

A woman with dark hair tied back, wearing light blue scrubs, is seated at a white desk. She is looking towards the right side of the frame. Her hands are on a black laptop keyboard. In front of her is a tablet computer. A blue stethoscope is visible in the foreground. The background is a plain, light-colored wall.

# Competency-Based Education

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## Summary

Competency-based education (CBE) programs are a pedagogical alternative to credit hours in higher education. Seen by proponents as a greater alignment to workforce skills and competencies, CBE programs are expected to continue increasing in number. Though the federal government has established working groups and committees to examine CBE programs and the potential for incorporating them into the Federal Student Aid structure, current oversight and regulation is largely left to existing accreditors.

## Defining Competency-Based Education

The quality of American higher education is an issue of increasing concern to employers and policy experts alike. For many years, employers have complained that college graduates lack the knowledge and skills necessary to compete in the workforce. These concerns are not new. They have, however, risen in the public consciousness as the value, both private and social, of higher education has taken center stage in political and fiscal discussions.<sup>1</sup> The shifting and precarious nature of today's economy and the challenges posed by the global pandemic have driven students, policymakers, and institutional leaders to re-examine the preparation and return on investment of higher education.<sup>2</sup>

CBE is a pedagogical proposal designed to focus higher education on the skills needed to compete in the workforce. While there is no federal definition in law or regulation of CBE, guidance from the U.S. Department of Education (ED) for institutions participating in an experiment utilizing this educational methodology describes it in the following terms:

In general, a CBE program is one that organizes content according to what a student knows and can do, often referred to as a "competency." CBE programs also generally have very clear claims for student learning, stress what students can do with the knowledge and skills they acquire and have assessments that provide measurable evidence of competency. Student progress is determined by mastery of each competency. Because CBE focuses on whether students have mastered these competencies, there is a focus on learning outcomes rather than time spent in a classroom.<sup>3</sup>

An alternative definition was offered in *The Journal of Competency-Based Education*:

CBE is defined as an outcome-based approach to education that incorporates modes of instructional delivery and assessment efforts designed to evaluate mastery of learning by students through their demonstration of the knowledge, attitudes, values, skills, and behaviors required for the degree sought.<sup>4</sup>

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<sup>1</sup> See, for instance, the [Postsecondary Value Commission](#) by the Gates Foundation and IHEP.

<sup>2</sup> The precarity of the current economy has been [frequently documented](#).

<sup>3</sup> See [U.S. Department of Education \(2015\)](#).

<sup>4</sup> See [Gervais \(2016\)](#).

CBE distinguishes itself from traditional higher education by acknowledging a student’s knowledge of a given topic without basing it on time requirements.<sup>5</sup> Traditional higher education is time-based—a student gains a degree after earning a specific number of credit hours (these are usually based on the number of classroom hours per week through a term, sometimes referred to as “seat time”). Under this traditional credit hour-based system, time is constant (e.g., 120 credit hours earned over four years), and learning is variable (e.g., a student earns the same number of credits for a grade of C- as he or she does for an A+). CBE flips the traditional time-based model: Under a competency framework, learning is ideally constant (e.g., a student has either mastered the concept or not), and time is variable (e.g., students may progress quickly through material that they find easy or with which they have familiarity or slow down their pace and spend more time on material that is more difficult or less familiar to them).

Under a CBE model, students progress through their program of study, not by accumulating credit hours but by demonstrating their skills and knowledge of particular subject matter competencies through a set of assessments. Rather than being graded on a scale of A–F, students either do or do not demonstrate their mastery of competencies. In most competency-based programs, mastery of competency is equivalent to a grade of B or better.

Still, the majority of CBE programs rely on the credit hour for students to receive federal financial aid. To enable students to qualify for federal financial aid, [current federal regulations](#) require institutions to equate competencies back into credit hour equivalencies<sup>6</sup> except for a subset of “direct assessment” programs.

Through CBE, students can draw upon, and often receive credit for, their work experiences and prior learning more readily than under more traditional academic programs. It is important to note, however, that there are distinct differences between CBE and prior learning assessments (PLAs). PLA is a formal assessment of college-level learning that occurs outside of the traditional college classroom. As defined by the Council for Adult and Experiential Learning, prior learning assessment is “the process by which many colleges evaluate for academic credit the college-level knowledge and skills an individual has gained outside of the classroom, including from employment (e.g., on-the-job training, employer-developed training), military training/service, travel, hobbies, civic activities and volunteer service.”<sup>7</sup>

Today, there are four methods of assessing a student’s prior learning: (1) evaluation of military and corporate training and coursework; (2) standardized tests (e.g., Advanced Placement tests); (3) course challenge exams; and (4) student portfolios. Additionally, rather than using one of these four specific methods of assessment at the outset for PLA, CBE students can draw upon what they already know to help them progress through specific components of their learning, or competencies, more quickly. Importantly, the assessment fees for PLA cannot be paid for with Federal Student Aid funds,<sup>8</sup> while the coursework and learning for competency-based education can be.

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<sup>5</sup> See [Laitinen \(2012\)](#) for a discussion of CBE and the debate against credit hour measurement.

<sup>6</sup> These equivalencies first entered federal regulations with the Deficit Reduction Act of 2005.

<sup>7</sup> See [Klein-Collins \(2012\)](#).

<sup>8</sup> Fees for prior learning assessments (PLA) could be paid for with Federal Student Aid funds under an [experiment](#) supported by ED that began in 2015 and ended in 2019.

## Origins of Competency-Based Education

Competency-based higher education in the United States dates to the 1970s. At the time, CBE programs were viewed as an attractive option for adult learners who entered college with knowledge and skills that would allow them to advance quickly through some material, but who needed additional time for newer material.<sup>9</sup> Although CBE programs have existed for some time, they remained a relatively unrecognized educational methodology in American higher education until the development of Western Governors University (WGU), a nonprofit online university created by 19 western governors in 1995. As of December 31, 2020, WGU had enrolled over 129,000 full-time students (cumulatively) and awarded over 214,000 degrees in teacher education, business, information technology, and health professions.<sup>10</sup> Since WGU's establishment, many more institutions have begun offering or expanding their CBE programs.

Although WGU currently has the greatest name recognition as a competency-based education model, there are a number of other competency-based programs across the U.S. Some of these programs are long-standing—such as Alverno College's program that began in the 1970s, Thomas Edison State University's program that began in the 1980s, and Charter Oak State College's program that began in the 1990s—while others are more recent, including Southern New Hampshire University's College for America program started in 2013.

## Barriers to Competency-Based Education Implementation

For more than two centuries, higher education in the U.S. has primarily been delivered one way: students come to a campus and take a designated series of courses led by professors for a designated period of time. With the growth of the CBE model, some faculty and administrators have raised concerns about how to best maintain academic quality, especially given that CBE is often a remote learning experience. Others have raised concerns about ensuring students are able to transfer credits across institutions, given that most of the higher education sector relies on credit hours. Finally, some faculty and administrators are concerned that employers are less likely to recognize credentials that follow an atypical model.

With regard to financial barriers, the credit hour, which CBE is designed in contrast to, is more than just the current measure of progress toward a degree—it has become the basis for awarding student financial aid and determining institutional and departmental budgets. Even though competency-based models seek to break from the credit hour, they must still include credit hour equivalencies to enable students to qualify for federal financial aid. An amendment to the Higher Education Act enacted in 2005 was intended to make programs, such as those being developed by WGU, that rely on direct assessment of student learning, a subset of CBE, eligible to receive federal student financial aid without using credit hour equivalencies. Specifically, this provision made the following changes to the term “eligible program”:

For purposes of this title, the term “eligible program” includes an instructional program that, in lieu of credit hours or clock hours as the measure of student learning, utilizes direct assessment of student learning, or recognizes the direct assessment of student learning by others, if such assessment is consistent with the accreditation of the institution or program utilizing the results of the assessment.<sup>11</sup>

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<sup>9</sup> See [Klein-Collins \(2012\)](#).

<sup>10</sup> See the annual report from [WGU \(2022\)](#).

<sup>11</sup> Deficit Reduction Act of 2005, [Pub. L. No. 109-171](#).



This provision offers institutions the possibility of creating a CBE program that measures student learning through direct assessment rather than credit hours or seat time. If an institution's direct assessment program is approved by their accreditor and the Secretary of Education, students may pay for these programs using their federal financial aid dollars. However, ED requires that any institution using direct assessment "[establish a methodology](#) to reasonably equate the direct assessment program (or the direct assessment portion of any program, as applicable) to credit or clock hours for the purpose of complying with applicable regulatory requirements," including the distribution of federal financial aid dollars. No institutions applied to offer CBE programming under the "direct assessment" authority until 2013.<sup>12</sup> As of 2018, approximately 80 programs at eight institutions had been approved.

## Competency-Based Education Regulatory Environment

Over the years, ED has begun to provide a framework for expanded CBE and has allowed some institutions to offer direct assessment programs. In September 2012, ED created a working group on direct assessment to review the 2005 provision and provide technical assistance to institutions and others interested in how the use of the direct assessment provision impacts financial aid eligibility.<sup>13</sup> On March 19, 2013, ED issued [guidance](#), *Applying for Title IV Eligibility for Direct Assessment (Competency-Based) Programs*, which explains how institutions can have CBE programs approved under the current regulations, while also acknowledging that current law may not fully accommodate CBE programs. Later in 2013, ED approved applications from Southern New Hampshire University and Capella University to begin direct assessment programs in the fall of 2013 and 2014, respectively.

Beginning in January 2014, the Office of the Inspector General (OIG) audited ED's actions and found that it did not adequately address the risks that direct assessment posed to the federal financial aid program. The OIG found that ED did not have processes in place to prevent students from using financial aid for "life experiences," which is not a permissible use of Title IV aid, and could not guarantee that direct assessment programs were not correspondence courses that lack "regular and substantive" student-faculty interaction.<sup>14</sup> To address these findings, ED issued [further guidance](#), *Competency-Based Education Programs – Questions and Answers*, on December 19, 2014.

In July 2014, ED issued a *Federal Register* notice inviting institutions to participate in two experiments under the Experimental Sites Initiative related to CBE: CBE Split Disbursement and Limited Direct Assessment. The experiments also included the CBE Subscription Period, which expanded institutional eligibility in 2015 to include institutions that charge a flat fee for tuition. The Split Disbursement and Subscription Period sites provided federal financial aid to students enrolled in self-paced CBE programs. The Limited Direct Assessment site allowed flexibility for an institution to provide a mix of direct assessment coursework and credit hour coursework in the same program. There were 13 institutions participating in the CBE Split Disbursement, 10 institutions participating in the CBE Subscription Period, and 21 institutions participating in Limited Direct Assessment.<sup>15</sup>

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<sup>12</sup> See [Laitinen \(2012\)](#).

<sup>13</sup> See the audit report by the [Office of the Inspector General \(2014\)](#).

<sup>14</sup> See the audit report by the [Office of the Inspector General \(2014\)](#).

<sup>15</sup> For the full list of participants, see ED's [experimental sites webpage](#).

In November 2019, ED sent [letters](#) to participating institutions alerting them that both parts of the CBE-related Experimental Sites Initiative were to be terminated on June 30, 2020. Institutions retained access to federal financial aid under the experiment through the 2020–21 academic year to enable students currently enrolled in these programs to complete their credential. As their rationale for ending the experiments, ED cited sufficient data from the programs to inform an agreement with non-federal negotiators in a 2019 negotiated rulemaking session on a federal financial aid disbursement model for direct assessment and subscription-based programs. This [final rule](#) was published in September 2020 and went into effect on July 1, 2021.

The final Distance Education and Innovation Rule has several provisions related to the implementation of CBE programs. In this rule, ED provides clarity to the “regular and substantive” requirement for Title IV eligibility of distance education programs (including both CBE and non-CBE distance education programs) to demonstrate interaction between students and the instructor, consistent with ED’s long-standing interpretation of that requirement. The issue was raised during negotiations in part because of a compliance matter. Additionally, while courses must take place on a “predictable and scheduled basis” (the “regular” component of “regular and substantive interaction”), institutions must ensure instructors engage in at least two of the following five criteria to meet the “substantive” component:

- Providing direct instruction;
- Assessing or providing feedback on a student’s coursework;
- Providing information or responding to questions about the content of a course or competency;
- Facilitating a group discussion regarding the content of a course or competency; or
- Other instructional activities approved by the institution’s or program’s accrediting agency.

The final rule affirms the time-based definition of a credit hour, while codifying into law pre-existing flexibilities that allow institutions to focus on student learning rather than seat time. These flexibilities, initially published through [subregulatory guidance](#) in 2010, permit institutions to determine the appropriate amount of credit hours awarded for student work, including by permitting institutions to determine the balance between classroom time and out-of-class student work and by taking into consideration alternative delivery models and measurements of student work. In effect, the final rule codifies this previous Department guidance.

Two additional provisions of the rule may apply to CBE. Under the new rule, only an institution’s first direct assessment program at each credential level requires ED’s approval, whereas previously all direct assessment programs required individual approval. Once an institution has an approved direct assessment program, they may create as many additional programs as they desire and simply notify ED rather than seek prior approval.

The rule also revises federal financial aid eligibility to accommodate subscription-based pricing models, which some CBE programs use. In subscription-based models, students complete coursework at their own pace, and pay tuition based on the credit hours they anticipate completing. The rule implements a federal definition of subscription-based programs and establishes a definition of a full-time student in these programs for aid eligibility. It also requires students to hit certain completion benchmarks prior to subsequent aid disbursements to ensure colleges can’t access too much aid upfront.



Colleges and universities have recently shown tremendous interest in CBE programming. The 2020 National Survey of Postsecondary Competency-Based Education found that between 2018 and 2020, 128 unique institutions reported operating 1,057 CBE programs.<sup>16</sup>

## Accreditation

Together, ED, institutions, and accrediting agencies determine whether a program constitutes a qualifying CBE or direct assessment program. Accreditors must evaluate an institution's plan for translating CBE courses into equivalent credit hours and determine whether there is substantive faculty-student interaction to ensure the institution is eligible. However, under a new rule that went into effect on July 1, 2020, accreditors are no longer required to specifically evaluate institutions' policies on what constitutes a credit hour.

Accreditors' reviews of CBE programs have faced some criticism. A 2015 OIG report cited a regional accreditation organization's review of CBE programs. The report, *The Higher Learning Commission Could Improve Its Evaluation of Competency-Based Education Programs to Help the Department Ensure the Programs Are Properly Classified for Title IV Purposes*,<sup>17</sup> found that the regional accreditor did not properly evaluate credit hour equivalencies, determine faculty-student interaction, or review programs that may have had substantive changes.

In June 2015, the Council of Regional Accrediting Commissions developed guidance for its member accreditors on competency-based education, including direct assessment programming.<sup>18</sup> Also in September 2015, ED issued detailed guidance that sought to provide increased clarity and consistency for CBE accreditation. To ensure clarity moving forward, some have suggested creating an accreditation organization or oversight/advisory body specializing in competency-based education.<sup>19</sup> At present, the review of an institution's direct assessment programs is mostly left to accreditors through their substantive change policies.

## Data Collection and Research

With CBE, neither comprehensive evaluations by federal agencies nor representative federal data sets currently exist. Federal data sets that are currently available do not allow researchers to disaggregate students enrolled in CBE programs from students enrolled in traditional credit hour-based degree programs.<sup>20</sup> Realizing this, an association of institutions is collaborating to collect data on its members' CBE programs. This group, known as the [Competency-Based Education Network \(CBEN\)](#), is composed of 140 member institutions.

At the same time, American Institutes for Research has collected data on CBE through an annual web-based survey of postsecondary institutions in the U.S. That survey is geared toward assessing the state of the CBE field and includes both institutions that are interested in adopting CBE and those already on the adoption pathway. The survey is administered over three consecutive years (2018–2020) to provide important information about the early development of the field to policymakers and practitioners.

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<sup>16</sup> See [AIR \(2021\)](#).

<sup>17</sup> See the report by [OIG \(2015\)](#).

<sup>18</sup> See [Lacey & Murray \(2015\)](#) and the Council of Regional Accrediting Commissions' 2015 [announcement](#).

<sup>19</sup> See [Lacey & Murray \(2015\)](#).

<sup>20</sup> See [Kelchen \(2015\)](#).

In keeping with the academic efforts to advance knowledge and improve practice through peer reviewed journals, WGU has spearheaded an effort to publish [The Journal of Competency-Based Education](#) (JCBE) quarterly.<sup>21</sup> The journal has disseminated research, reviews, original conceptual articles, emerging policies, best practices, and commentary.

Though there are not comprehensive reviews or data sets from federal sources, CBE programs have been reviewed by researchers using restricted administrative data or conducting randomized controlled trials at the institutional or program level. Much of these studies were conducted in healthcare programs, though there is evidence in engineering, K-12 education, teaching, and multidisciplinary graduate school programs as well. The findings from these studies are mixed in terms of the effectiveness of CBE programs in improving learning or workforce outcomes for students.<sup>22</sup>

CBE programs do appear to improve access to higher education for historically disenfranchised communities;<sup>23</sup> however, a systematic review of CBE programs in medical schools found little evidence of improved test scores or performance, though they uniformly found improved self-reported confidence in one's abilities as a result of participating in CBE.<sup>24</sup> These findings were corroborated by a more recent systematic review of CBE program effects on clinical performance of healthcare providers, which found positive effects in older studies, but limited effects in studies beginning in 2016.<sup>25</sup> One meta-analysis of clinical nursing CBE programs found that, among seven randomized controlled trials, transferring the clinical aspects of nursing degree programs to CBE models improved nursing care ability, critical thinking and innovation, level of comprehensive knowledge, and professional construction and development.<sup>26</sup>

Beyond the healthcare field, one case study of a CBE model in a Utah community college found that CBE participants had statistically significantly higher earnings immediately after program completion compared to students in traditional models, though there was no statistically significant difference in the likelihood of employment.<sup>27</sup> In K-12 education, a systematic review of CBE programs found mostly anecdotal or correlational evidence both for and against CBE programs in terms of student achievement and content knowledge.<sup>28</sup> A study of 15 graduate students in a healthcare administration program found improved self-reported competency following CBE program participation through a pre-post test analysis.<sup>29</sup> Overall, the research on CBE programs seems to suggest that this model reduces entry costs to higher education and improves opportunities for historically disenfranchised populations,<sup>30</sup> while having mixed, limited positive effects on student learning and workforce outcomes.

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<sup>21</sup> From 2016 through 2021, *The Journal of Competency-Based Education* was published in partnership with John Wiley & Sons, Inc.

<sup>22</sup> It is also important to note that the studies and meta-analyses included here do not examine online programs, but rather CBE models conducted in person.

<sup>23</sup> See [Kelchen \(2015\)](#) and [AIR \(2021\)](#).

<sup>24</sup> See [Morcke et al. \(2012\)](#) and [Cleary \(2020\)](#).

<sup>25</sup> See [Imanipour et al. \(2022\)](#).

<sup>26</sup> See [Chen et al. \(2022\)](#).

<sup>27</sup> Results from [Bragg et al. \(2018\)](#) included in the What Works Clearinghouse by the National Center for Educational Evaluation.

<sup>28</sup> See [Evans et al. \(2020\)](#).

<sup>29</sup> See [Foster & Jones \(2020\)](#).

<sup>30</sup> For instance, [Hossler & James \(2021\)](#) found reduced student debt with no reduction in learning outcomes among nursing students.

## Looking Ahead

*The 2020 National Survey of Postsecondary Competency-Based Education* found that 82% of institutions expect the number of CBE programs in the U.S. to increase in the next five years.<sup>31</sup> Some institutions have sought to integrate the skills and outcomes that employers are seeking into the curriculum at a granular level, where each assignment aligns to subject-matter and employer expectations. Other institutions, like College Unbound, have chosen instead to assess student progress against a broad set of [leadership and change competencies](#) that they must demonstrate prior to graduation. While declining to use the term competency-based education, other institutions have begun to adopt approaches that appear, on their face, to be inspired by CBE to better appeal to employers and, perhaps as importantly, prospective students.

Competency-based education is seen by many as a path to increase the number of individuals with a high-quality degree or credential by offering a cost- and time-effective approach to higher education. Proponents of CBE are hopeful that the reauthorization of the Higher Education Act will drive increased CBE program participation by increasing federal guidance, support, and research on the topic. Reducing barriers to federal student financial aid for these reforms, coupled with increasing publicly available research and data related to CBE, may lead to more rapid acceptance and adoption of the model among traditional higher education institutions.

## Conclusion

CBE is a pedagogical approach to higher education course delivery designed to align education with workforce skills and competencies. Gaining federal recognition with the establishment of WGU in 1995, CBE has faced a mixed regulatory response from the federal government and found mixed, limited positive evidence of improving student learning. While CBE programs are expected to grow in number in the coming years, oversight and regulation at present are left mostly to existing accreditors.

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<sup>31</sup> See [AIR \(2021\)](#).

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Please contact Jared Colston with any questions or inquiries at [colston@pnpi.org](mailto:colston@pnpi.org).