

Enrollment in Competency-Based Education Courses

Insights From the Community College Sector

Willis A. Jones
University of South Florida

Contents

	Page
Introduction	1
1. Approximately One in 10 Students Enrolled in at Least One CBE Course	2
2. Black and Hispanic Students Are Slightly Underrepresented in CBE Course Enrollment.....	3
3. A Sizable Gender Gap in CBE Course Enrollment	3
4. Students of All Ages Enroll in CBE Courses	4
5. Small Socioeconomic Status Gap in CBE Enrollment	4
6. Students Pursuing Various Types of Credentials Enrolled in CBE Courses.....	5
7. Students Who Took CBE Courses Graduated at a Higher Rate Than the General Student Body	5
Conclusion.....	6
Want More Information?.....	6
Acknowledgments.....	6
References	7

Introduction

Competency-based education (CBE), which is broadly defined as courses and programs of study that give college credit to students based on subject knowledge rather than clock hours spent in the classroom, can help address some of the biggest challenges facing postsecondary education. The U.S. House of Representatives (Fain, 2017), U.S. Department of Education leaders (Mendenhall, 2012), and several prominent foundations have shown support for CBE at colleges and universities (Kelchen, 2015). Even individuals with different political ideologies, such as former U.S. President Barack Obama (Lederman & Fain, 2017) and former Texas Governor Rick Perry (Perry, 2013), have advocated for the increased use of competency-based learning approaches.

As CBE increases in popularity at colleges and universities, leaders are asked to provide evidence of accessibility and student success in CBE courses and programs. However, until recently, rigorous evidence that CBE served students well has been limited (Parsons, Mason, & Soldner, 2016). The American Institutes for Research (AIR) notes that despite its growing popularity, CBE lacks a strong research base. In 2019, to help address this lack of research on CBE, AIR requested proposals seeking research partners to collaborate with the [National Research Collaborative on Competency-Based Education and Learning](#).

In this three-part series of research briefs, I report on the findings of a project supported by AIR. This project used data on CBE courses within a community college district (hereafter called the district) in the southern region of the United States. CBE courses are traditional courses taught within the district but redesigned in a competency-based framework. CBE courses are delivered online and offer a flexible start date, allowing students to start class on multiple Mondays throughout a semester. Each course has three to five modules that students must pass. Each module begins with a pretest to measure a student's knowledge of the module materials. Students who demonstrate mastery in the pretest can progress directly to the posttest and earn credit for the module. Students who do not pass the pretest proceed through assignments and assessments at their own pace until they have demonstrated mastery of the course content. The district offers CBE courses in various areas, including mathematics, English, social sciences, computer/engineering technology, humanities, and science.

In this first research brief, I provide descriptive findings related to CBE course accessibility within the district. I identify which students enrolled in CBE courses and what subsets of students were underrepresented in CBE course enrollment. This brief presents seven key insights from the research.

1. Approximately One in 10 Students Enrolled in at Least One CBE Course

During the 2016–17 academic year (which includes summer 2016, fall 2016, and spring 2017), slightly more than 13,000 students enrolled in the district for the first time. A total of 1,442 of those students enrolled in at least one CBE course during the next three academic years (the equivalent of 150% of normal time for completing a program within community colleges). This equates to approximately one in 10 students enrolling in a CBE course. Student enrollment in CBE courses varied across the colleges in the district. As noted in Table 1, at three colleges, more than 20% of the students took at least one CBE course. At four colleges, however, less than or equal to 5% of the students enrolled in any CBE courses. This suggests that perhaps different colleges within the district place different emphases on CBE courses.

Table 1. Percentage of 2016–17 First-Time Students Who Enrolled in at Least One CBE Course Within 150% of Normal Time, by College

College	Percentage
College A	8.53
College B	21.99
College C	3.29
College D	16.38
College E	6.84
College F	31.27
College G	8.47
College H	11.98
College I	12.53
College J	6.01
College K	5.00
College L	4.21
College M	13.63
College N	2.15
College O	27.68
College P	10.32

On average, students who took any CBE courses took two courses during the 3 years studied. The median student took one CBE course. Slightly more than 88% of the students who took CBE courses took three or fewer CBE courses.

By narrowing the analysis to just those students who received a credential from the district within 150% of normal time, 14.91% of students enrolled in at least one CBE course. All of those students enrolled in just one CBE course. This suggests that among students who graduated from the district, CBE courses were only a small part of their overall academic curriculum.

2. Black and Hispanic Students Are Slightly Underrepresented in CBE Course Enrollment

This district is in one of the least racially diverse states in the United States. District enrollment somewhat reflects these demographics. Among first-time enrollees in 2016–17, approximately 80% of the students were White, 10% of the students were Black, 6% of the students were Hispanic, and 2% of the students were Asian.

The percentage of Black and Hispanic students who enrolled in CBE courses was lower than their overall representation among students. Although approximately 10% of first-time district students were Black, only 6.8% of the students who enrolled in CBE courses were Black. Among Hispanic students, first-time enrollment was approximately 6%, but CBE enrollment was only 4.44%. White and Asian students were overrepresented in CBE courses. These data suggest that CBE courses might be less accessible to students who are underrepresented.

The findings from this study offer an interesting contrast to other studies that have looked at the demographic enrollment of CBE. Kelchen (2015) and Parsons (2016) each explored the demographic characteristics of students enrolled in CBE programs. They each found that slightly more than 60% of the students enrolled in CBE programs were White. In this study, 83% of the students enrolled in CBE courses were White. Kelchen and Parsons also found a higher percentage of Black and Hispanic students in CBE programs relative to the percentage of Black and Hispanic students in CBE courses found in this study. When looking at course-level data, CBE appears to be less racially diverse than when looking at program-level data.

3. A Sizable Gender Gap in CBE Course Enrollment

Significantly more women enrolled in CBE courses than men did. Approximately 54% of first-time district students in the 2016–17 academic year self-identified as female. Nearly 65% of the students who enrolled in CBE courses, however, were female. Male students are significantly underrepresented in CBE courses.

The findings from this study are consistent with other student composition studies of CBE at colleges and universities. Kelchen (2015) found that approximately 53% of the students in CBE programs were female. Parsons (2016) found that 68% of the students in CBE programs were female. Further research should explore why this gender gap exists. Perhaps the gender gap indicates that higher concentrations of CBE courses and programs in higher education are in fields that attract a higher percentage of women.

4. Students of All Ages Enroll in CBE Courses

Conventional wisdom has been that CBE is a more attractive option for adult learners (often defined as students older than 25 years). Yet data from this district tell a different story. The average age (as of the start of summer 2016) of students who took CBE courses in the district was 23.17 years (standard deviation [*SD*] = 8.26, median = 19 years). The overall average age of new district students was 22.24 years (*SD* = 7.59, median = 19 years). Approximately 23% of the students who took a CBE course were older than 25 years. Overall, 18% of new district students were older than 25 years. CBE courses did not appear to enroll a noticeably higher percentage of adult learners.

The differences between the findings here and the work of other researchers might be related to the institutional context of the different studies. For example, Kelchen's (2015) work looks at stand-alone CBE institutions that attract adult learners almost exclusively. My study looked at CBE courses within a traditional community college setting. The findings here suggest that CBE courses within a more traditional higher education setting can attract students from various age groups.

5. Small Socioeconomic Status Gap in CBE Enrollment

Previous work using federal Pell Grant data to measure the CBE enrollment of students from low-income families is limited because not all CBE degree programs qualify for federal financial aid (Porter, 2016). Consequently, we know little about whether income influences the likelihood of enrolling in CBE. Because CBE courses at this district are eligible for federal financial aid, I can compare the Pell Grant awards of CBE and non-CBE students to get a sense of how income might be correlated with CBE course-taking behavior.

Of the first-time students enrolled in the district in 2016–17, Pell Grant information was unavailable for 738 students. The average Pell Grant award for the remaining students was \$2,272 (*SD* = \$2,229, median = \$1,782). For students who enrolled in at least one CBE course, the average Pell Grant award was \$2,817 (*SD* = \$2,343, median = \$2,908). Approximately 15% of all district students received the maximum Pell Grant (\$5,815) in 2016–17. About 23% of the

students who enrolled in a CBE course received the maximum Pell Grant. These numbers suggest that students with lower incomes are slightly overrepresented in CBE courses in the district. Given that students with lower incomes often have many competing time demands, it is not surprising that they would be more attracted to the flexibility of CBE courses. The data also show that socioeconomic background did not appear to limit student access to CBE courses.

6. Students Pursuing Various Types of Credentials Enrolled in CBE Courses

CBE often is talked about in career and technical education. In this district, however, students can enroll in CBE courses across a range of disciplines. Students across a wide range of programs and credential types enrolled in CBE courses. Students can earn three types of credentials at this district: certificates, diplomas, and degrees. Among incoming students in 2016–17, 87% of the students initially pursued a degree, 5% of the students pursued a diploma, and 4.5% of the students pursued a certificate. The remaining 4.5% of the students were undecided. These numbers are very similar to the credential distribution for CBE students. Slightly less than 91% of the students who enrolled in a CBE course initially pursued a degree, 3.4% of the students pursued a diploma, and 2.57% of the students pursued a certificate. The data suggest that, if available, students pursuing a wide range of credentials and programs will enroll in CBE courses.

7. Students Who Took CBE Courses Graduated at a Higher Rate Than the General Student Body

A core mission of this district is to help students succeed in their postsecondary educational journey. An important aspect of success is student completion of a credential. Data from this study suggest that students who enrolled in CBE courses completed a credential at a higher rate than did the general student body. Approximately 26% of first-time district students in 2016–17 earned a credential from a district college within 150% of normal time. Thirty-five percent of the students who enrolled in CBE courses completed a credential in 150% of normal time. These descriptive data, however, should not be interpreted as a causal relationship. More advanced econometric work will be necessary before making any claims about the impact of CBE on credential completion.

Conclusion

This brief offers for the first time a course level look at who enrolls in CBE. As CBE courses and programs continue to grow, the higher education community must be mindful of ensuring that all students have access to CBE. Data from this district show that students from a wide variety of backgrounds enroll in CBE-type courses. The findings offer insight into what student subpopulations policymakers and school administrators might target to increase enrollment in CBE courses. We should continue to quantitatively and qualitatively investigate who enrolls in CBE if we hope to continue making a case for CBE.

Want More Information?

AIR is active in the CBE research community and is committed to building partnerships to gather evidence regarding the effectiveness of CBE programs. Please send any questions about this research brief to Willis A. Jones, Associate Professor of Higher Education and Student Affairs, at ionesw150@usf.edu.

Acknowledgments

The American Institutes for The National Research Collaborative on Competency-Based Education and Learning at the American Institutes for Research provided grant support for this research project. The National Research Collaborative on Competency-Based Education and Learning supports research to inform responsible scaling of CBE/L practices in postsecondary settings.

The views expressed in this brief are solely the author's and do not represent the opinions of American Institutes for Research, the Lumina Foundation, or any other affiliated entities.

References

- Fain, P. (2017, June 12). Bipartisan bill on competency-based education. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/quicktakes/2017/06/12/bipartisan-bill-competency-based-education>
- Kelchen, R. (2015). *The landscape of competency-based education: Enrollments, demographics, and affordability* (AEI Series on Competency-Based Higher Education). Lumina Foundation. Retrieved from <https://www.luminafoundation.org/files/resources/competency-based-education-landscape.pdf>
- Lederman, D., & Fain, P. (2017, January 19). The higher education president. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/news/2017/01/19/assessing-president-obamas-far-reaching-impact-higher-education>
- Mendenhall, R. (2012). What is competency-based education? *The Huffington Post*. Retrieved from https://www.huffpost.com/entry/competency-based-learning_b_1855374
- Parsons, K. (2016). *A snapshot of postsecondary competency-based education students*. American Institutes for Research. Retrieved from <https://www.air.org/resource/snapshot-postsecondary-competency-based-education-students>
- Parsons, K., Mason, J., & Soldner, M. (2016). On the path to success: Early evidence about the efficacy of postsecondary competency-based education programs. American Institutes for Research. Retrieved from <https://www.air.org/sites/default/files/downloads/report/Path-to-Success-Postsecondary-Competency-Based-Education-Programs-Oct-2016.pdf>
- Perry, R. (2013). *Texas Gov. Rick Perry's 2013 state of the state speech*. Retrieved from <https://www.governing.com/news/state/texas-perry-2013-speech.html>
- Porter, S. R. (2016). Competency-based education and federal student aid. *Journal of Student Financial Aid*, 46, 2–15.

Copyright © 2020 American Institutes for Research®. All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, website display, or other electronic or mechanical methods, without the prior written permission of the American Institutes for Research. For permission requests, please use the Contact Us form on www.air.org.