

# Chapter 1

## Competency-Based Education in Higher Education

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### ABSTRACT

*This chapter summarizes the background and current status of competency-based education (CBE) in higher education. After briefly reviewing the history and current state of CBE in higher education, the authors address the more recent uptick in CBE options in higher education as well as potential drivers of demand, including changing demographics, demands from the public and employers for reduced costs and evidence of outcomes, and rapidly evolving technologies. The chapter includes examples of CBE programs in operation or development at selected post-secondary institutions and concludes with a brief look at barriers and challenges higher education faces in implementing CBS as well as possible opportunities for the future.*

### INTRODUCTION

Public displeasure with rising academic costs coupled with industry's frequent disappointment in graduate preparedness has resulted in increasing demands for accountability in higher education. In turn, a flurry of federal, state, and local activity and philanthropic support aimed at changing academia's standard of practice have created an environment for innovation (College Affordability Guide, n.d.; Fain, 2014). One innovation frequently considered a potential solution to these specific issues of cost and effectiveness is Competency-Based Education (CBE) (Book, 2014; College Affordability Guide, n.d.) Recent advances in analytics and technology infrastructure have provided opportunities to support CBE in ways not possible before (Ford, 2014) and it has experienced widespread adoption amongst institutions of higher education (IHEs) in recent years (Klein-Collins, 2013).

CBE is based on the idea that student progression is directly tied to evidence of skill mastery, including all of the learner-centric and individualized implications of that practice (Gallagher, 2014). CBE

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has many definitions, but in general, five components are essential: (1) measure of learning outcomes rather than seat time, (2) students advance upon mastery, (3) competencies that are explicit, measurable and transferable, (4) rigorous assessment methods, and (5) personalized learning approaches (WICHE, 2014). However, the complexity of CBE implementation and the lack of clear best practices (Book, 2014) create a high barrier of entry for new institutions to participate. The objective of this chapter is to empower institutions of higher education considering CBE implementation by examining the history and current state of CBE in higher education, including factors driving its current growth, examples from the field, and challenges and barriers evident in the current literature. Finally, the chapter considers the future of CBE in higher education.

## **HISTORY**

Competency-based Education (CBE), or at least a form of it, may be one of the oldest instructional models. Progression in training and social status through evidence of “competency” can be traced back through a number of societies, including professional organization-like guilds during the medieval period (Trueman, n.d.). More recently, as Klein-Collins (2013) points out, “An intensive focus on what students know and can do rather than on what is taught, for instance, is a hallmark of CBE programs going back at least four decades (p.4).” The Council for Adult and Experiential Learning (CAEL) has been an advocate for CBE for over 40 years with a belief that learning should be recognized both in and outside of the classroom (CAEL, 2013). CAEL was also an early leader in prior-learning assessment (PLA) which, like CBE, recognizes that how and when something is learned is not as important as whether the learning has occurred and the individual can demonstrate competency in the particular subject matter (CAEL, 2013). “Prior learning” is learning that is typically acquired outside the traditional academic setting and PLA is the process by which that learning is assessed and evaluated to grant credit, certification, or advanced standing (CAEL, 2013). Some colleges experimenting with CBE incorporate it in conjunction with PLA. Others, while not using traditional PLA approaches, recognize prior learning by embedding its assessment within the CBE program (Educause, 2015).

While the full history of CBE in higher education is outside the scope of this chapter, its identification as an educational approach distinct from current practice is perhaps easier to pinpoint. That distinction might best be illustrated through CBEs departure from use of the Carnegie unit, also known as the “credit hour” as the dominant measurement of learning. The Carnegie unit, which ultimately became the time-based measurement for many academic functions including degree completion, moves students together through an agreed upon set of course requirements expressed in a unit of time. In other words, the credit hour starts with the assumption that all students will take a pre-determined period of time to complete their degree, regardless of prior knowledge or performance. While the Carnegie unit was never originally intended to be a measurement of learning (Laitinen, 2012), its adoption as the primary unit of measurement in higher education has had long lasting repercussions, influencing both the design and delivery of instruction. The Carnegie unit has influenced how learning is organized, how financial aid is distributed, what counts as full-time study, how faculty workload is defined, and more (Silva, White & Toch, 2015). So where did it come from?

With a ten million dollar investment in 1905, Andrew Carnegie established the Carnegie Foundation to create a pension system for college professors. Because of the wide variation in requirements and poor differentiation between high school and college work, the foundation determined that a common unit of

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