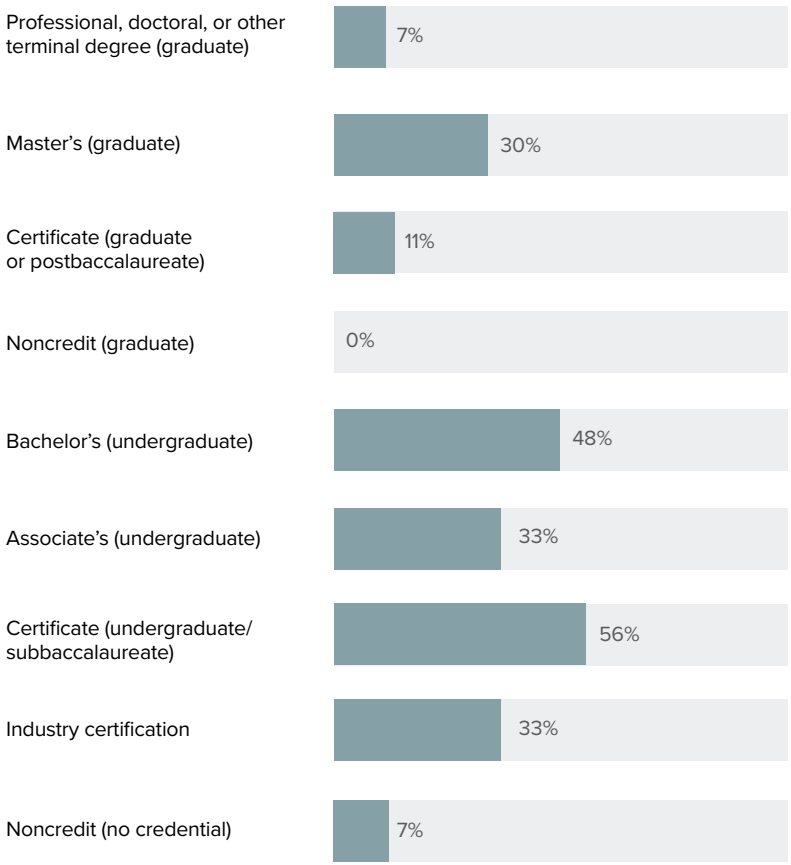
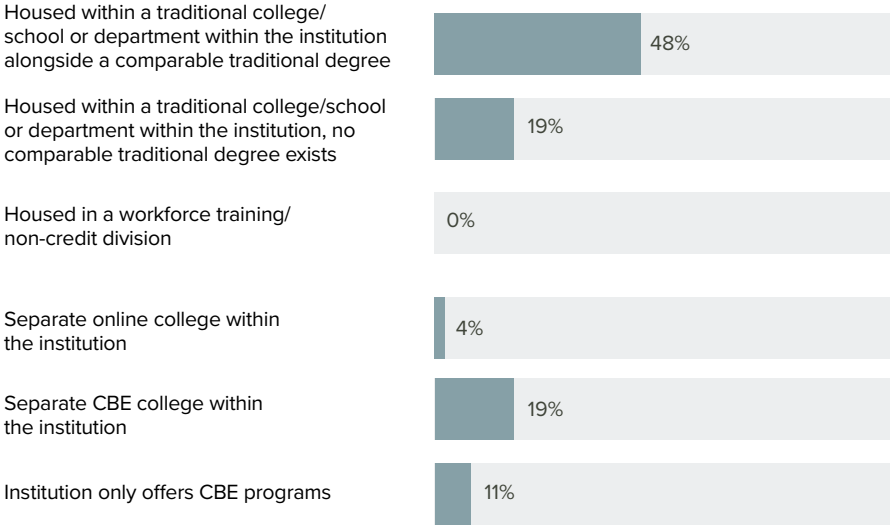


EXHIBIT 3.

Program Location Within Institutional Structure



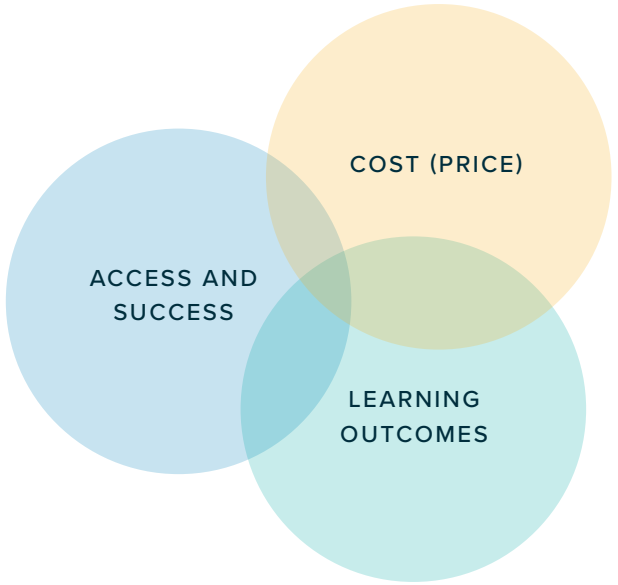
Framing the Data

In this research brief, we organize findings about whether the field has settled on specific design options centered around the learner's perspective of design principles. This choice is distinct from the organization of the aforementioned CBE Program Model Map Framework, which is organized from an institutional perspective and generally aligns with the elements in C-BEN's Quality Framework. That resource is primarily intended for use by institutions considering design or redesign of a program, including distinguishing choices that academic departments make themselves (such as assessment strategies) from choices that involve other units on campus (such as financial aid and registrars). This brief is intended to provide a snapshot of the field, and given the interest in how and whether CBE programs are meeting the value propositions for learners, the organization structure of the brief prioritizes a learner's perspective in terms of the design principles most relevant to them.

Analyzing CBE Program Model Designs
A Learner-Centered Perspective

The learner's perspective of CBE program design elements differs from the institution's view. The field has broadly identified three commonly cited value propositions of CBE, which focus on the intended outcomes for learners. These include the reasons learners might choose, or fare better in, a CBE program: expanding access and promoting success; reducing price/cost to learners; and ensuring quality in learning outcomes. These value propositions interact with and support one another. For example, reducing the cost to learners likely contributes to improving access and success, too. Therefore, we represent them in overlapping shapes.

EXHIBIT 4. VALUE PROPOSITIONS FOR LEARNERS IN CBE

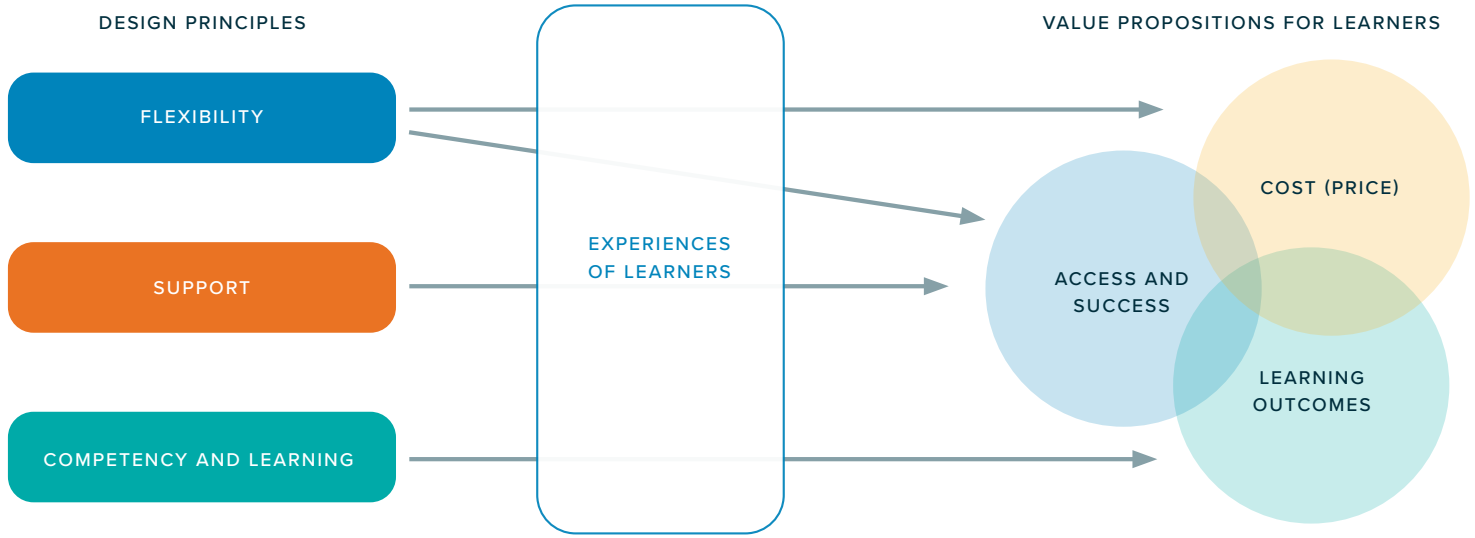


When we unpack the logic of *how* CBE programs might fulfill these value propositions, they generally map to three CBE Program Model Design Principles (design principles):

- designing the curriculum and assessments around **competency and learning** (competencies and demonstration of competencies);
- allowing learner **flexibility** (in pathways, timing or pacing, and ways of demonstrating competencies); and
- providing **support** for learners (emphasizing personalized support, including both academic and nonacademic).

The theory of change for design principles is complex; just as the value propositions are not mutually exclusive, the mapping between design principles and value propositions is not one to one. Each of these affect learners' experiences, which then in turn shapes the potential value propositions. As demonstrated in Exhibit 5, no single design feature fully addresses any one of these principles, and each design principle might contribute to multiple value propositions. Exhibit 5 demonstrates the primary relationships between design principles and value propositions that are clear and apparent in current CBE programs. For example, the connection between flexibility and cost has been a primary emphasis in some CBE programs—if a program allows learners to accelerate and charges them a subscription fee per time period, the learners can experience a lower total cost of completing their degree. Similarly, flexibility can contribute to expanded and more equitable access and success by enabling more learners to make postsecondary education "work with their lives" because fewer conflicts with jobs, family, or other issues emerge. In terms of support, the expanded and personalized support—such as coaching—provided in many CBE models might facilitate expanded and equitable access and success for the same reasons that wraparound supports do in traditional programs. Finally, the competency and learning orientation of programs—emphasizing each learner demonstrating each competency, distinct from relative grading and sorting in traditional programs—might improve learning outcomes and in more equitable ways.

EXHIBIT 5. RELATIONSHIPS BETWEEN CBE PROGRAM DESIGN PRINCIPLES AND CBE VALUE PROPOSITIONS



Other connections not currently represented in Exhibit 5 are plausible and even likely, but less well understood or present in current programs. For example, we have not drawn arrows between flexibility and learning outcomes. In that example, if programs make learning and mastery more transparent to learners along the way via design centered on learning and demonstration of mastery, that may provide additional motivation and clarity that helps learners focus and persist toward degree completion. This relationship, however, is not yet well understood in the context of CBE programs; as the field and research develops, we endorse updating this graphic to represent these connections.

CBE programs may be designed for different populations with different priorities among the value propositions; therefore, we expected to find variation among existing CBE program designs. No single design would work well for all learners, all fields, or all institutional settings. In the future, researchers can use this framework to explore variation in design choices based on the nuanced interests and needs of the populations the CBE program intends to serve. For instance, if an institution building a CBE program has a local industry that will support its current employees' enrolling with tuition reimbursement, as long as the program fits around their work schedule (imagining that their work schedule varies by week, as so many schedules do), that institution may opt to emphasize the *flexibility* and *support* design features but may be less focused on the options that reduce cost—since employers will cover it. As an alternative, a program that serves many low-income learners, or perhaps seasonal workers, may emphasize the *flexibility* design features that maximize the possibility for learners to accelerate; if they have a gap between jobs during which they can enroll full time, perhaps the benefit of CBE is enabling success, or degree attainment, at an accelerated pace and lower cost.

These examples are not exhaustive but intend to provide inspiration for future analyses and exploration that use this resource. Our intent is for this resource to support exploration about the design features that help fulfill the value propositions of CBE for the variety of learners—each with different interests, strengths, and constraints—in support of a more equitable postsecondary education system for all.

Data in This Brief

For the purposes of analysis and interpretation, we organized CBE program design features by each of the three design principles: flexibility, support, and competency and learning. We chose to align each design feature with only *one* design principle based on the strongest theory of change; however, as we described in the previous section, there may be theoretical connections between an individual design feature and multiple principles. We present each feature independently, although it is likely that some design choices "hang together" in practice. However, our analysis did not show clear types, so we have opted to avoid exploring connections or bundles of choices.

The following sections are broken out by design principle. Bar graphs show the design features and design options associated with a given principle. The length of each bar and associated percentage indicates the frequency at which a design option was selected by respondents. Although representatives from 27 distinct programs responded to the survey, some respondents chose to skip over individual items (e.g., because an item did not apply to their program), and therefore the n varies from item to item.

Most items required respondents to select one option (generally the option that most closely aligned with their program design, even if it did not perfectly describe their model). As a result, most graphs will add to 100%. However, some items were optional (i.e., select an option if applicable to your program), resulting in totals less than 100%. In other cases—which we have labeled "Exploratory Items" in offset sections in this brief—the survey asked respondents to "select all that applied." These items were often follow-up questions included for the purpose of narrowing down response options in future versions of the framework. These questions are presented separately because the interpretations of them differ. For example, because respondents could select multiple options, the total percentage for each design feature may not add to 100. Others were simply a starting point; for example, the exploratory item related to disaggregating data was presented as a "Yes" or "No" question for the purpose of identifying a need for additional questions related to data use for continuous improvement.

While the data presented in this brief represents a snapshot in time, the accompanying framework is designed to be a "living document" that can be updated as the CBE field evolves. As such, the framework was updated in summer 2023 on the basis of feedback from a user-testing group made up of researchers and practitioners. **Items that have been updated in the framework are denoted in this brief with an asterisk*.**

Flexibility

Flexibility in CBE

Flexibility is a key component of any learner-centered CBE program design, as flexibility allows learners agency while also allowing learners to "fit education into their lives"—an important equity priority and a common interest for adult learners, in particular, who may have family commitments, jobs, and/or health concerns. This flexibility stands in contrast to instructor-centered models of traditional higher education, which focus on class schedules based on faculty scheduling and standard term lengths. The degree and types of flexibility that CBE programs offer, though, may vary. This section captures program design choices that affect the amount of autonomy learners have in shaping their educational experiences, including aspects such as the way and the times learners can enroll and move on (pace/progress), and whether they have control of their journey through the curriculum and opportunities to personalize their paths, as well as pricing and financial aid decisions that either facilitate or limit certain kinds of flexibility. Each feature is presented separately, although in practice, some design choices may be dependent on others.

We observe moderate levels of variation for design elements pertaining to *time* flexibility for learners. In contrast, financial and content flexibility for learners is more consistent with what we typically observe from traditional programs. This trend may reflect the nature of working within existing structures, or it may reflect careful experimentation with degrees of flexibility before an institution considers moving toward more flexible options.

We found only two areas (not including the exploratory item) where more than 75 percent of institutions had made the same program decisions, both of which were elements commonly observed in traditional education, and neither of which relate to flexibility in terms of timing. This not only speaks to amount of variation pertaining to flexibility but suggests that the field has not yet coalesced around a particular set of design choices in the area and that an understanding regarding best practices pertaining to flexibility in CBE is still emerging.

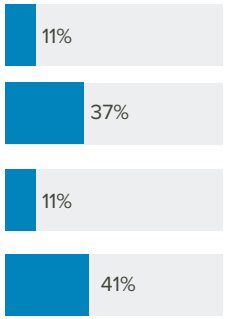
DESIGN PRINCIPLES

- INITIAL PROGRAM ENROLLMENT
- FEDERAL FINANCIAL AID
- FLEXIBILITY OF PACING
- DELIVERY MODALITY
- LENGTH OF TERM
- PRICING
- PRICE SET HIGHER, LOWER, OR ABOUT THE SAME AS TRADITIONAL PROGRAMS
- LEARNER PERSONALIZATION OF CURRICULUM PATHWAY
- SEQUENCING
- METHODS OF CREDIT FOR PRIOR LEARNING AVAILABLE

TIME FLEXIBILITY

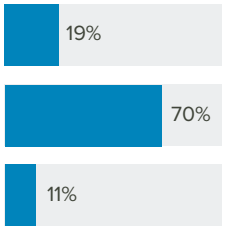
Initial program enrollment*

(N=27)



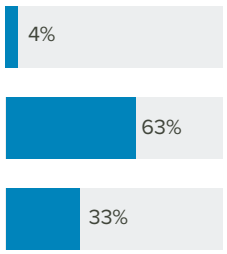
Federal financial aid

(N=27)



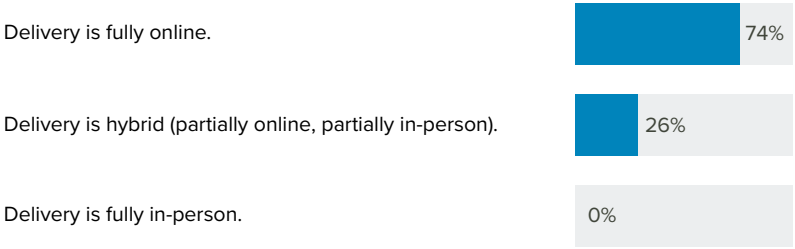
Flexibility of pacing*

(N=27)



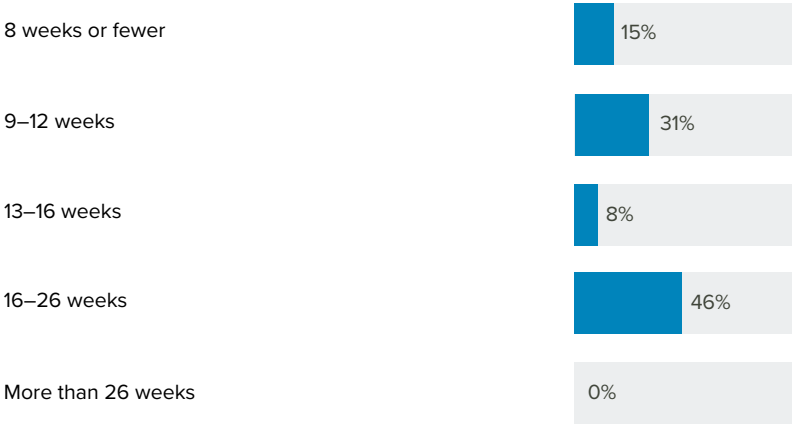
Delivery modality*

(N=27)



Length of term

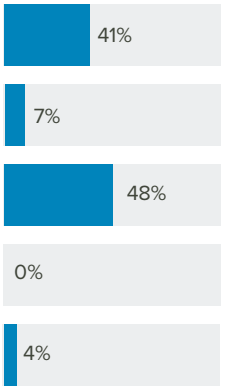
(N=13)



FINANCIAL FLEXIBILITY

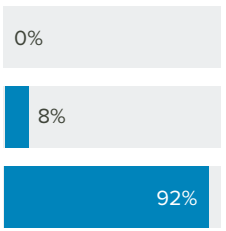
Pricing

(N=27)



Price set higher, lower, or about the same as traditional programs

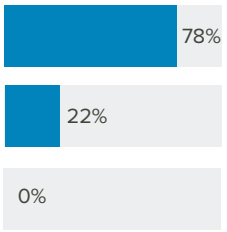
(N=13)



CONTENT/PATHWAY FLEXIBILITY

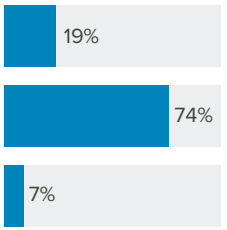
Learner personalization of curriculum pathway*

(N=27)



Sequencing*

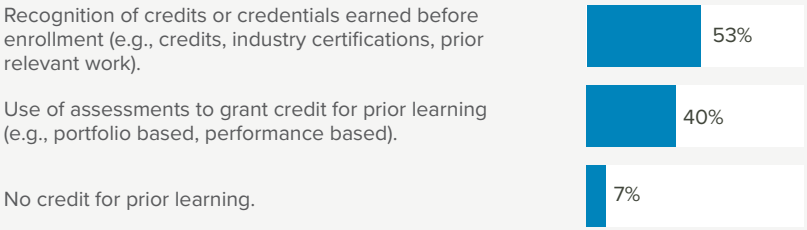
(N=27)



EXPLORATORY ITEM(S): FLEXIBILITY

Methods of credit for prior learning available*

(N=45)



Support

Support in CBE

Supports are a growing topic across higher education, but CBE programs in particular often incorporate or rethink support structures, services, and programs, particularly those tailored to adult learners. These supports can be an important equity priority, particularly in the context of granting learners additional flexibility and enabling personalization of their journey, including the way they engage with people—and with whom—along the way. CBE programs are restructuring and reimagining these structures, which we capture here. The support design category captures design element choices regarding structural and programmatic efforts and resources provided to support the CBE learner, including at entry and throughout the learning journey.

Programs demonstrate a wide variety of design choices, with only three areas registering more than 75 percent of respondents, and these choices represent programs choosing to stay consistent with institution-wide practices. This could indicate many things, a lack of available resources to establish unique and/or exclusive services for CBE students, the number of current students not warranting the creation of unique processes and services, or a determination that the resources already made available by the institutions are sufficient. The distribution across multiple options within "Faculty, peer, and wraparound support," in which programs detail their personnel's roles beyond instruction, suggest that the field has yet to settle on a specific set of practices specific to CBE.

DESIGN PRINCIPLES

- RECRUITMENT APPROACH
- ADMISSIONS APPROACH
- ORIENTATION APPROACH
- FACULTY MODEL
- LEARNER ENGAGEMENT WITH PEERS/OTHER LEARNERS
- COACHING/ADVISING/
- MENTOR ROLE
- WRAPAROUND SERVICES
- CAREER SERVICES/CONNECTIONS
- WORK-BASED LEARNING: OPPORTUNITIES
- WORK-BASED LEARNING: STRUCTURE
- INDUSTRY CONNECTION
- COMMUNITY-BASED ORGANIZATIONS
- EMPLOYER/PARTNER ENGAGEMENT

RECRUITMENT AND ADMISSIONS SUPPORTS

Recruitment approach

(N=27)

- CBE program has the same institution-wide recruiters/ recruitment structure. — 56%
- CBE program has dedicated recruiters (or intentional recruitment strategy) specific to CBE. — 37%
- CBE program has partnerships with individual employers, and their employees make up the majority or all of the CBE program learners. — 7%

Admissions approach

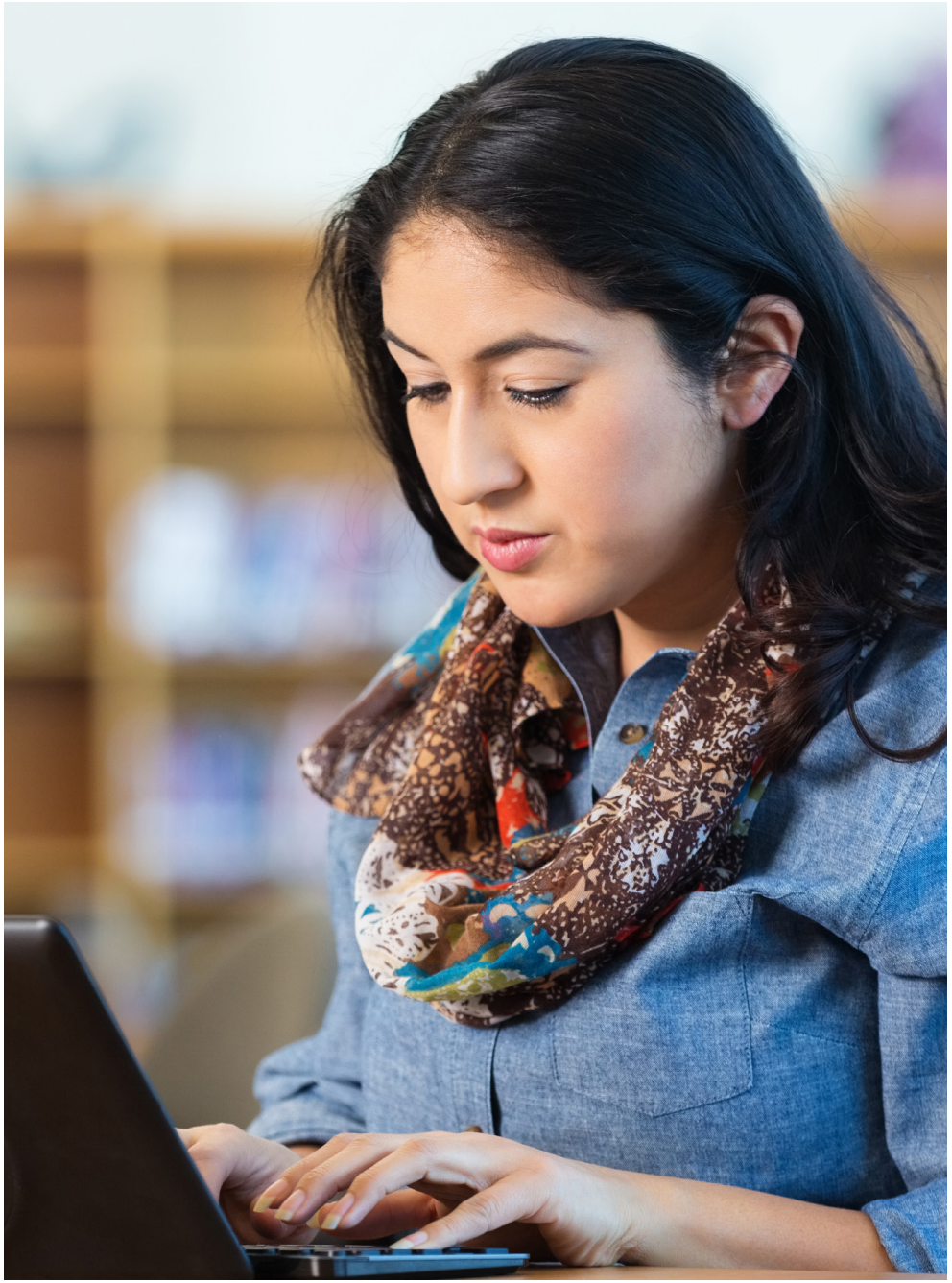
(N=27)

- Admissions requirements are the same as those for any traditional program at this level. — 85%
- Admissions requirements for the CBE program are different from traditional programs at this level. — 15%

Orientation approach

(N=27)

- Learners in CBE programs participate in the same orientation activities as learners in traditional (non-CBE) programs. — 26%
- Learners in CBE programs participate in CBE-specific orientation activities. — 74%



FACULTY, PEER, AND WRAPAROUND SUPPORTS

Faculty model

(N=27)

Traditional Faculty Model 1:

- Individual faculty members are responsible for (and have autonomy over) all activities for their course or competency.
- The same faculty member develops course/competency content and assessments, provides instructional support to learners, and assesses learners' work.

37%

Traditional Faculty Model 2:

- Course/competency content and assessments are developed at the program/faculty team level.
- For individual courses/competencies, individual faculty both provide instructional support and assess student work.

48%

Disaggregated faculty model:

- Content and assessments are set at the program/faculty team level.
- "Instructional" faculty provide direct support/instruction for learners, and a different "assessment" faculty assess learners' work.
- (This option includes situations in which faculty in academic departments develop content and assessments, and separate faculty and coaches support students via an e-Campus or similar unit.)

15%

Learner engagement with peers/other learners

(N=27)

Learners engage with other learners during individual courses/competencies, which may vary over time (program initiated/facilitated). — 15%

Learners have the option to engage with other learners, but structures and direction from the program are minimal. — 63%

Learners join part of a peer work group not associated with specific courses/competencies, lasting most of the learner's journey (program initiated/facilitated). — 7%

Learners do not engage with one another. — 15%

Coaching/advising/mentor role

(N=27)

A coach employed by the institution (professional, not considered qualified as a faculty member) is the main contact throughout a learner's journey, providing nonacademic support and academic advising. Please explain. — 41%

Faculty academic advisor is the main contact throughout a learner's journey, providing academic advising and nonacademic support. — 15%

Professional staff academic advisor is the main contact throughout a learner's journey, providing academic advising and nonacademic support. — 26%

Shared: Academic advisors provide traditional advising guidance, and a separate coach (employed by the institution or provided by a partner organization) provides ongoing nonacademic support throughout the learner's journey. — 19%

Wraparound services

(N=27)

CBE learners have access to wraparound services unique to CBE learners. — 0%

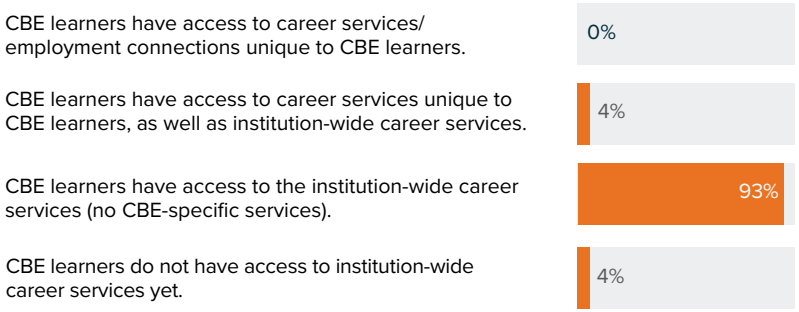
CBE learners have access to wraparound services unique to CBE learners, as well as institution-wide wraparound services. — 15%

CBE learners have access to the institution-wide wraparound service (no CBE-specific services). — 85%

WORK-BASED AND EMPLOYER SUPPORTS

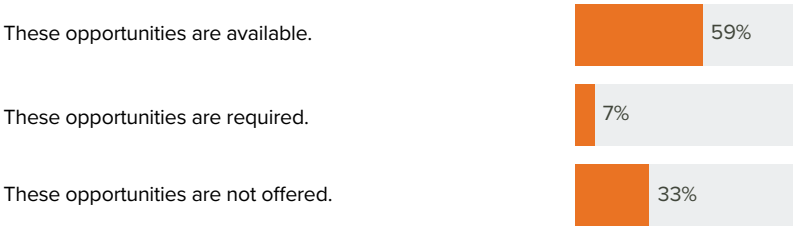
Career services/ connections

(N=27)



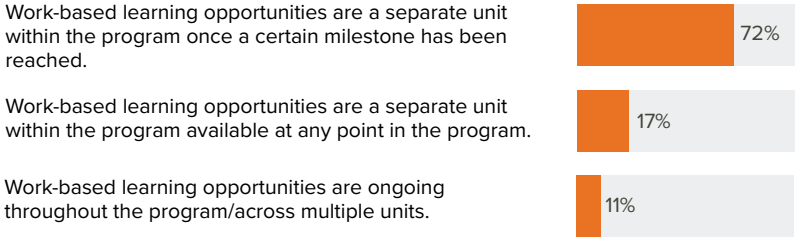
Work-based learning: opportunities

(N=27)



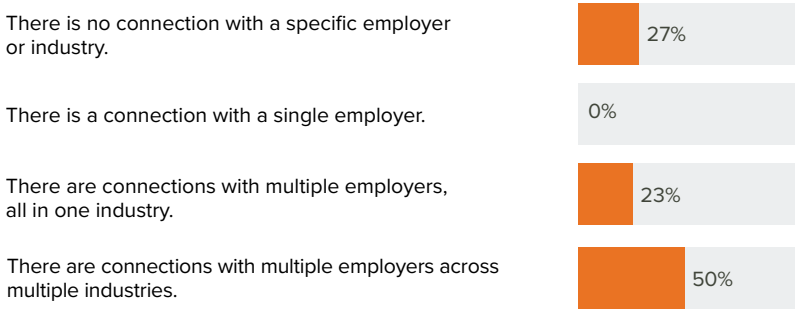
Work-based learning: structure

(N=18)



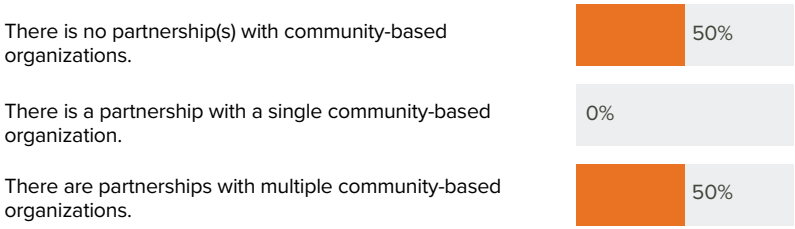
Industry connection*

(N=26)



Community-based organizations

(N=14)



EXPLORATORY ITEM(S): SUPPORT

Employer/partner engagement*

(N=49)

Competency and Learning

Designing CBE Curriculum Around Competency and Learning

Organizing the program, curriculum, and assessments around competencies and competency demonstration is a fundamental way in which CBE is distinct from traditional courses and programs. An important value of this design, aligned to equity priorities, is that it is transparent to the learners and that "learning is held constant" (i.e., all learners will demonstrate the same competencies, rather than being graded on their performance relative to others). In addition, a commonly cited value is that this competency demonstration is also transparent to potential employers, who can confirm that each graduate has demonstrated each competency.

This category includes design element choices related to the ways programs structure their curricula, design assessments, and engage in continuous improvement. This section, however, is limited in that the field does not have a consistent definition of the term "competency" or its components across disciplines and fields, and this leads to a relatively short list of common features.

We observe substantial variation pertaining to these program design elements, with only two areas (not including exploratory items) having an option selected by more than 75 percent of respondents. However, the field does seem a little more settled on program elements, particularly when it comes to curriculum and assessments. There could be many factors affecting this trend, such as the autonomy academic departments historically have had when structuring their curricula. Design elements regarding instruction sit at the core of the field's value proposition on learning outcomes. Programs may have identified, and begun moving towards, broadly adopting these options as standard practice. Common responses related to continuous improvement processes also suggest tailoring of institutional data systems to CBE formats.

DESIGN PRINCIPLES

- COMPETENCY "SIZE"
- CURRICULUM STRUCTURE: UNITS
- ASSESSMENT APPROACH
- ASSESSMENT ATTEMPTS POLICIES
- TRANSCRIPTION/LEARNING TRANSPARENCY
- GRADES FOR CBE PROGRAM
- CREDENTIALING
- TRACKING LEARNER METRICS
- APPROACH TO UPDATING COURSES/COMPETENCIES
- ASSESSMENT DESIGN SOURCES
- SUMMATIVE ASSESSMENT ACTIVITIES
- "ON THE WAY" CREDENTIAL
- ASSESSING PROGRAM EFFICACY
- DISAGGREGATING DATA

CURRICULUM

Competency "size"

(N=27)

- Each competency is the same "size." — 30%
- Program includes competencies of different sizes. — 70%

Curriculum structure: units

(N=27)

- Learners enroll in individual competencies (each competency is a single unit). — 15%
- Learners enroll in units (like courses) that embed multiple "crosscutting competencies" (or competencies that span many courses/the program). — 11%
- Learners enroll in units (like courses) that include multiple competencies in each course. — 59%
- Learner enrollment varies by course or program. — 15%

ASSESSMENTS

Assessment approach

(N=27)

- Assessments are designed and/or established primarily at the individual course or competency level (e.g., all faculty involved in certain competencies use the same assessments but this may not apply to all competencies). — 56%
- Assessments are designed and/or established primarily at the instructor/faculty level at this time (e.g., each faculty member has considerable autonomy in the design of assessments). — 19%
- Assessments are designed and/or established primarily at the program level (all competencies). — 26%

Assessment attempts policies

(N=27)

- Policies permit multiple attempts on summative assessments with no restrictions (e.g., no delay, generally unlimited attempts). — 19%
- Policies permit multiple attempts on summative assessments with restrictions (e.g., delays, attempt limit, requirements to revisit material after a certain number of attempts). — 78%
- Policies do not permit multiple attempts; retaking an assessment requires restarting the competency. — 4%

GRADES AND CREDENTIALS

Transcription/ learning transparency

(N=27)

- Program uses a comprehensive learner record that includes a traditional transcript only. — 7%
- Program uses a comprehensive learner record that includes a competency- based transcript only. — 4%
- Program uses a traditional transcript only. — 70%
- Program uses both a competency-based transcript and a traditional transcript for learners. — 19%

Grades for CBE program

(N=26)

- Grades are traditional letter grades (A, B, C, D, F). — 50%
- Grades are either Pass or Fail. — 12%
- Grades are Not yet, Mastery, or Mastery Plus (or similar, including A, B, F). — 19%
- Grades are Not yet/Mastery/Mastery Plus (or similar) transferred into letter grades — 19%

Credentialing

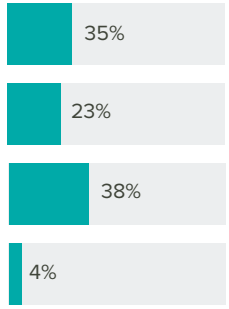
(N=26)

- Program awards credentials only at the completion of a program. — 50%
- Program awards or offers at least one "stackable" or other "on the way" credential, in addition to a credential at the completion of the program. — 46%
- Program does not award credentials. — 4%

CONTINUOUS IMPROVEMENT

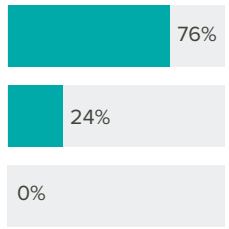
Tracking learner metrics

(N=26)



Approach to updating courses/ competencies

(N=25)



EXPLORATORY ITEM(S): COMPETENCY AND LEARNING

ASSESSMENT STRATEGIES

Assessment design sources (N=66)

- Assessments are designed by subject matter experts (e.g., faculty). — 41%
- Assessments are designed by instructional (or assessment) design staff. — 27%
- Assessments are designed by external partners (e.g., industry partners). — 21%
- Assessments are designed by workforce or professional certification assessments. — 11%

Summative assessment activities (N=37)

- Summative assessments include project or performance-based authentic assessments with prewritten criteria. — 65%
- Summative assessments include selected response or multiple choice assessment. — 14%
- Summative assessments include academic essays, papers, or presentations. — 22%

ADDITIONAL CREDENTIALING

"On the way" credential* (N=22)

- Micro-credential designed by the institution — 27%
- Stackable Credential — 41%
- Industry Recognized Credential — 32%

CONTINUOUS IMPROVEMENT

Assessing program efficacy (N=48)

- CBE programs analyze administrative student outcome data (e.g., enrollment, completion); could include descriptive or quasi-experimental designs. — 31%
- CBE programs collect and analyze learner feedback via surveys and/or course evaluations. — 46%
- CBE programs collect and analyze learner feedback via interviews. — 15%
- CBE programs do not currently assess program efficacy. — 8%

Disaggregating data (N=26)

- CBE programs disaggregate data to explore experiences of distinct subgroups of learners. — 77%
- CBE programs do not disaggregate data to explore experiences of distinct subgroups of learners. — 23%

Looking Ahead

The field has long understood that CBE programs varied widely in design, as institutions tailored their programs to their intended learner population—but that had not yet been documented systematically. Uncovering the level of variation, in CBE program models lays the foundation for practitioners to consider promising practices, as well as for researchers to study efficacy of CBE program models or components.

This section concludes with scenarios in which practitioners and researchers may use this resource in their own work. For more details, please see Appendix A, which profiles specific use cases developed by a set of five reviewers who outlined fuller examples of the ways the Program Model Map Framework and Research Brief might be used.

Practitioners

Practitioners who are just setting out on a CBE journey or who join the ranks of those in a "planning phase" for CBE encounter a deluge of information, case studies, and examples of various CBE programs already operating in the field. While this information is often considered helpful, it can take substantial time to fully understand the various options and languages that CBE programs are using and to create a mental map of the various CBE design choices that are necessary when building a CBE program. For programs looking to structure themselves to meet the needs of specific student populations, the ability to make intentional design choices is essential.

For practitioners, the CBE Program Model Map and Research Brief could help address these challenges by supporting the exploration of CBE program design features, including expanding horizons by presenting a fuller set of design options evident in the field. These can also be a resource when speaking with other established programs for advice, as these resources provide a starting point for a "common language" across programs.

FOR MORE INFORMATION—PRACTITIONERS

- C-BEN's Quality Framework
- A Leader's Guide to Competency-Based Education
- C-BEN's Resource Library

Researchers

From a researcher's perspective, one major challenge is that CBE is not one well-defined intervention with essential components evident across programs. That variation means that researchers can find it challenging to understand what they are evaluating and what is replicable in or generalizable to other programs. It can be similarly hard to quickly assess distinctions between CBE and traditional (non-CBE) programs at an institution; in efficacy research, this can be a challenge when articulating the treatment contrasts. Several case studies of CBE programs exist, but prior to this resource, no tools have been positioned to document the field in this way.

For researchers, the CBE Program Model Map and Research Brief could serve as useful tools for understanding the differences in design choices among different types of institutions/programs (e.g., institutions with just one CBE program versus those with several CBE programs, newer versus more mature programs) to support interpretation about which design features are effective for which students—as well as a wider range of research and evaluation focused on other questions.

FOR MORE INFORMATION—RESEARCHERS

- AIR's Postsecondary CBE research page, including links to the national survey and other resources
- Journal of Competency-Based Education

Acknowledgments

This brief was coauthored by Kelle Parsons, Kellie Macdonald Mayer, Mark Hatcher, Kate Caton, and Aysha Young.

We deeply appreciate the institutional representatives who responded to the Competency-Based Education (CBE) Program Model Mapping Survey in 2023, whose information is highlighted in this brief. We also want to thank members of the Competency-Based Education Network for their ongoing collaboration throughout this process. In addition, we are grateful to our advisory group members who helped inform the CBE Program Model Mapping Survey, as well as our group of user-testers whose thoughtful feedback helped refine both the framework and brief. Special thanks to Jessica Mason, Alexandria Walton Radford, and Preeya Mbekeani, of the American Institutes for Research (AIR), for their guidance and feedback on drafts of this brief and accompanying framework, as well as Joanne Blank, of AIR, for design support.

The authors are grateful to Ascendium Education Group for their financial support, which makes this work possible.

Citation

We encourage the use of this tool and do not require permission to use or adapt the content in this framework. Should you wish to cite this work, please refer to the following citation:

Parsons, K., Mayer, K.M., Hatcher, M., Young, A., & Caton, K.. (2023). *Postsecondary competency-based education program model map: Research brief.* Washington, DC: American Institutes for Research.

Appendix A
Use Cases

USE CASE 1.

Launching a CBE portfolio with programs across multiple institutions

Harmony Little, *Kentucky Community & Technical College System*

First, in terms of program development: The CBE Program Model Map Framework and Research Brief can help practitioners or state system office staff during the design phase, *especially* when multiple CBE programs are being developed (within one institution or within one state system). The program design team could use the CBE Program Model Map Framework to identify and review all the design features within CBE programs and highlight the various design options available to them. Although these resources do not answer every question, they could be used in tandem with other resources such as the C-BEN Quality Framework for CBE Programs to understand the interdependency of program design features and identify the best options to build a high-quality program that could improve both enrollment and student outcomes.

Second, these resources provide a framework for facilitating benchmarking as part of a continuous improvement processes. Benchmarking is vital for program evaluation, comparison of outcomes, and other continuous improvement processes.

USE CASE 2.

Multiprogram study of CBE designs, rationales, and/or outcomes

Erika Gustafson Dietz, *PhD Candidate, Loyola University Chicago*

Erika Gustafson Dietz walked through a mixed-methods study design that these resources could inform. The study focuses on multiple CBE programs within a specific state. The ultimate goal of the study design is to highlight design elements that are reflective of CBE and demonstrate the ways programs are using unique elements of design to support learners to increase credentials, promote mobility, and expand the pipeline of highly qualified practitioners in these disciplines.

In this example, data are collected from institutions with CBE programs via a survey aligned with the framework, asking the institutions to describe their individual program model choices. (Such a study could include self-described CBE programs, *as well as* other innovative programs that may be using some practices or processes that can be part of CBE but are still not full CBE programs.) Next, the data could be used in two ways: (1) A state-focused survey collection could be compared with the national sample AIR collected in spring 2023, as an opportunity to identify state-specific trends or preferences in CBE implementation, and (2) the data could inform and guide priorities for follow-up interviews with administrators or faculty to better understand the way they made the design choices they made, including whether and how needs and interests of the specific student population are driving program design choices.

Although the CBE Program Model Map and Research Brief do not *answer* these questions, the framework and the initial sample collection provide a useful foundation on which a researcher could build state-specific studies, as well as quantitative and/or qualitative data collection about design choices and motivations for design choices.

USE CASE 3.

Identifying peer institutions and replicating research

Ryan Specht Boardman, *CBE consultant, Competency-Based Education Network (C-BEN)*

CBE practitioners (e.g., program staff) could use these tools to help identify a list of peers with similar CBE models, or programs with specific shared characteristics or contexts (such as other community colleges in rural areas with online-only subscription-based CBE programs). While the research brief resource does not include specific data associated with institutional names, it provides an outline and standardized approach for those program staff to identify peers. Then, staff from that CBE program could compare practices, tuition costs, and other dimensions to understand their market position as well as opportunities or areas for growth.

From a researcher's perspective, one major challenge in the CBE field is understanding *what* you are evaluating and what is replicable. The CBE Program Model Map Framework helps the CBE field move towards more replicable experimental or quasi-experimental design studies, including better understanding the limitations, or which types of CBE any particular study applies to. Researchers can select programs with specific designs on key characteristics (or "types" of CBE), and when sharing the results, they can draw the connection between design and outcomes using this framework (which also helps readers understand what other models that might translate to). This current piece does not, itself, answer which models are most effective for which students, but it's an important resource and steppingstone toward a more common understanding in the field that can be a steppingstone to a better, more robust evidence base.

USE CASE 4.

Meta-analysis of studies regarding efficacy of CBE

Neal Kingston, *PhD, Professor and Director, Achievement and Assessment Institute, Kansas University*

This framework lays important groundwork for a longer term benefit to the field, which involves conducting a meta-analysis across programs and rigorous studies of these programs' efficacy. This meta-analysis would seek to answer larger questions about the efficacy of CBE programs by taking results from different studies and systematically combining them to explore trends in efficacy among specific design features or categories of features.

This use case first relies on a field of researchers engaging in evaluations of individual programs or groups of programs, producing estimates of how well CBE students fare on key outcomes like retention, completion, cost, and post completion outcomes like employment. This tool allows these researchers to map the design features of each program, using a common framework and language. Over time, as more studies emerge, the series of studies can be used by researchers to perform a meta-analysis, in which they review and verify effect sizes using a larger sample size and more data than in the individual studies. This meta-analysis could use the CBE Program Model Map Framework to categorize CBE programs by various design feature decisions, therefore helping the field better understand whether certain types of program features consistently demonstrate better student outcomes (such as those outlined in AIR's Measuring Student Success in Postsecondary CBE brief).

Overall, while this framework is not intended to answer questions regarding the efficacy of CBE programs or determine the metrics that should be used when evaluating efficacy, the framework does suggest a systemic way to categorize programs in a replicable manner beyond demographic information or institutional characteristics.

USE CASE 5.

Exploring the interaction between CBE program design and internal business processes

Buffy Tanner, *Shasta College*

This potential use case involves using the framework as a reference guide to explore a range of choices for CBE program design, including both thinking about the student's perspective and thinking through the ways certain program design choices interact with institutional business process (as considerations, and sometimes as constraints). This process could, ideally, help CBE faculty and staff think through the way to best design the program for our student population (e.g., if the student population is not necessarily close to your campus, requiring online availability and flexibility) while also keeping in mind the ways CBE and our internal business processes may interact (such as the academic calendar or financial aid disbursements). While every effort should be made to keep the student at the center of program design, the realities of campus operations (and potential costs to change operations) must be considered for the scalability and the sustainability of any CBE program.

In this example, program designers could outline the priorities for serving their specific populations—their "why" of CBE—and then walk through the framework to understand the full suite of options available in CBE program design. In many situations, teams are starting with what they know already and may have read some case studies of CBE institutions, but having the options may help advance conversations about what is possible and best for students. The outline of these options also allows for discussion about the internal business process constraints or considerations, both among the design team and when contacting other institutional units (for instance, the registrar) to discuss CBE readiness and implementation. While changing business processes is possible, it may be challenging to do so right away, before a program ever launches.

The framework could also help provide a common language, so that it helps new CBE program designers reach out to existing program leaders to learn more about the way they have navigated the process of adjusting the internal business functions to support their design priorities. Over time, if multiple programs take part in this process and document their choices against this framework (including their rationale), these examples could also become an important resource for people new to the conversation about designing CBE programs.

Appendix B Example Survey Responses

So what do the combinations of these design options look like in practice?

The following graphs highlight design choices of two institutions that participated in the Spring 2023 CBE Program Model Mapping Survey. **Institution A represents a two-year institution** and **Institution B represents a four-year institution.**

EXHIBIT 1.

Institution Type

Public 2-year	A	
Public 4-year		B
Private nonprofit 4-year		
Private for-profit 4-year		

EXHIBIT 2.

Program/ Credential Type

Professional, doctoral, or other terminal degree (graduate)		
Master's (graduate)		
Certificate (graduate or postbaccalaureate)		
Noncredit (graduate)		
Bachelor's (undergraduate)		B
Associate's (undergraduate)		B
Certificate (undergraduate/ subbaccalaureate)	A	B
Industry certification	A	
Noncredit (no credential)		B

EXHIBIT 3.

Program Location Within Institutional Structure

Housed within a traditional college/ school or department within the institution alongside a comparable traditional degree		B
Housed within a traditional college/school or department within the institution, no comparable traditional degree exists	A	
Housed in a workforce training/ non-credit division		
Separate online college within the institution		
Separate CBE college within the institution		
Institution only offers CBE programs		

Flexibility

TIME FLEXIBILITY

Initial program enrollment*

(N=27)

Learners can initiate enrollment in the program at least weekly.		
Learners can initiate enrollment in the program approximately once a month.	A	B
Learners can initiate enrollment in the program one or two times per term.		
Learners can initiate enrollment up to a certain deadline in the term (e.g., 6 weeks into the term).		

Federal financial aid

(N=27)

CBE programs are approved for "Direct Assessment" by the U.S. Department of Education.of Education		
CBE programs are credit-bearing (sometimes called course based).	A	B
CBE programs are not designated for Title IV federal financial aid (designated as a correspondence program or opted not to pursue Title IV at this time).		

Flexibility of pacing*

(N=27)

Learners can complete courses at set lengths or times; no acceleration is possible within a course to demonstrate mastery early (or later). Course lengths are traditional.		
Learners can adjust their pacing but are anchored to a set term end date; there is flexibility within terms, but not across terms.	A	
Learners can adjust their pacing, including completing a course/competency more quickly or slowly than in a traditional term; there is flexibility within and across terms.		B

Delivery modality*

(N=27)

Delivery is fully online.		B
Delivery is hybrid (partially online, partially in-person).	A	
Delivery is fully in-person.		

Length of term

(N=13)

8 weeks or fewer		
9–12 weeks		B
13–16 weeks		
16–26 weeks		
More than 26 weeks		

FINANCIAL FLEXIBILITY

Pricing (N=27)

Per credit	A	
Per course or assessment		
Subscription pricing (pay per semester/term—as many courses or competencies as a student can take)		
Flat rate for full program (e.g., "$10,000 bachelor's degree")		
Learners can select their pricing structure (select this option if you offer at least two of the above statements for students to choose from)		B

Price set higher, lower, or about the same as traditional programs (N=13)

CBE higher priced than traditional programs		
CBE lower priced than traditional programs		
CBE about the same price as traditional programs	A	

CONTENT/PATHWAY FLEXIBILITY

Learner personalization of curriculum pathway* (N=27)

Learners all start with an identical set of courses or competencies.	A	
Learners have flexibility with the set of courses or competencies that they complete (similar to electives).		B
All learners are assessed to determine the competencies that they have mastered, then start their module until all competences have been mastered.		

Sequencing* (N=27)

The program establishes an order in which courses/ competencies must be completed.		
Courses/competencies have some required sequencing, but learners have some agency over sequencing of their courses/competencies (equivalent to requiring some pre-requisites, but otherwise offering flexibility).	A	B
Courses/competencies may be completed in any order the learner prefers.		

EXPLORATORY ITEM(S): FLEXIBILITY

Methods of credit for prior learning available*

(N=45)

Recognition of credits or credentials earned before enrollment (e.g., credits, industry certifications, prior relevant work).	A	B
Use of assessments to grant credit for prior learning (e.g., portfolio based, performance based).	A	B
No credit for prior learning.		

Support

RECRUITMENT AND ADMISSIONS SUPPORTS

Recruitment approach (N=27)	CBE program has the same institution-wide recruiters/ recruitment structure.	A	
	CBE program has dedicated recruiters (or intentional recruitment strategy) specific to CBE.		B
	CBE program has partnerships with individual employers, and their employees make up the majority or all of the CBE program learners.		
Admissions approach (N=27)	Admissions requirements are the same as those for any traditional program at this level.	A	B
	Admissions requirements for the CBE program are different from traditional programs at this level.		
Orientation approach (N=27)	Learners in CBE programs participate in the same orientation activities as learners in traditional (non-CBE) programs.	A	
	Learners in CBE programs participate in CBE-specific orientation activities.		B

FACULTY, PEER, AND WRAPAROUND SUPPORTS

Faculty model

(N=27)

Traditional Faculty Model 1:

- Individual faculty members are responsible for (and have autonomy over) all activities for their course or competency.
- The same faculty member develops course/competency content and assessments, provides instructional support to learners, and assesses learners' work.

A | B

Traditional Faculty Model 2:

- Course/competency content and assessments are developed at the program/faculty team level.
- For individual courses/competencies, individual faculty both provide instructional support and assess student work.

Disaggregated faculty model:

- Content and assessments are set at the program/faculty team level.
- "Instructional" faculty provide direct support/instruction for learners, and a different "assessment" faculty assess learners' work.
- (This option includes situations in which faculty in academic departments develop content and assessments, and separate faculty and coaches support students via an e-Campus or similar unit.)

Learner engagement with peers/other learners

(N=27)

Learners engage with other learners during individual courses/competencies, which may vary over time (program initiated/facilitated).

Learners have the option to engage with other learners, but structures and direction from the program are minimal. — A | B

Learners join part of a peer work group not associated with specific courses/competencies, lasting most of the learner's journey (program initiated/facilitated).

Learners do not engage with one another.

Coaching/advising/mentor role

(N=27)

A coach employed by the institution (professional, not considered qualified as a faculty member) is the main contact throughout a learner's journey, providing nonacademic support and academic advising. Please explain. — B

Faculty academic advisor is the main contact throughout a learner's journey, providing academic advising and nonacademic support.

Professional staff academic advisor is the main contact throughout a learner's journey, providing academic advising and nonacademic support.

Shared: Academic advisors provide traditional advising guidance, and a separate coach (employed by the institution or provided by a partner organization) provides ongoing nonacademic support throughout the learner's journey. — A

Wraparound services

(N=27)

CBE learners have access to wraparound services unique to CBE learners.

CBE learners have access to wraparound services unique to CBE learners, as well as institution-wide wraparound services.

CBE learners have access to the institution-wide wraparound service (no CBE-specific services). — A | B

WORK-BASED AND EMPLOYER SUPPORTS

Career services/ connections

(N=27)

CBE learners have access to career services/ employment connections unique to CBE learners.		
CBE learners have access to career services unique to CBE learners, as well as institution-wide career services.		
CBE learners have access to the institution-wide career services (no CBE-specific services).	A	B
CBE learners do not have access to institution-wide career services yet.		

Industry connection*

(N=26)

There is no connection with a specific employer or industry.		B
There is a connection with a single employer.		
There are connections with multiple employers, all in one industry.		
There are connections with multiple employers across multiple industries.	A	

Work-based learning: opportunities

(N=27)

These opportunities are available.	A	
These opportunities are required.		B
These opportunities are not offered.		

Community-based organizations

(N=14)

There is no partnership(s) with community-based organizations.		
There is a partnership with a single community-based organization.		
There are partnerships with multiple community-based organizations.	A	B

Work-based learning: structure

(N=18)

Work-based learning opportunities are a separate unit within the program once a certain milestone has been reached.	A	B
Work-based learning opportunities are a separate unit within the program available at any point in the program.		
Work-based learning opportunities are ongoing throughout the program/across multiple units.		

EXPLORATORY ITEM(S): SUPPORT

Employer/partner engagement*

(N=49)

Employer partners give input on competencies and updates to field trends.	A		Employer partners provide equipment or other resources.	A	
Employer partners give input on assessments.	A		Employer partners provide internship and/or hiring opportunities.	A	
Employer partners provide staff to serve as instructors of courses.	A		Employer partners provide guaranteed tuition benefits.		
Employer partners provide staff to serve as assessment evaluators.					

Competency and Learning

CURRICULUM

Competency "size"
(N=27)

Each competency is the same "size."	A	
Program includes competencies of different sizes.		B

Curriculum structure: units
(N=27)

Learners enroll in individual competencies (each competency is a single unit).	A	
Learners enroll in units (like courses) that embed multiple "crosscutting competencies" (or competencies that span many courses/the program).		
Learners enroll in units (like courses) that include multiple competencies in each course.		
Learner enrollment varies by course or program.		B

ASSESSMENTS

Assessment approach
(N=27)

Assessments are designed and/or established primarily at the individual course or competency level (e.g., all faculty involved in certain competencies use the same assessments but this may not apply to all competencies).	A	
Assessments are designed and/or established primarily at the instructor/faculty level at this time (e.g., each faculty member has considerable autonomy in the design of assessments).		B
Assessments are designed and/or established primarily at the program level (all competencies).		

Assessment attempts policies
(N=27)

Policies permit multiple attempts on summative assessments with no restrictions (e.g., no delay, generally unlimited attempts).		
Policies permit multiple attempts on summative assessments with restrictions (e.g., delays, attempt limit, requirements to revisit material after a certain number of attempts).	A	B
Policies do not permit multiple attempts; retaking an assessment requires restarting the competency.		

GRADES AND CREDENTIALS

Transcription/ learning transparency
(N=27)

Program uses a comprehensive learner record that includes a traditional transcript only.		
Program uses a comprehensive learner record that includes a competency- based transcript only.		
Program uses a traditional transcript only.	A	B
Program uses both a competency-based transcript and a traditional transcript for learners.		

Grades for CBE program
(N=26)

Grades are traditional letter grades (A, B, C, D, F).		
Grades are either Pass or Fail.		
Grades are Not yet, Mastery, or Mastery Plus (or similar, including A, B, F).		
Grades are Not yet/Mastery/Mastery Plus (or similar) transferred into letter grades	A	B

Credentialing
(N=26)

Program awards credentials only at the completion of a program.		B
Program awards or offers at least one "stackable" or other "on the way" credential, in addition to a credential at the completion of the program.	A	
Program does not award credentials.		

CONTINUOUS IMPROVEMENT

Tracking learner metrics

(N=26)

CBE programs primarily use existing institutional data systems with substantial modifications to align with the CBE model format.		B
CBE programs primarily maintain local Excel (or other) files to track learner metrics outside existing institutional data systems.	A	
CBE programs primarily use existing institutional data systems with few or no modifications.		
CBE programs do not currently track learner metrics beyond institution-wide reporting requirements.		

Approach to updating courses/ competencies

(N=25)

All competencies are on a standard update/refresh cycle.	A	B
Competencies are updated but at instructor discretion, and there is no program standard.		
Once built, courses remain static.		

EXPLORATORY ITEM(S): CURRICULUM DESIGN AROUND LEARNING

ASSESSMENT STRATEGIES

Assessment design sources (N=66)	Assessments are designed by subject matter experts (e.g., faculty).	A	B
	Assessments are designed by instructional (or assessment) design staff.	A	B
	Assessments are designed by external partners (e.g., industry partners).	A	
	Assessments are designed by workforce or professional certification assessments.	A	
Summative assessment activities (N=37)	Summative assessments include project or performance-based authentic assessments with prewritten criteria.	A	B
	Summative assessments include selected response or multiple choice assessment.		
	Summative assessments include academic essays, papers, or presentations.		

ADDITIONAL CREDENTIALING

"On the way" credential* (N=22)	Micro-credential designed by the institution		
	Stackable Credential	A	
	Industry Recognized Credential	A	

CONTINUOUS IMPROVEMENT

Assessing program efficacy (N=48)	CBE programs analyze administrative student outcome data (e.g., enrollment, completion); could include descriptive or quasi-experimental designs.	A	B
	CBE programs collect and analyze learner feedback via surveys and/or course evaluations.	A	B
	CBE programs collect and analyze learner feedback via interviews.	A	
	CBE programs do not currently assess program efficacy.		
Disaggregating data (N=26)	CBE programs disaggregate data to explore experiences of distinct subgroups of learners.	A	B
	CBE programs do not disaggregate data to explore experiences of distinct subgroups of learners.		

Established in 1946, the American Institutes for Research® (AIR®) is a nonpartisan, not-for-profit organization that conducts behavioral and social science research and delivers technical assistance both domestically and internationally in the areas of education, health, and the workforce. AIR's work is driven by its mission to generate and use rigorous evidence that contributes to a better, more equitable world. With headquarters in Arlington, Virginia, AIR has offices across the U.S. and abroad. For more information, visit AIR.ORG.

Ascendium Education Group is a 501(c)(3) nonprofit organization committed to helping people reach the education and career goals that matter to them. Ascendium invests in initiatives designed to increase the number of students from low-income backgrounds who complete postsecondary degrees, certificates and workforce training programs, with an emphasis on first-generation students, incarcerated adults, rural community members, students of color and veterans. Ascendium's work identifies, validates and expands best practices to promote large-scale change at the institutional, system and state levels, with the intention of elevating opportunity for all. For more information, visit https://www.ascendiumphilanthropy.org.