Clarifying Competency Based Education Terms

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Though not entirely new, competency based education has captured the attention of the higher education community—and for good reason. With approximately 36 million Americans with "some college, no degree" who need flexibility in their post-secondary education, as well as the large segment of first-generation, low income students who would benefit from innovative pedagogical approaches and lower cost options, competency based education provides many advantages.

However, there is no "one specific thing" called competency based education. Further, related terms are used in different ways by different people, often causing confusion. This document is a first step in what we hope will provide a helpful structure for future discussions about competency based education, especially for those new to the conversation. It is organized into topical sections: Overview, Competencies and Learning Outcomes, Learning Processes, Assessment Processes, Evidence of Learning, Credentials, Badges, Instructional and Support Roles, Student Support, Regulations and Accreditation, and Validation.

Many of the definitions here were gathered from existing sources. Many other definitions represent a consensus of the competency based education community. We consider this to be a "living document" that will evolve as new terms come into use or as their meanings shift over time. We welcome your feedback.

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Overview

Affordability

Affordability is the degree to which an institution or program provides a combination of tuition, fees, grants, loans, and time-to-completion that make worthwhile a student's investment in his/her education. Affordability is a key component of the business models of competency based education programs, which often aim to reduce students' costs through a variety of delivery models.

Attainment

Attainment is used in higher education to refer to degree or certificate completion through accessible, equitable, and affordable education. Attainment is a key driver in the competency based education movement.

Competency Based Education (CBE)

Competency based education (CBE) is an alternative to the credit hour-based system of credentialing. Student progress is based on demonstration of proficiency and/or mastery as measured through assessments and/or through application of credit for prior learning. In competency based education programs, time is the variable and student competency mastery is the focus, rather than a fixed-time model where students achieve varying results. In competency based education, as distinct from competency based learning, the focus is on academic programs, practices, and policies.

Competency Based Education Strategies

Competency based education strategies include online and blended learning, dual enrollment and early college high schools, project-based and community-based learning, and credit for prior learning, among others. Competency based education strategies strive for better student engagement through personalization – learning materials and pathways that are relevant to each student and tailored to their unique needs. It also strives for better student outcomes because the pace of learning is customized to each student.

Competency Based Learning (CBL)

Competency based learning (CBL) refers to learning processes focused on acquiring specific skills and developing specific abilities. Competency based learning can happen in any context, whether or not it is part of an educational program or happens in a classroom or formal educational setting. In competency based learning, as distinct from competency based education, the focus is on learners and their experiences in learning environments.

Competencies and Learning Outcomes

Competency

A competency is a specific skill, knowledge, or ability that is both observable and measurable.

Institutional Learning Outcomes

Institutional learning outcomes are observable and measurable statements about what an institution delivers and expects to see in each of its graduates. Institutional learning outcomes reflect the design and delivery of the curriculum and co-curriculum for each of the institution's degree programs. Curricular learning outcomes often fall into two categories: Undergraduate general education (written communication, information literacy, quantitative reasoning), and undergraduate and graduate disciplinary (knowledge, application, evaluation of discipline). Co-curricular learning outcomes might include civic engagement, career planning, spiritual awareness, etc.

O*NET

O*NET is the Occupational Information Network sponsored by the U.S. Dept. of Labor. Its database includes standardized descriptions of skills, knowledge, and abilities mapped to occupations. **(O*NET)**

Occupational Skills

Occupational skills are the knowledge, abilities, and skills required to perform a job.

Program Learning Outcomes

Program learning outcomes are observable and measurable statements about what a specific program delivers and expects to see in each of its graduates. Program learning outcomes describe what a student knows, thinks, or is able to do as a result of their experience in the program. (Typical program learning outcomes are knowledge of theory, application of theory, evaluation of theory, practices of the discipline, etc.)

Skills

Skills are a type of competency referring to observable and measurable tasks a student can accomplish as a result of education, training, and/or practice.

Student Learning Outcomes

Student learning outcomes are observable and measurable statements of what a student knows, thinks, or is able to do as a result of an educational experience. Sets of learning outcomes can be defined at the level of the institution, programs, courses, learning modules, or in other types of groupings. Learning outcomes are generally at the same level of granularity as competencies, and sometimes the terms are used interchangeably.

Learning Processes

Adaptive Learning

Adaptive learning provides structures for directing students to resources based on their responses to prompts, test or survey questions, or some other indicator of their understanding of a specific concept. Adaptive learning structures are usually defined as part of a set of learning materials on a specific topic, and methods of directing students are sometimes automated by technology.

Competency Based Pathways

Competency based pathways is a phrase associated with competency based education to distinguish flexible learning models from traditional time-based models where students generally all follow the same progression of activities. Pathways emphasize varied ways for students to progress to desired end states of completion and achievement.

Differentiated Learning

Differentiated learning refers to a variety of methodologies that direct students along different pathways based on their needs and mastery of competencies. Differentiated learning often "branches" different learning materials, interventions, feedback, diagnostic measures, and/or adaptive structures based on an individual student's progress or characteristics that put them in a defined grouping.

Do-It-Yourself Education

Do-it-yourself education refers to progressive, self-directed learning movements promoting communities of learning outside traditional academic institutions.
(ANYA KAMENETZ)

Flexible Pace

Flexible pace allows students to progress through learning materials more quickly or more slowly, within certain parameters and usually with date constraints for overall completion of a set of materials. *See also: Self-Paced.*

Individualized Learning

Individualized learning refers to the practice of allowing learners to start at different times, start at different levels of mastery, and proceed through learning materials at different paces. Individualized learning plans are often defined by instructors or mentors guiding students toward achievement and completion.

Leveling Up

Leveling up refers to a learner's process of moving from one level of achievement to a higher level of achievement. Leveling up is commonly used in gaming and can provide motivation for progress as the learner achieves a lower level with less effort and is challenged to move up with more effort.

Learning Processes

Maker Movements

Maker movements are progressive communities promoting activities that involve using creative skills to make or design things on one's own and in learning groups.

Personalized Learning

Personalized learning refers to various aspects of educational delivery in which individualized and differentiated practices are emphasized. Personalized learning offers students choices in their learning activities, ways of engaging with their peers and mentors, and other options that emphasize the importance of the "person" in educational contexts.

Project Based Learning (PBL)

Project based learning (PBL) engages learners in the exploration of real-world problems. Project based learning often provides hands-on experience or simulates actual environments and processes.

Self-Paced

Self-paced learning learning allows students to progress through learning materials and processes more quickly or more slowly on their own terms, including the ability to set their own deadlines and completion goals, generally without externally defined constraints. *See also: Flexible Pace.*

Time-On-Task

Time-on-task is a term used in education to signify a student's engagement in educational activities for measurable amounts of time.

Assessment Processes

Authentic Assessment
Authentic assessment is the assessment of competencies in a manner that as closely as possible approximates the way in which that competency will be demonstrated in the individual's professional and/or civic life.

Direct Assessment
Direct assessment refers to the use of academic assessment methodologies used for evidence-based evaluation of student competencies, rather than evaluation based on indirect measures such as the student's seat time in the classroom. In competency based education, tests, rubrics, and other assessment measures can be aligned with specific competencies for evaluation of evidence of competency mastery. *See also: Direct Assessment Program.*

Formative Assessment
Formative assessment is diagnostic in nature and refers to the use of assessment results by instructors or coaches to improve student performance. In the context of program assessment, assessment results are used to improve program performance. Also sometimes referred to as "assessment for learning" as distinct from summative assessment, which is "assessment of learning."

High Stakes Assessment
High stakes assessment refers to the use of commercially produced nationally normed tests that might be used to assess a student's (and, perhaps, their instructor's) competencies.

Indirect Assessment
Indirect assessment refers to the use of surveys, focus groups, or other formal methods to evaluate perceptions among a target group. In competency based education, perceptions of students may be used for a range of purposes, including gathering feedback to guide corrective action by instructors, mentors, or advisors.

Mastery
Mastery is a demonstration of a specific competency. Mastery of specified competencies in competency based education is the mechanism by which a student progresses through the educational process to the desired end state.

Assessment Processes

Objective Assessment

Objective assessment describes tests (typically timed) of student competencies in a format of pre-determined right-and-wrong answer options. These tests can include multiple choice, yes/no, true/false, matching, fill-in-the-blank, etc. The instructor or technology methods evaluate correct/incorrect responses once and apply the answer key to all student submissions. Objective assessment is one strategy used in competency based education models to reduce costs. (WESTERN GOVERNORS UNIVERSITY)

Performance Assessment

Performance Assessment describes assignments such as presentations, papers, projects, etc. that require instructor judgment (with or without a rubric) on the competency levels demonstrated by a student. The instructor applies the grading process to each student submission individually. (WESTERN GOVERNORS UNIVERSITY)

Proficiency

Proficiency is a term used to signify achievement within an educational program context. Levels of proficiency are determined by the education provider and sought by the student in the program. Proficiency in all program areas is the ideal goal. In competency based education, "proficiency" is sometimes used in conjunction with "mastery," where proficiency is the level of achievement that is considered "passing" (e.g. 60%) but a higher level of achievement (e.g. 85%) is required for mastery and progression through the program.

Project Based Assessments

Project based assessments are assignments that involve students in real-world experiences (or simulations of) in settings such as companies, not-for-profits, and community based organizations. As such, the assessment of project based assignments typically addresses competencies such as analytic thinking, quantitative reasoning, and teamwork skills, as well as disciplinary content.

Rubrics

Rubrics are assessment matrices with criteria for evaluating a competency and levels of demonstrated performance. Rubrics are applied to student work with the results used to determine levels of achievement. Rubrics are used to evaluate student, course, and program performance.

Summative Assessment

Summative assessment is judgmental in nature and refers to the use of assessment results by instructors or coaches to determine whether and how well a student achieved a learning objective or competency. In the context of program assessment, assessment results are used to determine the extent to which the program goals were achieved. Another definition for summative is assessment occurring at the end of a defined milestone.

Evidence of Learning

College Level Examination Programs (CLEP)

College Level Examination Programs (CLEP) "test mastery of college-level material acquired in a variety of ways — through general academic instructions, significant independent study or extracurricular work." **(CLEP)**

Competency Reports

Competency reports display the student's current achievement status for all of the competencies in the program of study.

Credit For Prior Learning (CPL)

Credit for prior learning (CPL) is a practice used by institutions at or close to the time of a student's admission to award institutional credit for demonstrated competency mastery earned in other settings. In competency based education, this practice is an important factor in placing students so as to avoid repeating unneeded content and advancing the student toward completion as quickly as is appropriate to do so. *See also: Prior Learning Assessment.*

Evidence of Learning

Evidence of learning can be artifacts, videos, documents, test results, portfolios, work products, or other materials that substantiate claims with regard to learning outcomes. Evidence of learning can also include formally verified learning achievements such as credit for prior learning, certificates, degrees, and credentials. *See also: Learning Artifacts.*

Final Degree Reports

Final degree reports display that degree status has been achieved in the program of study.

Learning Artifacts

Learning artifacts refers to actual work produced by students. Learning artifacts can be test results, papers, portfolios, project reports, performances, presentations, paintings, work products, etc. which can be used in the process of assessing students or programs and can be used by learners as evidence of learning for numerous purposes.

Portfolios

Portfolios are "compilations of student work assembled for the purpose of (1) evaluating coursework quality and academic achievement, (2) creating a lasting archive of academic work products, (3) determining whether students have met learning standards or academic requirements," and/or (4) student aggregation of evidence of learning for a variety of purposes within and beyond educational institutions. **(GLOSSARY OF EDUCATION REFORM)**

Evidence of Learning

Prior Learning Assessment (PLA)

Prior learning assessment (PLA) is "the evaluation and assessment of an individual's life learning for college credit, certification, or advanced standing toward further education or training." Prior learning assessment is often applied to military and work experience, as well as community service, informal online learning, and other learning acquired outside traditional academic institutions. Prior learning assessment often uses evaluation of competency mastery to "translate" these learning experiences into college credits. **(CAEL)** *See also: Credit for Prior Learning.*

Prior Learning Assessment, Military or Corporate Training Alignment

Prior learning assessment, military or corporate training alignment is an assessment service for individuals who can gain credit for completed military or corporate training.

Prior Learning Assessment Portfolios

Prior learning assessment portfolios are used by some institutions in the prior learning assessment process to evaluate compilations of evidence of learning.

Prior Learning Assessment Tests

Prior learning assessment tests are used by some institutions for prior learning assessment. These tests can be internally developed by the institution or can be standardized tests such as College Level Examination Program (CLEP), Excelsior College Exams, or DANTES Subject Standardized Tests.

Profile

Profile refers to a person's documentation of their own skills, competencies, accomplishments, and talents, collected with personal information, artifacts, evidence of learning, badges, and credentials. Profiles are generally created for sharing with specific audiences, such as mentors, collaborators, peers, or employers, and different profiles can be created for different purposes and audiences.

Progress Reports

Progress reports in competency based education display the current status on all competency achievements plus the remaining requirements for competencies that have yet to be achieved for completion of the unit, course, program, or credential.

Credentials

Alternative Credentials
Alternative credentials are educational credentials other than full degrees that have labor market value. Examples include industry certification, licensures, and certificates. More recent innovations such as microcredentials or digital badges also fall within this category.

Certificates
Certificates are awarded by education or training providers and may include credit-bearing and/or non-credit-bearing courses. Certificates generally verify that the education or training has been completed, but do not necessarily represent acquisition of specific competencies. The terms "certificate" and "certification" are often confused. *See also: Certifications.*

Certifications
Certifications are awarded by third-party non-governmental certification bodies, such as an industry or occupational association, based on an individual demonstrating through an examination process that she or he has mastered the required knowledge, skills, and abilities to perform a specific job. *See also: Certificates.*

Competency Based Credentialing
Competency based credentialing is a process for awarding degrees, certificates, or other credentials based on the students' demonstrated mastery of competencies, in contrast with a degree based on courses and credit hours.

Credentials
Credentials is an umbrella term that includes degrees, diplomas, certificates, badges, professional/industry certifications, apprenticeships, and licenses. Credentials vary in the awarding organization, the standards on which the award is based, and the rigor and type of assessment and validation processes used to attest to the skills, knowledge, and abilities people possess.

Credit Mobility
Credit mobility is the ability to transfer credit earned from, or granted by, one institution to another institution.

Licensure
Licensure is based on pre-determined criteria by a public authority and is issued by the government (state or federal). In highly regulated industries, licenses are tightly linked to certifications, but may also require completion of varying levels of post-secondary degree.

Credentials

Quiltwork Credential

Quiltwork credential refers to students getting credits from many different education providers and "stitching" them together to meet the requirements for a credential.

Stackable Credentials

Stackable credentials "are part of a sequence of credentials that can be accumulated over time to build up an individual's qualifications and help them to move along a career pathway or up a career ladder to different and potentially higher-paying jobs." The term "leveling up" is often used in the context of stackable credentials to mean starting with one credential achievement and working up to higher level credential achievements by building skills. (U.S. DEPT. OF LABOR)

Badges

Badges

Badges are a form of credential signifying a person's achievement at some level of competency. Badges are issued by organizations to individuals who then use their badges as representations of accomplishment or achievement.

Badge Backpack

Badge backpack is a repository for badge earners to collect, store, manage, and display their digital badges. **(MOZILLA)**

Micro-Credentials

Micro-credentials have the same characteristics as credentials, but they are designed to represent small units of achievement, as distinct from a whole curriculum or educational program that might be required to achieve a degree or certification. Badges are sometimes referred to as "micro-credentials" because they represent single or small sets of achievements or competencies.

Mozilla Open Badges Infrastructure (OBI)

Mozilla Open Badges Infrastructure (OBI) "provides the technical 'plumbing' to support an Open Badges ecosystem. It includes a metadata specification (the standard which makes badges interoperable) ... and a set of application programming interfaces (APIs) enabling portability and verification of badges. The OBI is designed to be an open standards framework that allows badge systems to break out of their siloed environments and work together to benefit learners." **(MOZILLA)**

Instructional and Support Roles

Advisors
Advisors in competency based education provide students with guidance to make decisions in their curricular and career pathways.

Assessors
Assessors in competency based education are responsible for creating, administering, and/or assigning marks to students and evaluating their mastery of competencies.

Coaches
Coaches in competency based education maintain an advisory relationship with a student, typically throughout the student's enrollment in a competency based education program. Coaches may also be called "mentors" or "student success coaches."

Faculty
Faculty in competency based education programs are responsible for one or more of the following tasks: subject matter expert, curriculum design, assignment development, assessment/grading, mentoring, advisement, and/or coaching.

Graders
Graders in competency based education programs are solely responsible for grading assessments.

Mentors
Mentors in competency based education guide students through their educational processes and may also called "coaches" or "student success coaches."

Subject Matter Experts (SME)
Subject matter experts (SME) in competency based education are responsible for curriculum design in their area of expertise. Their roles typically include developing or curating course content such as reading materials, assignments, and examinations. Their responsibilities generally do not include delivery of the content.

Tutors
Tutors in competency based education are responsible for interacting with students in specific learning activities on specific topics and helping them achieve their learning goals.

Student Support

360 Support Services

360 support services are often provided in competency based programs to provide a range of student support on a 24 x 7 basis. 360 support services typically include technical support but also include other types of support, such as financial aid guidance, degree planning, tutoring, and help finding "life services" such as child care and transportation.

CRM

CRM refers to "customer relations management" software systems that in a competency based education environment provide continuous and up-to-date status on students in the program. CRM systems are used by coaches, mentors, advisors, and faculty to provide appropriate feedback and advice to students to support a student's progress in a program.

Early Warning Systems

Early warning systems are technology based tools that monitor student grades, time-on-task, and other indicators and report these indicators to individuals who then intervene with the student to provide the support needed at the earliest point possible.

Intrusive Advising

Intrusive advising is a retention strategy used by institutions to identify, contact, and advise students at risk before or at the time they need help with a range of curricular, co-curricular, or transactional challenges.

Predictive Analytics

Predictive analytics is the use of technology in systematically identifying, collecting, analyzing, and using data to identify and predict the outcomes for targeted student populations, particularly those who are at risk.

Student Success Reports

Student success reports in competency based education clearly and effectively display specific advisements for corrective action a student should take in order to successfully achieve goals and complete the program of study.

Regulations and Accreditation

Accreditation

Accreditation is a voluntary system of self-regulation carried out by peer review in which an institution or program is found to meet or exceed a set of standards. The dual purposes of accreditation are to assure quality and foster improvement. Accrediting agencies are non-governmental but recognized by the U.S. Department of Education to be "gatekeepers" for federal financial aid. Competency based education programs seek accreditors' approval through some combination of regional, professional, or trade-based accrediting agencies. (U.S. DEPT. OF EDUCATION)

Accreditation Status

Accreditation status means an institution or degree program is operating within or outside of the standards set by an accrediting body. The implications for competency based education include access to federal financial aid for students.

Attendance

Attendance is a concept used by the federal government to regulate how institutions recoup federal financial aid from students who drop courses (determined by the last date of attendance). For online instruction, "last date of attendance" is currently interpreted as the last time a student participated in an online discussion, submitted an assignment or took a test, or made contact with a faculty member. The implication for competency based education is that if the learning process is not time based, "attendance" and date of last attendance are difficult to define.

Credit Hour

Credit hour is federally defined as: "Except as provided in 34 CFR 668.8(k) and (l), a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than—(1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or (2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours." The implications of the credit hour in competency based education relate to federal language allowing institutions to receive financial aid for their students. Problems arise in the conflict between this time-based definition and flexibly-paced learning processes found in competency based education. (U.S. DEPT. OF EDUCATION)

Regulations and Accreditation

Direct Assessment Program

Direct assessment program is federally defined as "an instructional program that, in lieu of credit hours or clock hours as a measure of student learning, utilizes direct assessment of student learning, or recognizes the direct assessment of student learning by others, and meets the conditions of 34 CFR 668.10. For Title IV, HEA purposes, the institution must obtain approval for the direct assessment program."

(U.S. DEPT. OF EDUCATION)

Experimental Sites

Experimental sites is a phrase used by the U.S. Dept. of Education to recognize institutional initiatives intended to reform education. "We are particularly interested in experiments that are designed to improve student persistence and academic success, result in shorter time to degree, including by allowing students to advance through educational courses and programs at their own pace by demonstrating academic achievement, and reduce reliance on student loans. Subject to the statutory restrictions and limitations of the Secretary's experimental site authority noted above, examples of areas that could be considered for experiments include: *Allowing flexibility in how institutions provide Federal student aid to students enrolled in competency based education programs where progress is measured on the basis of how much has been learned, rather than measures of time; *Allowing high school students to receive Federal student aid for enrollment in postsecondary course work without a reduction in the amount of State and local support provided for such enrollment; *Allowing Federal student aid to be used to pay for assessments of prior learning and other processes to evaluate students' knowledge." Most recently, the U.S. Dept. of Education is seeking experiments in self-paced competency-based programs, "hybrid" programs, which combine elements of direct assessment and credit-hour-based coursework, prior-learning assessment, and federal work-study programs under which college students mentor high school students in college readiness, student aid, career counseling, and financial literacy.

(U.S. DEPT. OF EDUCATION)

Higher Education Act (HEA)

Higher Education Act (HEA) of 1965, amended numerous times since then, regulates U.S. federal money given to higher education institutions, including financial aid to students.

R2T4

R2T4 or "return to Title IV" is the federal requirement to return federal financial aid monies for students who withdraw. "Students earn Title IV aid through attendance in the payment period or period of enrollment." This poses challenges for competency based education because these regulations are time-based.

(U.S. DEPT. OF EDUCATION)

Regulations and Accreditation

Satisfactory Academic Progress

Satisfactory academic progress is defined by the federal government and requires institutions to "establish a reasonable satisfactory academic progress policy for determining whether an otherwise eligible student is making satisfactory academic progress in his or her educational program and may receive assistance under the Title IV, HEA programs." **(U.S. DEPT. OF EDUCATION)**

Seat Time

Seat time is often used in conjunction with "credit hour," referring to time-based educational requirements measuring student time in classes. However, according to the U.S. Dept. of Education, "There is no "seat time" requirement implicit in the definition of a credit hour. An institution that is offering asynchronous online courses would need to determine the amount of student work expected in each online course in order to achieve the course objectives, and to assign a credit hour based on at least an equivalent amount of work as represented in the definition of credit hour."
(U.S. DEPT. OF EDUCATION)

Title IV

Title IV of the U.S. Higher Education Act covers the administration of federal financial aid, including Pell grants and federal student loans. The regulations associated with Title IV are relevant because they govern a significant amount of funding. "For 2011-2012, the Title IV programs accounted for 71 percent of the $245 billion in total financial aid received by college students." **(NASFAA)**

Validation

Authentication

Authentication certifies that credentials (including alternative credentials such as badges) issued by an institution or organization have undergone a defined process to ensure the credential bearer has met the standards required by the organization. Authentication represents a process an institution defines as "validating" that the credential has met or exceeded the institution's guidelines. In technical terms, authentication also refers to a login or other mechanism to determine that the user matches the identity of a user record in the system.

Authorization

Authorization signifies that an institution or organization has met standards permitting them to issue credentials and to "authenticate" specific credentials. In competency based education, authorization could be granted by an accrediting agency, a government agency, an industry standards organization, a licensing board, or other "authority" in a specific arena.

Validation

Validation refers to the ways stakeholders in an educational ecosystem determine the value of components in that ecosystem, particularly the credibility of credential issuers.

Verification

Verification is the process in which a set of guidelines or rules are used to determine whether or not a student has met standards for mastery of competencies. Verification also refers to the ability to technically confirm who granted specific credentials or assessed competencies, including when and in what context, for example transcript verification. In this sense, verified learning achievements have more value than self-asserted achievements.