Sustained Impact of ACUE Certification on Student Outcomes at Queensborough Community College (QCC)

Technical Report

January 2026

Paloma Benavides, PhD
Elizabeth K. Lawner, PhD

QUEENSBOROUGH COMMUNITY COLLEGE CUNY

ACUE

Executive Summary

This evaluation examines the impact of ACUE-certified faculty on student outcomes at Queensborough Community College (QCC). Using three academic years of data—fall 2021–spring 2022 (baseline), fall 2022–spring 2023 (during certification), and fall 2023–spring 2024 (post-certification)—this study compares outcomes in sections taught by ACUE-certified faculty to matched sections taught by non-ACUE faculty. The analysis focuses on completion rates, passing rates, DFW rates, and average course grades.

Methods

A Difference-in-Differences (DID) approach was used to compare changes over time between ACUE and non-ACUE sections. Coarsened Exact Matching (CEM) matched sections on course semester, course department, course level, and faculty tenure. Models controlled for faculty experience and course load, student characteristics (e.g., gender, race/ethnicity, age, college generational status), course characteristics (section size and instructional mode), and CEM weights.

Key Findings

- **Positive Impacts on Completion Rates:** There was a significant positive impact of ACUE certification on students' likelihood of completing courses during ($p = .028$) and after certification ($p < .001$), relative to comparison sections, with completion increasing 1.62% post-certification from baseline among students taught by ACUE-certified faculty, compared to a 3.83% decline among comparison sections.
- **Higher Passing Rates:** There was a significant positive impact of ACUE certification on students' likelihood of passing their courses during ($p < .001$) and after certification ($p < .001$), relative to comparison sections. Passing rates among students taught by ACUE faculty had a predictive increase of 6.14% during the certification period and 5.83% post-certification from baseline.
- **Reduced DFW Rates:** There was a significant positive impact of ACUE certification on the likelihood of receiving DFW grades during ($p < .001$) and after certification ($p < .001$), compared to comparison sections. DFW rates had a predictive decrease of 13.19% during certification and 17.33% post-certification from baseline among students in sections taught by ACUE faculty.

- **Higher Average Grades:** There was a significant positive impact of ACUE certification on students' average grades during ($p < .001$) and after certification ($p < .001$), relative to students in comparison sections. Students taught by ACUE faculty had predictive increases of 0.19 grade points during and 0.22 grade points post-certification on a 4.0 scale.
- **Subgroup Benefits:** Black/African American students showed larger positive impacts on completion ($p = .007$) and DFW rates ($p = .025$) during certification, while female students experienced greater positive impacts in completion post-certification ($p = .044$).

Conclusions

Findings indicate that the ACUE certification is associated with sustained positive impacts on completion, passing, DFW reduction, and average grades at QCC. The results support QCC's mission to strengthen instructional quality and promote equitable student success, demonstrating the value of continued investment in evidence-based faculty development.

About ACUE

The Association of College and University Educators (ACUE) is dedicated to student success through high-quality instruction. In partnership with higher education institutions, we offer the only nationally recognized Effective Teaching certification, endorsed by the American Council on Education (ACE), supported by a vibrant online community of practice focused on advancing teaching excellence.

ACUE-certified faculty deliver exceptional teaching in every class, resulting in higher student engagement, improved achievement, and stronger retention—outcomes that enhance institutional impact and support long-term student success. Learn more at acue.org.

Introduction

Instructional quality is a key determinant of student achievement in higher education. A substantial and expanding body of evidence shows that effective teaching not only improves students' learning and engagement but also produces significant gains in academic performance (Braga et al., 2016; Brodaty & Gurgand, 2016; Carrell & West, 2010), with these effects often persisting across multiple semesters (De Vlieger et al., 2016). Over the past few decades, studies have further established the connection between faculty development and student outcomes, recognizing its influence on classroom pedagogy, student persistence, student engagement, and overall learning and success (Condon et al., 2016; Gipson et al., 2018; Seidman, 2012; Wood & Harris, 2016). Due to the strong connection between faculty effectiveness and student outcomes, there is an increasing emphasis on the importance of pedagogical training in higher education and improving teaching effectiveness as measured by student success (Brownback & Sadoff, 2020; Schneider & Preckel, 2017).

In the community college context, improving instructional quality is particularly important for advancing equity and academic success. There is evidence that faculty play a pivotal role in promoting student success at community colleges, as they are the institutional agents with whom students interact most frequently, primarily within the classroom setting (Lester et al., 2013). Community colleges serve a large share of first-generation, low-income, and racially and ethnically diverse students, which are student groups that have been historically underrepresented in higher education and often face systemic barriers related to access to higher education (U.S. Department of Education, National Center for Education Statistics, 2020; Wine et al., 2018). This makes investing in faculty development especially important, particularly regarding initiatives that strengthen key drivers of student learning such as effective teaching practices and faculty accessibility for students (Lancaster & Lundberg, 2019). Research has shown that Black and Latino students in particular benefit from high-quality interactions with faculty, which are associated with improvements in self-efficacy, GPA, and degree completion (Cejda & Rhodes, 2004; DeFreitas & Bravo, 2012; Lundberg et al., 2018; Tovar, 2013). These findings highlight the potential of evidence-based teaching to not only raise overall student achievement but also close equity gaps across student groups, which is an institutional priority shared by many community colleges nationwide. This makes faculty development a key strategy for strengthening instructional quality and fostering student success (Freeman et al., 2014).

The Association of College and University Educators (ACUE) advances this goal by providing structured, evidence-based professional development that equips faculty with effective and impactful instructional practices shown to improve student engagement, learning, and success. ACUE's Effective Teaching Framework integrates practices that promote active learning, foster inquiry and lifelong learning, support learner-centered course design, and create learning environments where all students can succeed, all of which form the foundation of ACUE's year-long comprehensive courses. To evaluate the effectiveness of its programs in partnership with higher education institutions, ACUE utilizes a rigorous accountability approach, consisting of six levels of evaluation: (1) faculty engagement, (2) faculty learning, (3) faculty implementation, (4) student engagement, (5) course-level student outcomes, and (6) institutional outcomes (MacCormack et al., 2018). The present evaluation focuses on level 5, specifically examining the impact of ACUE faculty on course-level student outcomes.

An expanding body of evidence highlights the positive influence of ACUE-certified faculty on student outcomes. Previous evaluations have consistently documented gains in course completion (Lawner & Snow, 2020; Lawner et al., 2019b), passing rates (Lawner & Snow, 2020; Pippins et al., 2021a), success rates (Hecht, 2019; Lawner & Snow, 2018), and average course grades (Hecht, 2019; Lawner & Snow, 2019a, 2019b; Lawner et al., 2019a; Pippins et al., 2021a, 2021b, 2021c). These positive effects have been observed across a wide range of institutions and student populations, highlighting the role of ACUE certification in promoting academic success for diverse learners.

Queensborough Community College (QCC) was established in 1959 originally as a campus of the State University of New York and became a member of The City University of New York (CUNY) system in 1965. This institution provides more than 50 associate degree pathways along with

multiple certificate and continuing education programs, serving a large and diverse student population of more than 12,000 students in Queens, New York (Queensborough Community College, n.d.). QCC's mission emphasizes academic excellence, equity, and inclusion, with a focus on the holistic development of students, supporting their success, and closing achievement gaps. In alignment with this mission, QCC began their partnership with ACUE in 2020 to provide faculty with the opportunity to engage in ACUE's pathway courses in Effective Online Teaching Practices and later expanded their partnership to include other course types.

The current evaluation focuses specifically on faculty who completed the comprehensive course in either Effective Teaching Practices or Effective Online Teaching Practices during the 2022–2023 academic year. These cohorts were supported by a U.S. Department of Education Title V grant that also included other student success initiatives during the same time period. In addition, the time period of this study also overlaps with QCC's receipt of a 2023 Robin Hood Foundation grant aimed at improving retention and graduation rates for male students, particularly Black/African American and Hispanic/Latino male students. This broader context highlights ACUE certification as one piece of a larger student success focus and makes it especially important that the current evaluation isolates the impact of the ACUE certification.

This evaluation examines the impact of ACUE-certified faculty on student outcomes at QCC, focusing on whether participation in the ACUE comprehensive courses and subsequent certification led to measurable improvements in course completion, passing rates, DFW rates, and average course grades. Using a Difference-in-Differences (DID) approach, the analysis compares changes in student outcomes across three time frames (before, during, and after faculty certification) between courses taught by ACUE-certified and non-certified instructors matched on key instructional characteristics.

Methods

Sample and Participant Characteristics

A total of 77 faculty members participated in ACUE's comprehensive course at QCC during the 2022–2023 academic year, forming cohorts C, D, and E. Course sections taught by 30 faculty members are represented in the analytic dataset, as these instructors taught traditional credit-bearing courses during the required semesters, implemented at least one practice learned in the ACUE course during the certification period, completed at least three of the four blocks in the comprehensive course, and had not been exposed to other ACUE content prior to the certification year, ensuring a clean baseline.

The datasets used for this evaluation were provided by the Office of Institutional Research and Assessment at QCC and included course section data, instructor employment characteristics, student demographic information, and student-level course outcomes (i.e., transcript data) for all

sections taught by ACUE-certified faculty and a comparable set of sections taught by non-certified faculty across three academic years, spanning from fall 2021 to spring 2024. Nontraditional course sections, such as laboratories, practicums, independent study, and dual-enrollment courses, were excluded from the datasets. The comparison sections were requested based on terms, department, and course level, and were later matched to ACUE-taught sections to ensure close similarity in content, difficulty, and instructor experience. This matching process, which is explained in detail below, was implemented to provide a robust comparison for estimating the impact of ACUE certification.

From the full dataset provided by QCC, the analytic sample included the selected course sections that could be matched across ACUE and non-ACUE faculty to ensure comparability. The analytic sample consisted of 51,527 non-unique student enrollments from 2,254 course sections taught by 318 instructors across three academic years: fall 2021–spring 2022 (baseline period, one year before certification), fall 2022–spring 2023 (during period, when faculty were completing certification), and fall 2023–spring 2024 (post period, one year after certification). Within this sample, there were 7,693 enrollments from 344 course sections taught by ACUE faculty and 43,834 enrollments from 1,910 sections taught by non-ACUE faculty. Table 1 provides a detailed breakdown of the number of non-unique student enrollments and course sections by faculty type and time frame.

Table 1: *Number of Student Enrollments and Course Sections by Faculty Type and Time Frame at Queensborough Community College*

	Faculty type			
	ACUE		Non-ACUE	
Time frame	Non-unique student enrollments	Course sections	Non-unique student enrollments	Course sections
Baseline	2,163	100	17,156	759
During ACUE	2,744	125	14,460	640
Post ACUE	2,786	119	12,218	511

In the baseline period, the average section size for the ACUE group was 21.630 (*SD* = 6.771), while for the non-ACUE group it was 22.603 (*SD* = 5.671). During the certification year, the average section size was 21.95 (*SD* = 6.78) for the ACUE group and 22.594 (*SD* = 5.740) for the non-ACUE group. In the post period, average section sizes slightly increased to 23.412 (*SD* = 6.600) for the ACUE group and 23.910 (*SD* = 5.433) for the non-ACUE group. Independent sample *t*-tests indicated that the differences in average section size between the ACUE and the non-ACUE groups were not statistically significant in any period: baseline ($t(857) = 1.575$, $p = .116$), during ACUE ($t(763) = 1.108$, $p = .268$), and post ACUE ($t(628) = 0.863$, $p = .388$).

Instructor-level characteristics included measures of faculty experience and teaching load. As shown in Table 2, on average, faculty in the analytic sample had been at the institution for 7.67 years (*SD* = 8.05) and taught an average course load of 2.22 sections per semester (*SD* = 1.17). When comparing faculty groups, ACUE-certified instructors had an average institutional tenure of 6.96 years (*SD* = 8.41) compared to 7.74 years (*SD* = 8.02) among non-ACUE faculty, a difference that was not statistically significant ($t(282) = 0.470$, $p = .637$). However, ACUE faculty taught significantly higher course loads, averaging 2.53 sections per semester (*SD* = 1.30) compared to 2.17 sections (*SD* = 1.14) among non-ACUE faculty ($t(1055) = -3.427$, $p < .001$).

Additional demographic information (e.g., gender, race/ethnicity, instructional status) was not available for analyses; however, these two variables capture important dimensions of faculty experience that could influence student outcomes and were therefore included as covariates in the analytic models.

Table 2: *Comparison of Faculty Experience and Teaching Load Between ACUE and Non-ACUE Instructors*

Instructor-level characteristics	ACUE faculty	Non-ACUE faculty	Overall
Years at institution (mean, SD)	6.956 (8.414)	7.738 (8.023)	7.667 (8.048)
Course load per semester (mean, SD)	2.532 (1.296)	2.173 (1.137)	2.220 (1.165)

As displayed in Table 3, the average student age across all enrollments in the analytic sample was 21.931 years (SD = 6.412). Asian/Pacific Islander students represented the largest group in the sample (29.7%), followed closely by Black/African American students (29.3%) and Hispanic/Latino students (27.5%), while White students accounted for 12.2% of enrollments, and students of other or unknown races made up 1.3%. A small proportion of students were international (5.2%) and English as a Second Language (ESL) students (8.1%). More than half of the enrollments were female students (53.9%), and nearly a quarter were first-generation college students (23.1%). Additionally, 52.3% of students were Pell-eligible, and 68.7% were first-year students. Regarding course format, 53.6% of enrollments were in face-to-face courses, 14.4% in hybrid courses, and 32.0% in online courses.

Table 3: *Descriptive Statistics for Student Enrollments in the Analytic Sample (N = 51,527)*

Variable	Mean	Standard deviation
Age	21.931	6.411
Female students (%)	0.539	0.498
Male students (%)	0.457	0.498
Asian/Pacific Islander students (%)	0.297	0.457
Black/African American students (%)	0.293	0.455
Hispanic/Latino students (%)	0.275	0.447
White students (%)	0.122	0.328
Other/unknown race (%)	0.013	0.114
International students (%)	0.052	0.222
ESL students (%)	0.081	0.273
First-generation college students (%)	0.231	0.421
Pell-eligible students (%)	0.523	0.499
First-year students (%)	0.687	0.464
Instructional mode: Face-to-face (%)	0.536	0.499
Instructional mode: Hybrid (%)	0.144	0.351
Instructional mode: Online (%)	0.320	0.467

Matching Process

To ensure a fair comparison between course sections from the ACUE group and comparison course sections, Coarsened Exact Matching (CEM) was performed (Iacus et al., 2008, 2012). This matching approach was designed to pair course sections taught by ACUE faculty with course sections taught by non-ACUE faculty who taught under similar conditions. Course sections were matched based on four criteria: course semester, course department, course level (e.g., 100, 200, 300), and faculty seniority. These criteria were selected as differences, as they can significantly influence student outcomes. This matching method ensured that any observed differences in student outcomes could be more confidently attributed to ACUE certification rather than to pre-existing variations in instructional context or course content.

The matching process followed a many-to-many structure, where several ACUE-taught course sections were matched to multiple eligible comparison sections that met the matching criteria. Of the 352 ACUE-taught sections provided, 344 (97.73%) were successfully matched to comparable non-ACUE sections, supporting the robustness of this evaluation. To account for this structure, the variable "CEM Weights" was included as a control in the analyses, ensuring that the results were appropriately adjusted for the many-to-many matching and that the contribution of each matched comparison section was weighted correctly.

The use of CEM poses several advantages to this evaluation. By creating matched groups of ACUE and comparison course sections taught under similar instructional characteristics, this method reduces imbalance between groups and minimizes potential confounding effects. Likewise, CEM enhances the robustness of the analysis by improving covariate balance, ensuring that the results reflect the impact of ACUE certification instead of other external factors that could impact student outcomes.

Measures

Course completion, passing, and DFW were all coded as binary variables. The course completion variable was coded as 0 for all students who withdrew from a course after the add/drop period (specifically those who received a W, WU, or FIN grade) and as 1 for all others, regardless of whether they received a passing or failing final grade. These two withdrawal categories were utilized because they represent meaningful non-completion of or disengagement from a course after participation had begun, unlike administrative or early-drop designations (e.g., WD, WN, WA), which do not reflect academic withdrawal behavior and thus were excluded from analyses. The passing variable was coded as 1 for all students with grades A, B, C, D, CR, or P and coded as 0 for students who received F, NC, or R marks; analyses of passing excluded students who withdrew before receiving a final grade. The DFW variable was coded as 1 for students who received marks D, F, W, WU, R, NC, or FIN; otherwise, it was coded as 0. For final course grades, outcomes were converted from an alphabetic scale to an equivalent numeric 4-point GPA scale, where A = 4.0, A- = 3.67, B+ = 3.33, and so forth. Students who withdrew or received non-graded outcomes as a final grade, such as CR, NC, R, or P, were not included in the analyses estimating average grade points.[1]

[1]For additional details on grading definitions and policies at Queensborough Community College, please refer to the official QCC Grading Policy webpage: https://www.qcc.cuny.edu/registrar/gradingPolicy.html

Analytic Approach

To evaluate the impact of ACUE certification at QCC, Difference-in-Differences (DID) models were used to analyze changes over time in key student outcomes, comparing sections taught by ACUE faculty to similar courses taught by non-ACUE faculty.

Binary outcomes (completion, passing, and DFW rates) were analyzed using binomial logistic regression, and average course grades were analyzed using ordinary least square regression. For enhancing interpretability, the marginal effects of the parameters of interest were estimated. Control variables were included to account for differences in faculty characteristics (course load and years teaching at the institution), student demographics (gender, race/ethnicity, age, college generational status, English as a Second Language (ESL) student status, Pell eligibility, class standing, international status, and student enrollment type), course section size (student headcount per section), course format (online, face-to-face, or hybrid), and CEM weights.

The racial/ethnic groups used in this analysis were Asian/Pacific Islander, Black/African American, Hispanic/Latino, White, and Other/Unknown. Students were considered as "other" if they belonged to a racial/ethnic group representing less than 5% of the sample. The Other/Unknown category represented only 1.31% of the sample, so findings for this subgroup should be interpreted with caution. The student gender variable was categorized as Female, Male, and Other/Unknown. The Other/Unknown category included students with missing data for this variable or those who identified as a gender other than male or female (e.g., non-binary, transgender, or another identity). Because this group represented only 0.34% of the sample, the results for the Other/Unknown category were omitted from this report, as estimates could not be calculated. Finally, college generational status was modeled with three levels: first-generation (Y), non-first generation (N), and unknown (U).

Main effects were modeled for faculty type (coded as 1 for ACUE faculty and 0 for non-ACUE faculty) and time frame (baseline, during ACUE, and post ACUE). The primary parameters of interest were the two-way interactions between faculty type and time frame (ACUE × during and ACUE × post), which measured changes in student outcomes over time in sections taught by ACUE faculty relative to those taught by non-ACUE faculty. Also, three-way interactions were included to examine how these effects differed across student demographic groups, including race/ethnicity, gender, Pell eligibility, and college generational status.

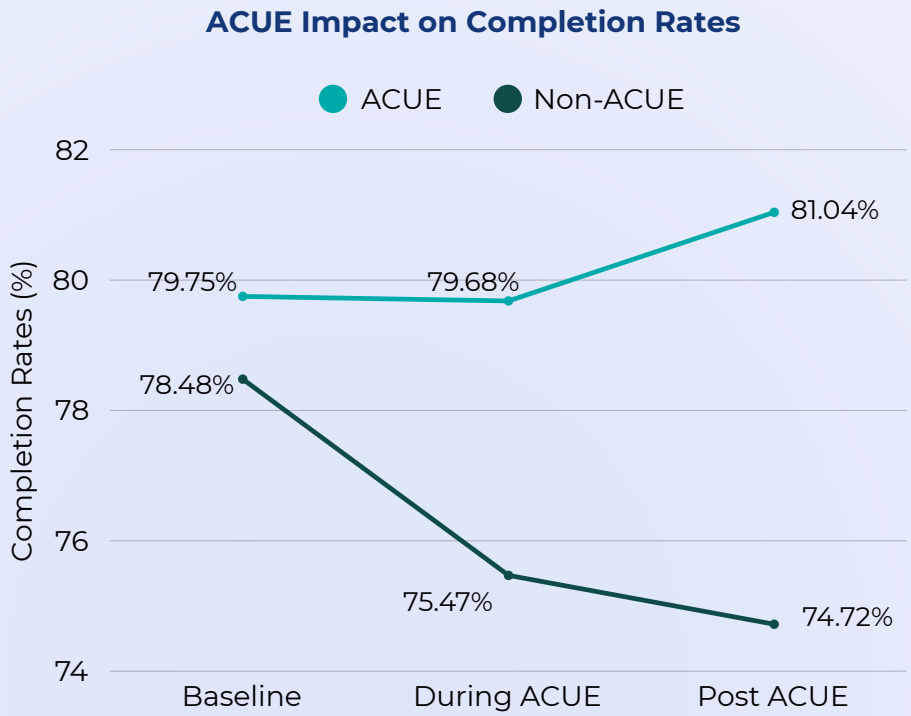
Additionally, post hoc contrast analyses using Bonferroni correction were conducted following the main Difference-in-Differences models to further examine specific differences between groups and across time points. These tests assessed whether there were statistically significant differences in predicted outcomes between ACUE and non-ACUE sections within each time frame (baseline, during, and post) and whether changes from baseline to subsequent periods were significant within each faculty group. This was done with the aim of providing a more detailed understanding of the timing of observed effects, complementing the main interaction results.

Completion Rates

The DID estimates for the impact of ACUE faculty on changes over time in student course completion indicated a statistically significant positive impact during and after the certification period, relative to the comparison group. Specifically, the interaction between ACUE faculty and the during period was positive and significant, b = 0.172, SE = 0.078, 95% CI [0.018, 0.326], p = .028, suggesting a more positive trend in course completion among students taught by ACUE faculty during the certification year compared to those taught by non-ACUE faculty. This positive effect increased in the post-ACUE period, b = 0.303, SE = 0.081, 95% CI [0.144, 0.463], p < .001, implying a sustained and larger positive impact after faculty became certified.

These results translate to an estimated 2.93-percentage point increase in course completion during the certification period and an estimated 5.05-percentage point increase in the post-ACUE period, relative to what would have been expected had faculty not been certified. This corresponds to approximately 80 additional students completing their courses during certification and 141 additional students completing post-certification. As shown in Figure 1, completion rates among students taught by ACUE-certified faculty decreased by only 0.09% during the certification period from baseline, compared to a 3.83% decrease among students in the non-ACUE group over the same period. In the post-certification period, completion rates increased by 1.62% from baseline for ACUE faculty, while declining by 4.79% in the comparison group.

Figure 1: *Changes in Completion Rates Across Time Points by Instructor Type*



Post Hoc Contrasts

Post hoc analyses were conducted on the logistic regression model to further examine the interaction between time frame and faculty type (ACUE vs. non-ACUE) and to assess specific group differences in predicted completion rates. The contrast analysis using Bonferroni correction revealed that the contrast between ACUE and non-ACUE faculty in the baseline period was not statistically significant (contrast = 0.080, *SE* = 0.058, 95% CI [-0.091, 0.251], *p* = 1.000), indicating similar starting points between both groups.

For ACUE faculty, completion rates remained stable from baseline to the during period (contrast = 0.075, *SE* = 0.053, 95% CI [-0.082, 0.232], *p* = 1.000) and had a marginally significant increase from baseline to the post period (contrast = 0.165, *SE* = 0.057, 95% CI [-0.002, 0.331], *p* = .055). Among non-ACUE faculty, completion rates declined significantly from baseline to both the during period (contrast = -0.177, *SE* = 0.029, 95% CI [-0.262, -0.092], *p* < .001) and the post period (contrast = -0.219, *SE* = 0.032, 95% CI [-0.313, -0.124], *p* < .001). When comparing differences between groups across time points, students taught by ACUE faculty showed significantly greater completion rates in the during-ACUE period compared to non-ACUE faculty (contrast = 0.252, *SE* = 0.053, 95% CI [0.096, 0.407], *p* < .001). This difference widened in the post period, where ACUE-taught sections outperformed comparison sections significantly (contrast = 0.383, *SE* = 0.057, 95% CI [0.216, 0.550], *p* < .001).

Subgroup Analyses

Interactions With Student Race/Ethnicity

Follow-up analyses adding interactions with student race/ethnicity revealed a significant interaction between Black/African American students, faculty type, and the during period (*b* = 0.742, *SE* = 0.276, 95% CI [0.201, 1.283], *p* = .007), indicating a larger positive impact of ACUE faculty on course completion for Black/African American students during the certification period compared to White students. This impact translates to a 5.51% increase in completion for Black/African American students during the certification period from baseline (see Figure 2).

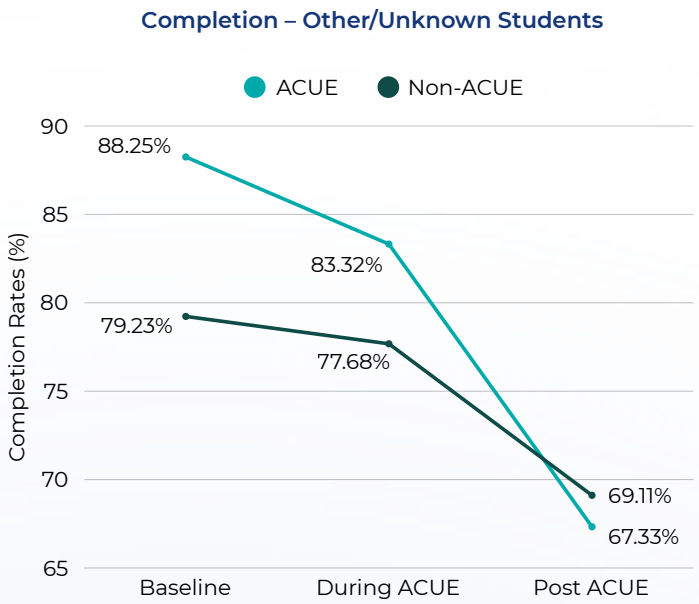
The interaction for Asian/Pacific Islander students during the certification period was marginally significant (*b* = 0.517, *SE* = 0.286, 95% CI [-0.044, 1.077], *p* = .071), suggesting a slightly larger positive impact on completion among Asian/Pacific Islander students of ACUE faculty.

Interactions for Hispanic/Latino students (*b* = 0.332, *SE* = 0.279, 95% CI [-0.216, 0.880], *p* = .235) and students of "other/unknown" race (*b* = -0.017, *SE* = 0.839, 95% CI [-1.661, 1.627], *p* = .984) were not significant, indicating no meaningful variation in ACUE effects for these groups during the certification period.

In the post-certification period, the interactions for Asian/ Pacific Islander (*b* = 0.325, *SE* = 0.307, 95% CI [-0.277, 0.927], *p* = .290), Black/African American (*b* = 0.177, *SE* = 0.295, 95% CI [-0.401, 0.754], *p* = .549), Hispanic/Latino (*b* = 0.273, *SE* = 0.303, 95% CI [-0.320, 0.866], *p* = .367), and other/unknown students (*b* = -0.881, *SE* = 0.781, 95% CI [-2.411, 0.650], *p* = .259) were all non-significant.

These findings suggest that Black/African American students experienced the largest positive impacts on completion rates during the certification year, followed by a marginally larger positive impact among Asian/Pacific Islander students; however, impacts in the post-certification year did not differ by race/ethnicity.

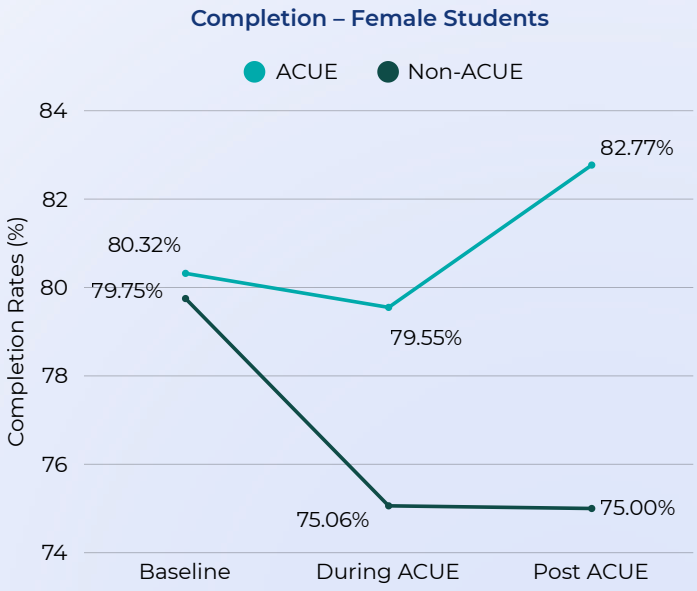
Figure 2: *Completion Rates Across Time Points by Instructor Type and Student Race/Ethnicity*

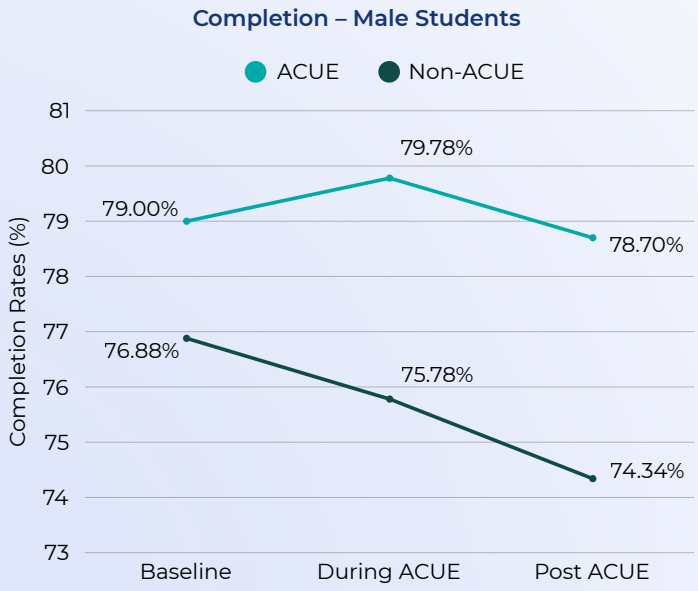


Interactions With Student Gender

Follow-up analyses adding interactions with student gender showed a significant interaction between female students, faculty type, and the post-certification period (b = 0.326, SE = 0.162, 95% CI [0.008, 0.644], p = .044). This indicates a larger positive impact of ACUE faculty on completion rates for female students in the post period compared to male students and translates to a 3.04% increase in completion for female students during the post-certification year from baseline (see Figure 3). The interaction for female students during the ACUE-certification period was not significant (b = 0.116, SE = 0.158, 95% CI [-0.193, 0.425], p = .461).

Figure 3: *Completion Rates Across Time Points by Instructor Type and Student Gender*





Interactions With College Generational Status

Follow-up analyses examining interactions by college generational status revealed a marginally significant interaction between first-generation status (Y), faculty type, and the during period (b = 0.417, SE = 0.219, 95% CI [-0.013, 0.847], p = .057). The corresponding interaction for students of unknown generation status (U) during the certification period was not significant (b = 0.159, SE = 0.201, 95% CI [-0.234, 0.552], p = .429).

In the post-certification period, the coefficients for unknown generational status (U) and first-generation students (Y) were both non-significant (b = 0.096, SE = 0.223, 95% CI [-0.340, 0.532], p = .667; b = 0.074, SE = 0.253, 95% CI [-0.422, 0.570], p = .770, respectively), suggesting that the benefits of ACUE faculty on completion rates were not differentially patterned by college generational status in the post period.

Non-Significant Interactions With Student Demographics

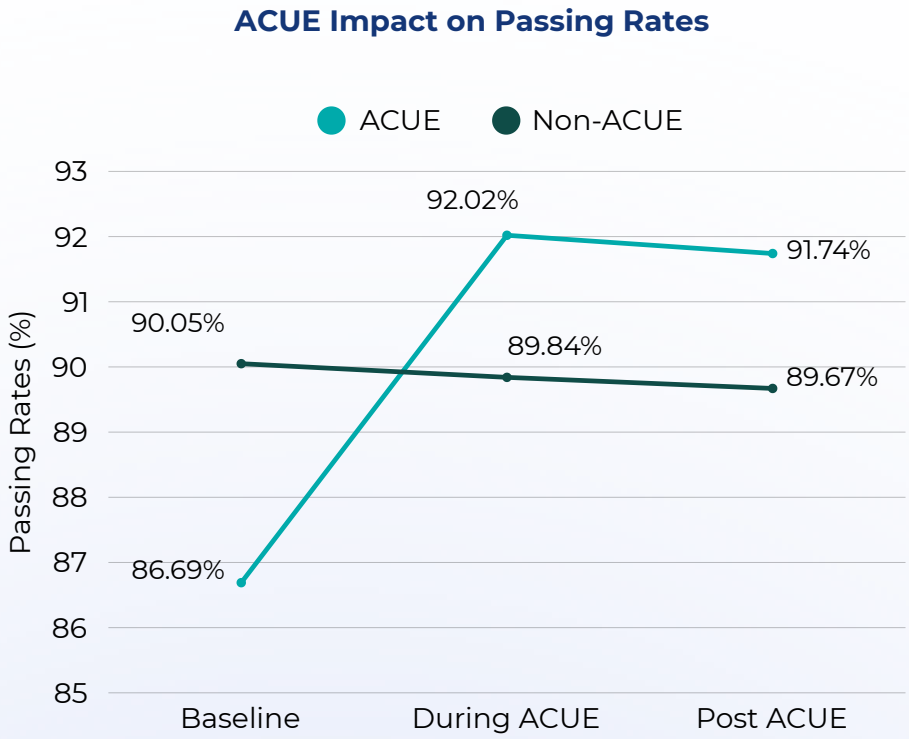
Pell Eligibility: The interaction between Pell eligibility, faculty type, and time frame during the certification period (b = -0.164, SE = 0.157, 95% CI [-0.472, 0.143], p = .295) and the post period (b = -0.094, SE = 0.161, 95% CI [-0.410, 0.223], p = .561) were both non-significant.

Passing Rates

The DID estimates for the impact of ACUE faculty on changes over time in passing rates showed statistically significant positive impact during and after the ACUE-certification period, relative to the comparison group. The interaction between ACUE and the during-certification period was positive and significant, b = 0.615, SE = 0.120, 95% CI [0.379, 0.851], p < .001, and remained positive and significant in the post period, b = 0.597, SE = 0.122, 95% CI [0.357, 0.836], p < .001.

These results translate to an estimated 5.53-percentage point increase in course passing during the certification period and an estimated 5.43-percentage point increase in the post-ACUE period, relative to what would have been expected had faculty not become ACUE certified. This would correspond to approximately 152 additional students passing their courses during certification and 151 additional students passing post ACUE. As shown in Figure 4, passing rates among students taught by ACUE faculty increased by 6.14% during the ACUE course period from baseline and by 5.83% in the post-certification period (see Figure 4). These findings show that ACUE certification was linked with sustained increases in students passing their courses at QCC.

Figure 4: *Changes in Passing Rates Across Time Points by Instructor Type*



Post Hoc Contrasts

In addition, post hoc analyses were conducted on the logistic regression model to further examine the interaction between time point and faculty type (ACUE vs. non-ACUE) and to assess specific group differences in predicted passing rates. Using Bonferroni correction, the contrast between ACUE and non-ACUE at baseline was statistically significant (*contrast* = -0.342, *SE* = 0.082, 95% CI [-0.583, -0.101], $p < .001$), indicating lower baseline passing in ACUE sections.

For ACUE sections, passing rates increased significantly from baseline to both the during- and post-certification periods. The contrast between the baseline and the during-ACUE period was statistically significant (*contrast* = 0.592, *SE* = 0.113, 95% CI [0.260, 0.924], $p < .001$), indicating that students taught by ACUE faculty were substantially more likely to pass their courses during the certification year compared to before they participated in the ACUE course. Similarly, the contrast between baseline and the post-ACUE period was also significant (*contrast* = 0.554, *SE* = 0.114, 95% CI [0.219, 0.890], $p < .001$), reflecting a sustained improvement in passing rates after certification. Among non-ACUE sections, there were no significant changes from baseline to the during period (*contrast* = -0.023, *SE* = 0.046, 95% CI [-0.158, 0.112], $p = 1.000$) or to the post period (*contrast* = -0.043, *SE* = 0.052, 95% CI [-0.195, 0.109], $p = 1.000$).

When comparing changes between groups across time, the improvement in the during-certification period favored ACUE over non-ACUE faculty (*contrast* = 0.273, *SE* = 0.089, 95% CI [0.012, 0.534], *p* = .032), and the difference between ACUE and non-ACUE faculty in the post-ACUE period was marginally significant after Bonferroni adjustment (*contrast* = 0.255, *SE* = 0.091, 95% CI [-0.013, 0.523], *p* = .078). The contrast between the post-ACUE and during-ACUE periods within ACUE sections was not significant (*contrast* = -0.038, *SE* = 0.117, 95% CI [-0.381, 0.306], *p* = 1.000), suggesting that gains achieved during the certification year were sustained but did not further increase afterward.

Subgroup Analyses

Interactions With College Generational Status

The three-way interactions for the post-ACUE period, faculty type, and unknown generational status were statistically significant (*b* = 0.680, *SE* = 0.323, 95% CI [0.047, 1.314], *p* = .035), suggesting a larger impact post-certification in passing among students with unknown generational status; however, because "Unknown" (U) is a residual category, this result should be interpreted with caution. All other interactions were non-significant: during ACUE for first-generation students (*b* = -0.190, *SE* = 0.347, 95% CI [-0.871, 0.490], *p* = .583), during ACUE for students of unknown generational status (*b* = 0.213, *SE* = 0.311, 95% CI [-0.395, 0.822], *p* = .492), and post ACUE for first-generation students (*b* = 0.507, *SE* = 0.393, 95% CI [-0.263, 1.278], *p* = .197). Overall, there was no differential ACUE effect for first-generation students versus continuing-generation students.

Non-Significant Interactions With Student Demographics

Interactions With Student Race/Ethnicity: Follow-up analyses adding three-way interactions with student race/ethnicity showed no statistically significant effects on passing rates during or after certification. During the certification period, interactions for Asian/Pacific Islander (*b* = 0.020, *SE* = 0.458, 95% CI [-0.878, 0.919], *p* = .965), Black/African American (*b* = -0.113, *SE* = 0.440, 95% CI [-0.976, 0.749], *p* = .797), Hispanic/Latino (*b* = -0.141, *SE* = 0.443, 95% CI [-1.009, 0.727], *p* = .750), and Other/Unknown (*b* = 0.388, *SE* = 1.308, 95% CI [-2.176, 2.952], *p* = .767) were non-significant. In the post-certification period, the corresponding interactions for Asian/Pacific Islander (*b* = 0.086, *SE* = 0.437, 95% CI [-0.771, 0.943], *p* = .843), Black/African American (*b* = -0.111, *SE* = 0.418, 95% CI [-0.930, 0.708], *p* = .790), Hispanic/Latino (*b* = 0.193, *SE* = 0.422, 95% CI [-0.634, 1.021], *p* = .647), and Other/Unknown (*b* = -1.533, *SE* = 1.010, 95% CI [-3.513, 0.448], *p* = .129) were also non-significant. These patterns indicate that impacts on passing rates associated with ACUE certification did not differ by race/ethnicity.

Interactions With Student Gender: The three-way interactions were not statistically significant for female students during the certification period (*b* = 0.311, *SE* = 0.241, 95% CI [-0.162, 0.784], *p* = .197) nor in the post period (*b* = -0.122, *SE* = 0.245, 95% CI [-0.603, 0.358], *p* = .618), indicating no evidence that ACUE-related impacts on passing differed by gender.

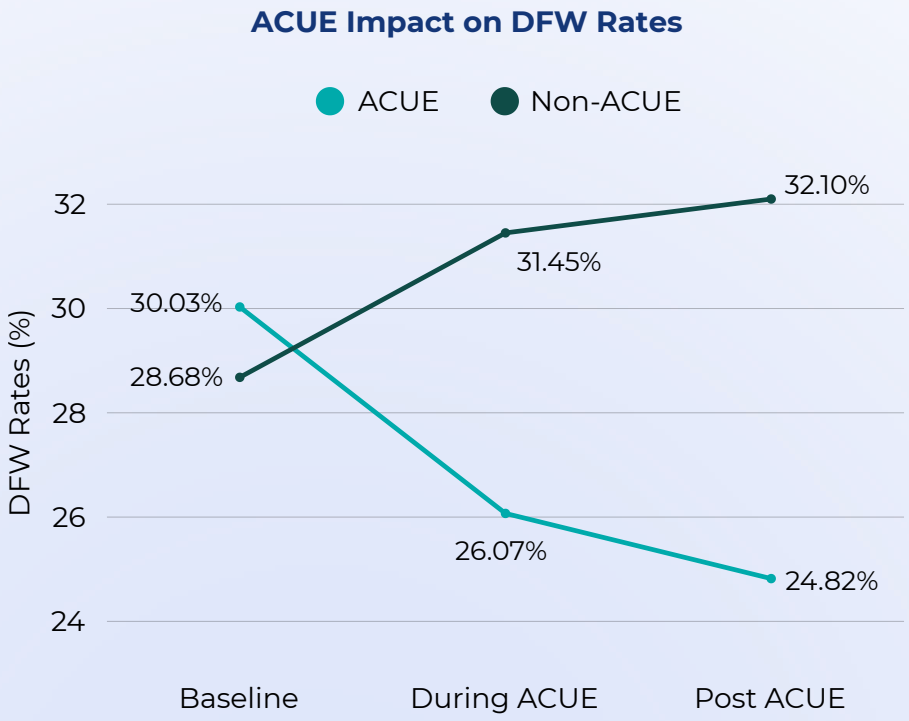
Interactions With Pell Eligibility: The three-way interactions with Pell eligibility were not statistically significant in either the during-ACUE period (*b* = -0.115, *SE* = 0.241, 95% CI [-0.586, 0.357], *p* = .633) nor the post-ACUE period (*b* = -0.217, *SE* = 0.243, 95% CI [-0.692, 0.259], *p* = .372). These findings suggest that ACUE-related impacts on passing rates were consistent across Pell-eligible and non-Pell students.

DFW Rates

The DID estimates for the impact of ACUE faculty on changes over time in DFW rates showed statistically significant positive impact during and after the certification period, relative to the non-ACUE group. The interaction between ACUE and the during-period was negative and significant (*b* = -0.349, *SE* = 0.072, 95% CI [-0.489, -0.209], *p* < .001), and the post-period interaction was likewise negative and significant (*b* = -0.451, *SE* = 0.074, 95% CI [-0.595, -0.307], *p* < .001).

These results translate to an estimated 6.72-percentage point decrease in DFW grades during the ACUE-certification period and an estimated 8.62-percentage point decrease in the post-ACUE period, relative to what would have been expected had faculty not been certified. This corresponds to approximately 185 fewer students receiving DFW grades in their courses during certification and 240 fewer students receiving these grades post-certification. As seen in Figure 5, DFW rates among students taught by ACUE-certified faculty decreased by 13.19% during the certification period from baseline and decreased by 17.33% after the certification period. These findings indicate that ACUE-taught course sections experienced meaningful impact in DFW rates during certification that were sustained and further strengthened after the ACUE-certification period.

Figure 5: *Changes in DFW Rates Across Time Points by Instructor Type*



Post Hoc Contrasts

Post hoc analyses using Bonferroni correction were conducted on the logistic regression model to further examine the interaction between time point and faculty type (ACUE vs. non-ACUE) and to assess specific group differences in predicted DFW rates. The baseline contrast between ACUE and non-ACUE was not statistically significant (*contrast* = 0.069, *SE* = 0.052, 95% CI [-0.084, 0.223], *p* = 1.000), indicating similar starting points for both groups.

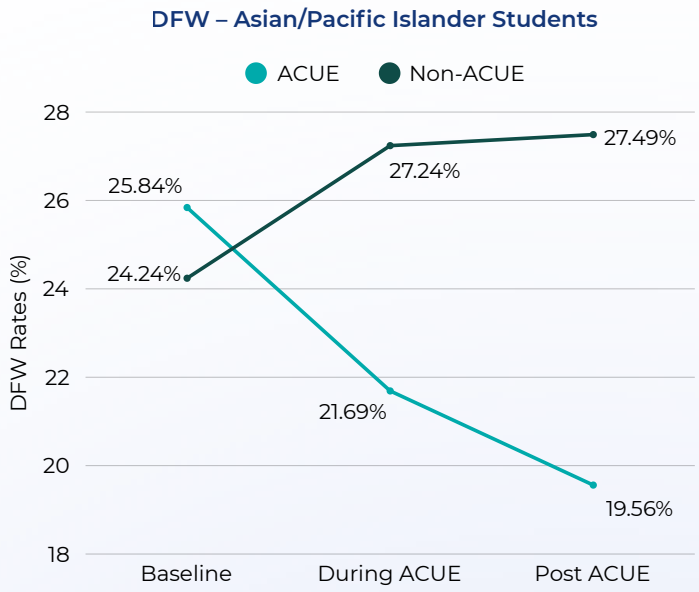
For ACUE sections, DFW rates decreased significantly from baseline to the during period (*contrast* = -0.209, *SE*= 0.067, 95% CI [-0.407, -0.011], *p* = .029) and from baseline to the post period (*contrast* = -0.278, *SE* = 0.069, 95% CI [-0.481, -0.076], *p* = .001). The within-ACUE during-certification vs. post-certification contrast was not significant (*contrast* = -0.069, *SE* = 0.066, 95% CI [-0.262, 0.123], *p* = 1.000), suggesting that reductions achieved during the ACUE certification were maintained into the post-certification period. Among non-ACUE sections, DFW rates increased significantly from baseline to the during period (*contrast* = 0.140, *SE* = 0.027, 95% CI [0.061, 0.219], *p* < .001) and from baseline to the post period (*contrast* = 0.173, *SE* = 0.030, 95% CI [0.085, 0.260], *p* < .001). When comparing changes between both groups across time, the the difference between ACUE and the comparison group was large and statistically significant in both the during-certification period (*contrast* = -0.280, *SE* = 0.049, 95% CI [-0.424, -0.136], *p* < .001) and the post-certification period (*contrast* = -0.382, *SE* = 0.052, 95% CI [-0.535, -0.229], *p* < .001).

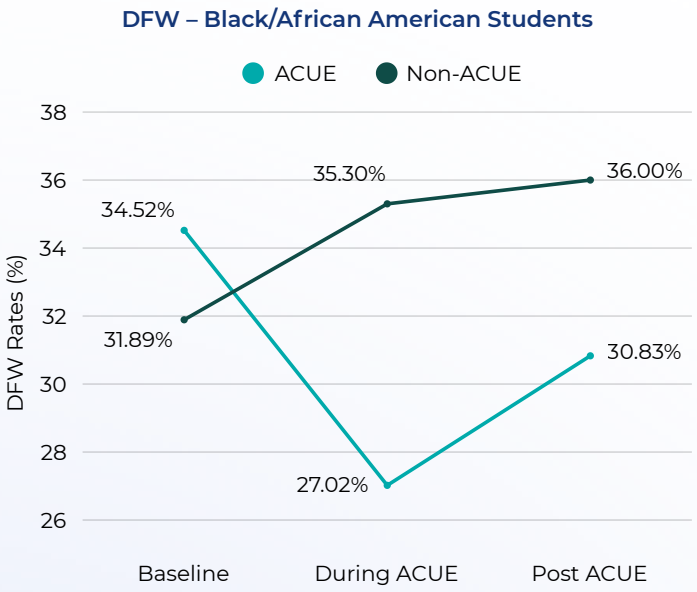
Subgroup Analyses

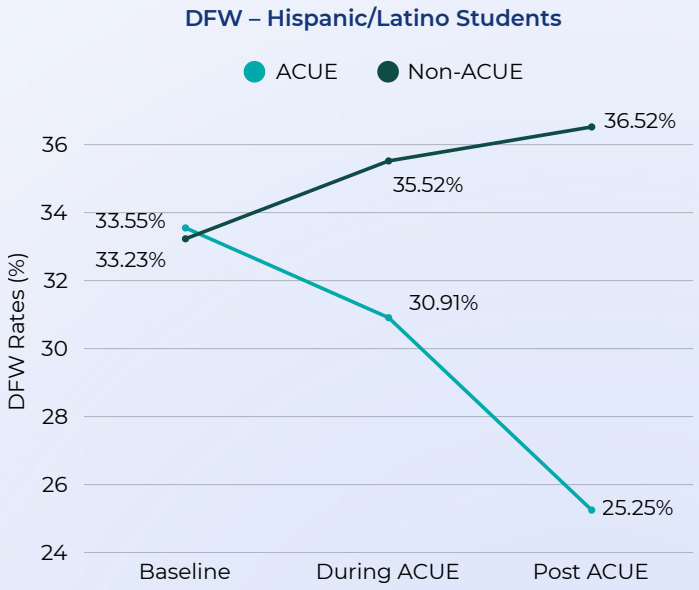
Interactions With Student Race/Ethnicity

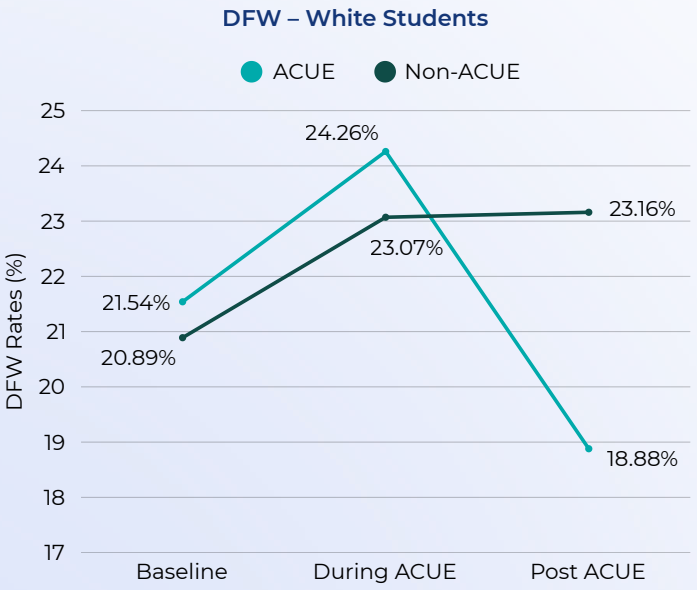
Follow-up analyses adding three-way interactions with student race/ethnicity revealed a significant interaction for Black/African American students during the ACUE-certification period, indicating a larger impact on DFW rates for Black/African American students relative to White students (*b* = -0.562, *SE* = 0.250, 95% CI [-1.052, -0.071], *p* = .025). The interaction for Asian/Pacific Islander students during certification was marginally significant (*b* = -0.437, *SE* = 0.259, 95% CI [-0.944, 0.069], *p* = .091). All other during-period race/ethnicity interactions were non-significant (Hispanic/Latino: *b* = -0.263, *SE* = 0.253, 95% CI [-0.759, 0.232], *p* = .297; Other/Unknown: *b* = -0.122, *SE* = 0.710, 95% CI [-1.512, 1.269], *p* = .864). In the post-certification period, none of the race/ethnicity interactions reached statistical significance (Asian/Pacific Islander: *b* = -0.248, *SE* = 0.273, 95% CI [-0.783, 0.287], *p* = .364; Black/African American: *b* = -0.061, *SE* = 0.264, 95% CI [-0.577, 0.456], *p* = .818; Hispanic/Latino: *b* = -0.266, *SE* = 0.269, 95% CI [-0.793, 0.261], *p* = .322; Other/Unknown: *b* = 1.004, *SE* = 0.650, 95% CI [-0.270, 2.278], *p* = .123). These results suggest that the largest impact in DFW rates during certification was observed among Black/African American students (see Figure 6).

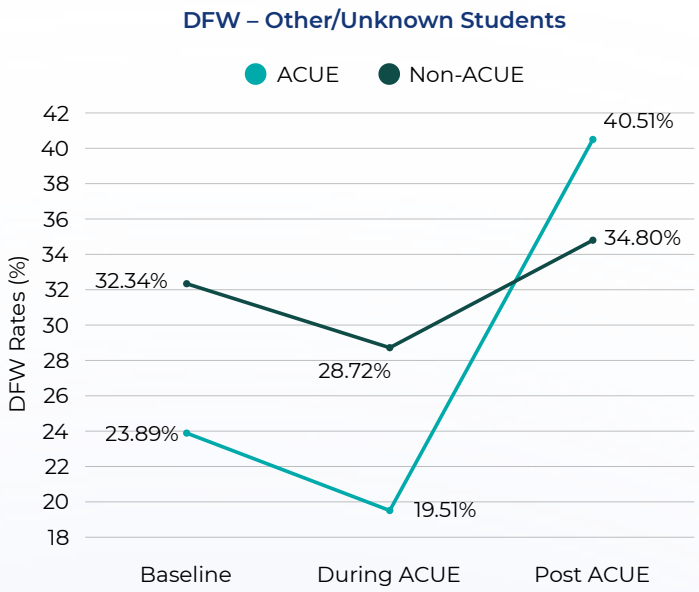
Figure 6: *DFW Rates Across Time Points by Instructor Type and Student Race/Ethnicity*











Non-Significant Interactions With Student Demographics

Interactions With Student Gender: The three-way interactions for female students were not significant during the certification period (*b* = -0.168, *SE* = 0.143, 95% CI [-0.449, 0.114], *p* = .243) nor in the post period (*b* = -0.206, *SE* = 0.147, 95% CI [-0.494, 0.081], *p* = .160), indicating no evidence that ACUE-related DFW impact differed by gender.

Interactions With Student College Generational Status: The three-way interactions during the certification period were not significant for students of unknown generational status (*b* = -0.236, *SE* = 0.183, 95% CI [-0.595, 0.122], *p* = .196) and for first-generation students (*b* = -0.268, *SE* = 0.201, 95% CI [-0.662, 0.125], *p* = .182). In the post period, the interaction for students of unknown generational status was marginal (*b* = -0.367, *SE* = 0.201, 95% CI [-0.761, 0.027], *p* = .068), and for first-generation students it remained non-significant (*b* = -0.251, *SE* = 0.233, 95% CI [-0.707, 0.205], *p* = .280). Overall, ACUE-related impact on DFW rates did not differ meaningfully by college generational status.

Interactions With Pell Eligibility: Three-way interactions with Pell eligibility were not statistically significant in either the during-ACUE period (*b* = 0.220, *SE* = 0.142, 95% CI [-0.059, 0.499], *p* = .122) nor in the post-ACUE period (*b* = 0.205, *SE* = 0.145, 95% CI [-0.080, 0.490], *p* = .159). These findings indicate that ACUE-related impacts on DFW rates were consistent across Pell and non-Pell students.

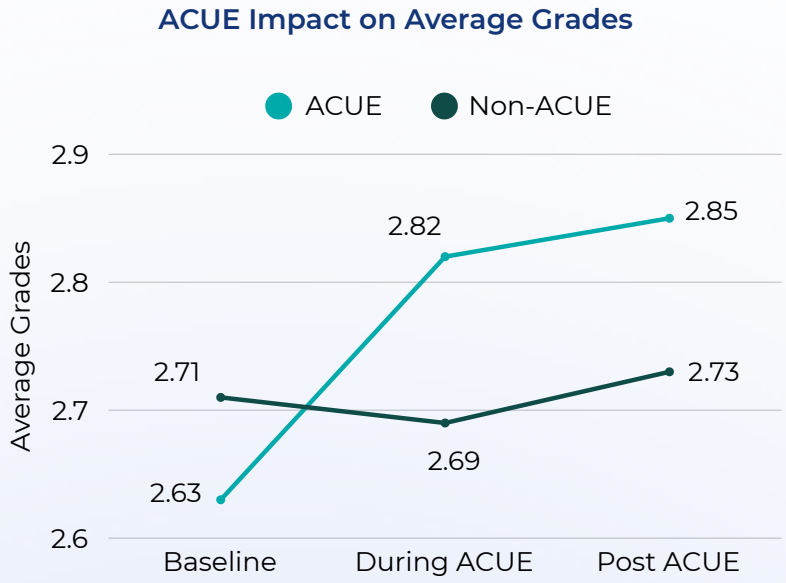
Average Course Grades

Interactions With Student Race/Ethnicity

The DID estimates for the impact of ACUE faculty on changes over time in average course grades (4.0 scale) indicated statistically significant positive impacts during and after the certification period, relative to the comparison group. The interaction between ACUE and the during period was positive and significant (*b* = 0.210, *SE* = 0.042, 95% CI [0.127, 0.293], *p* < .001), and the post-period interaction was likewise positive and significant (*b* = 0.198, *SE* = 0.042, 95% CI [0.116, 0.281], *p* < .001). As shown in

Figure 7, these impacts translate to a 7.24% estimated increase in average grades in the during-ACUE period from baseline, and a similar estimated 8.34% increase in the post-ACUE period from baseline. These results indicate that the impact of ACUE-taught course sections on average grades during the certification year persisted into the post-certification period, relative to matched comparison sections.

Figure 7: *Changes in Average Grades Across Time Points by Instructor Type*



Post Hoc Comments

In addition, post hoc analyses using Bonferroni correction were conducted on the linear model to further examine the interaction between time frame and faculty type (ACUE vs. non-ACUE) and to assess specific group differences in predicted average course grades. The baseline contrast between ACUE and non-ACUE was not statistically significant (*contrast* = -0.080, *SE* = 0.032, 95% CI [-0.175, 0.016], *p* = .210).

ACUE sections showed significant increases from baseline to the during-ACUE period (*contrast* = 0.190, *SE* = 0.039, 95% CI [0.075, 0.306], *p* < .001) and from baseline to the post-ACUE period (*contrast* = 0.219, *SE* = 0.039, 95% CI [0.106, 0.333], *p* < .001). In contrast, among non-ACUE sections, grades did not change significantly from baseline to the during-ACUE period (*contrast* = -0.020, *SE* = 0.017, 95% CI [-0.070, 0.030], *p* = 1.000) or to the post-ACUE period (*contrast* = 0.021, *SE* = 0.019, 95% CI [-0.033, 0.076], *p* = 1.000).

Comparing groups across time, ACUE sections outperformed non-ACUE sections in the during-ACUE period (*contrast* = 0.130, *SE* = 0.028, 95% CI [0.050, 0.211], *p* < .001) and in the post-ACUE period (*contrast* = 0.118, *SE* = 0.027, 95% CI [0.039, 0.198], *p* < .001). The within-ACUE during vs. post contrast was not significant (contrast = 0.029, *SE* = 0.034, 95% CI [-0.070, 0.128], *p* = 1.000), indicating that improvements gained during certification were maintained in the post-certification period. The non-ACUE group's during vs. post contrast was also non-significant (contrast = 0.041, *SE* = 0.018, 95% CI [-0.011, 0.093], *p* = .321).

Subgroup Analyses

Interactions With College Generational Status

The three-way interactions including college generational status showed a significantly larger ACUE-related impact for students with unknown generational status in the during-ACUE period (b = 0.236, SE = 0.111, 95% CI [0.018, 0.453], p = .034) and in the post-ACUE period (b = 0.243, SE = 0.123, 95% CI [0.001, 0.485], p = .049). Interactions for first-generation students were not significant in either the during-ACUE period (b = 0.108, SE = 0.124, 95% CI [-0.135, 0.351], p = .384) nor in the post-ACUE period (b = 0.181, SE = 0.146, 95% CI [-0.106, 0.468], p = .216), indicating no differential ACUE effect by first-generation students vs. continuing generation students. Because "unknown" is a residual category, these findings should be interpreted with caution.

Non-Significant Interactions With Student Demographics

Interactions With Student Race/Ethnicity: Follow-up analyses adding three-way interactions with student race/ethnicity were not statistically significant in either period. During certification, interactions for Asian/Pacific Islander (b = -0.120, SE = 0.129, 95% CI [-0.374, 0.133], p = .352), Black/African American (b = -0.009, SE = 0.133, 95% CI [-0.271, 0.252], p = .944), Hispanic/Latino (b = -0.166, SE = 0.137, 95% CI [-0.436, 0.103], p = .226), and Other/Unknown (b = 0.068, SE = 0.378, 95% CI [-0.673, 0.808], p = .858) were not significant. In the post-ACUE period, the corresponding interactions for Asian/Pacific Islander (b = -0.061, SE = 0.127, 95% CI [-0.311, 0.189], p = .631), Black/African American (b = 0.031, SE = 0.132, 95% CI [-0.228, 0.291], p = .813), Hispanic/Latino (b= 0.067, SE = 0.136, 95% CI [-0.199, 0.334], p = .621), and Other/Unknown (b = -0.125, SE = 0.386, 95% CI [-0.882, 0.632], p = .747) were also not significant. This indicates that impacts on average grades associated with ACUE certification were similar across racial/ethnic groups.

Interactions With Student Gender: The three-way interactions for female students were not significant in the during-ACUE period (b = -0.072 (SE = 0.086, 95% CI [-0.241, 0.096], p = .401) nor in the post-ACUE period (b = -0.083 (SE = 0.085, 95% CI [-0.249, 0.083], p = .326). These results provide no evidence that ACUE's impact on average grades differed by gender.

Interactions With Pell Eligibility: Three-way interactions with Pell eligibility were not statistically significant in the during-ACUE period (b = -0.100, SE = 0.085, 95% CI [-0.266, 0.067], p = .240, nor in the post-ACUE period (b = -0.049, SE = 0.083, 95% CI [-0.212, 0.114], p = .558). These results suggest that ACUE-related impacts on average grades were consistent across Pell-eligible and non-Pell students.

Discussion

Across all four outcomes examined and both time points, ACUE participation was associated with statistically significant positive impacts for QCC students. ACUE-taught sections showed steady completion during certification and a marginal improvement post-certification, while comparisonsections experienced decreases in course completion over the same time period, demonstrating the ACUE certification had a protective effect against any broader trends that might have negatively impacted students across the institution. Passing increased substantially in both periods among sections taught by ACUE-certified faculty, while no similar change was seen among comparison sections. DFW rates declined markedly and consistently among sections taught by ACUE-certified faculty, while increasing among comparison sections during the same time periods. Finally, average course grades in sections taught by ACUE-certified faculty rose and remained elevated after certification, while grades in comparison sections remained stable. The magnitude of these effects translates to approximately 80 additional students completing their courses, about 150 additional students passing their courses, and 185 fewer students receiving DFW grades during the ACUE-certification period, with these gains increasing to 141 additional completions, 150 additional students passing, and 240 fewer DFW grades in the year post-certification. Average course grades also rose, with a sustained improvement of about 0.2 points on a 4.0 scale, indicating that more students not only completed and passed their courses but did so with improved levels of academic performance. The consistency of these effects across models and post hoc contrasts showcases the strength of these results and points to sustained benefits of the ACUE certification rather than short-term improvements.

Community colleges such as QCC provide open access to higher education for student populations that have historically faced barriers to postsecondary attainment.. These students often benefit substantially from high-quality instruction and meaningful engagement with faculty, both core outcomes promoted by ACUE. The results observed in this evaluation reflect improvements in these exact areas. In particular, the significant increases in course completion and reductions in DFW rates address key obstacles to persistence, helping students remain enrolled and progressing toward their academic goals. The observed 3 to 5 percentage-point gains in completion and passing, along with 6 to 9 percentage-point reductions in DFW rates, therefore represent not only statistically significant outcomes but also concrete improvements in students' everyday academic experiences. These changes ultimately enable more QCC students to accumulate credits, sustain academic momentum, and stay on track toward degree attainment, decreasing setbacks that often interrupt enrollment.

The findings from subgroup analyses suggest both overall improvement and greater parity. Most subgroup interactions were not statistically significant, indicating that benefits accrued broadly across student subgroups rather than being concentrated in a single group, and when differences did emerge, they aligned with QCC's mission to close achievement gaps. For instance, there were greater improvements in completion and sharper DFW reductions for Black/African American students during certification, and higher completion for women post-certification, with no evidence of adverse effects for other subgroups. In a setting where equity gaps can be persistent and multifactorial, gains that are broadly distributed suggest that improving instructional practices can raise the baseline and narrow gaps simultaneously. This

interpretation is consistent with research highlighting how high-quality faculty interactions can be especially consequential for Black and Latino students in community colleges, supporting self-efficacy, academic performance, and degree attainment (DeFreitas & Bravo, 2012). Moreover, because GPA improvements have been observed to be associated with higher persistence and satisfaction among Black community-college students, the sustained 0.2-point increase observed at QCC might potentially contribute to ongoing reenrollment and momentum for these learners (Nora et al., 2005; Strayhorn & Johnson, 2014).

These patterns are especially relevant when considered within the broader institutional context during the study period. Institutional policies implemented during this period at QCC may explain trends in overall grading and withdrawal patterns across the dataset received. Some of these policy changes were the 2021 change making the WU (unofficial withdrawal) grade no longer impact GPA, and the 2022 adoption of CUNY's co-requisite model for English and math courses. While the extent of their impact on course outcomes is unclear, these changes might have contributed to the broader declines in completion and increases in DFW grades among comparison course sections. In this context, the stability and positive impacts observed in ACUE-taught sections suggest that improvements in instructional quality through the ACUE courses may have served as a protective mechanism mitigating the effects of these institutional shifts and supporting more consistent student success during this period.

Considering all of this, the results indicate that strengthening classroom instruction through evidence-based teaching practices produces measurable and lasting improvements in student success. Gains that persisted into the post-certification period indicate the approach is not only effective but sustainable and suggest that instructors continued to use and refine the practices they learned. The largely non-differential benefits across student groups suggest that ACUE-certified faculty foster learning environments that benefit all students while particularly aiding those historically most at risk of academic attrition. In this sense, ACUE certification functions as an institution-wide initiative to promote equitable persistence rather than a targeted intervention limited to certain courses or populations. Given that the QCC–ACUE partnership was part of a broader grant-funded student success initiative, this evaluation demonstrates that those goals were achieved.

The strength of this evidence derives from the quality of the data provided by QCC and the diversity of its learning environment. QCC's broad and diverse student population provided some context for evaluating the potential generalizability of these effects, as these findings highlight that evidence-based teaching practices are effective across varied instructional contexts and can enhance success for a wide range of learners. Finally, these results show that investing in instructional excellence through ACUE reinforces course persistence, academic improvement, and equity at QCC, helping more students stay engaged, earn credits, and potentially succeed in their academic journeys.

Limitations

As previously mentioned, this evaluation employed rigorous analytic methods and high-quality institutional data; however, some limitations should be considered when interpreting the findings. First, access to instructor-level data was limited. While the models accounted for

faculty experience and teaching load, several instructor characteristics commonly included in ACUE's student outcomes evaluations (e.g., gender, race/ethnicity, tenure status, employment type) were not available for these analyses. The absence of these covariates limits the ability to fully control for instructor-level heterogeneity. As a result, there is a possibility that some unaccounted-for instructor attributes may have contributed to variation in student outcomes beyond the effects of the ACUE certification itself to some degree.

Second, the analyses could not directly control for students' baseline academic preparedness. Although the models incorporated several student-level controls, including age, Pell eligibility, first-generation college status, and ESL status, key indicators such as high school GPA or SAT scores could not be used due to missing data for large numbers of students. This limitation makes it difficult to determine how much of the observed differences in outcomes stemmed from students' prior academic readiness versus the impact of instructional practices.

Finally, while QCC's large and diverse student population strengthens the relevance of the findings for other community colleges serving similar demographics, the results should be interpreted within the context of QCC's institutional environment, course offerings, and faculty composition. The effects observed in this study may vary across colleges with different student populations or instructional structures.

Conclusion

The findings from the evaluation demonstrate that ACUE certification was associated with sustained improvements in student success at Queensborough Community College. Across multiple outcomes, students taught by ACUE-certified faculty showed positive impacts on course completion, passing rates, DFW rates, and average grades during and after the certification periods. These benefits, observed across a broad and diverse student population, suggest that evidence-based instructional practices not only enhance overall academic performance but also promote equitable outcomes across student groups. By equipping faculty with evidence-based teaching strategies, ACUE supports QCC's mission to strengthen instructional quality and close achievement gaps. In summary, these results emphasize the continuing value of investing in faculty development, such as the ACUE courses, to improve student learning, persistence, academic success, and equity within the community college setting.

References

Association of College and University Educators [ACUE]. (2016). *The essentials of college instruction: ACUE's course in Effective Teaching Practices: A comprehensive bibliography.* https://acue.org/wp-content/uploads/2025/12/ACUE_Bibliography.pdf

Braga, M., Paccagnella, M., & Pellizzari, M. (2016, April). The impact of college teaching on students' academic and labor market outcomes. *Journal of Labor Economics, 34*(3), 781–822. https://doi.org/10.1086/684952

Brodaty, T., & Gurgand, M. (2016, July 20). Good peers or good teachers? Evidence from a French university. *Economics of Education Review, 54*, 62–78. https://doi.org/10.1016/j.econedurev.2016.06.005

Brownback, A., & Sadoff, S. (2020, July 7). Improving college instruction through incentives. *Journal of Political Economy*, *128*(8), 2925–2972. https://doi.org/10.1086/707025

Carrell, S. E., & West, J. E. (2010, May). Does professor quality matter? Evidence from random assignment of students to professors. *Journal of Political Economy, 118*(3), 409–432. https://doi.org/10.1086/653808

Cejda, B. D., & Rhodes, J. H. (2004). Through the pipeline: The role of faculty in promoting associate degree completion among Hispanic students. *Community College Journal of Research and Practice*, *28*(3), 249–262. https://doi.org/10.1080/10668920490256435

Condon, W., Iverson, E. R., Manduca, C. A., Rutz, C., & Willett, G. (2016). *Faculty development and student learning: Assessing the connections*. Indiana University Press.

DeFreitas, S. C., & Bravo, A., Jr. (2012, December 11). The influence of involvement with faculty and mentoring on the self-efficacy and academic achievement of African American and Latino college students. *Journal of the Scholarship of Teaching and Learning*, *12*(4), 1–11. https://scholarworks.iu.edu/journals/index.php/josotl/article/view/2083/2985

De Vlieger, P., Jacob, B., & Stange, K. (2016, December). *Measuring instructor effectiveness in higher education* (Working Paper 22998). National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w22998/w22998.pdf

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences, 111*(23), 8410–8415. https://psycnet.apa.org/doi/10.1073/pnas.1319030111

Gipson, J., Mitchell, D., Jr., & McLean, C. (2018). An investigation of high-achieving African-American students attending community colleges: A mixed methods research study. *Community College Journal of Research and Practice*, *42*(4), 289–301. https://doi.org/10.1080/10668926.2017.1299652

Hecht, D. (2019). *A study of ACUE professional development at Rutgers University–Newark.* Center for Advanced Study in Education, The Graduate Center, City University of New York. https://acue.org/wp-content/uploads/2022/11/091218_ACUE_CASE_technical-report.pdf

Iacus, S. M., King, G., & Porro, G. (2008, June 26). *Matching for causal inference without balance checking*. SSRN. https://papers.ssrn.com/sol3/Delivery.cfm?abstractid=1152391

Iacus, S. M., King, G., & Porro, G. (2012). Causal inference without balance checking: Coarsened exact matching. *Political Analysis*, *20*(1), 1–24. https://doi.org/10.1093/pan/mpr013

Lancaster, J. R., & Lundberg, C. A. (2019). The influence of classroom engagement on community college student learning: A quantitative analysis of effective faculty practices. *Community College Review*, *47*(2), 136–158. https://doi.org/10.1177/0091552119835922

Lawner, E. K., & Snow, M. (2018). *Teaching makes the difference: Higher student success rates at Delta State University*. Association of College and University Educators. https://acue.org/wp-content/uploads/2018/09/ACUE_StudentImpactReport_DeltaState_122018_v7.pdf

Lawner, E. K., & Snow, M. (2019a). *Improved learning at democracy's college: Findings from Miami Dade College, part B*. Association of College and University Educators. https://acue.org/wp-content/uploads/2019/03/ACUE_MDC Tech-Report_100120.pdf

Lawner, E. K., & Snow, M. (2019b). *Strong instruction, sustained: Higher student evaluations and grades at the University of Nevada, Reno*. Association of College and University Educators. https://acue.org/wp-content/uploads/2019/09/ACUE_UofNevadaReno_spreads_proof_052820.pdf

Lawner, E. K., & Snow, M. (2020). *Advancing academic equity at Broward College: Improved course completion and passing, particularly among Pell-eligible and Black students*. Association of College and University Educators. https://acue.org/wp-content/uploads/2025/10/ACUE_Broward-Tech-Report_5.2020.pdf

Lawner, E. K., Snow, M., & Burt, T. (2019a). *Grades up: Quality teaching at the heart of student success in San Francisco*. Association of College and University Educators. https://acue.org/wp-content/uploads/2019/06/ACUE_CCSF-Grades-Up-Report_100120.pdf

Lawner, E. K., Snow, M., MacCormack, P., & Waltje, J. (2019b). *Better in Texas! Impact of ACUE-credentialed faculty on student course completion*. Association of College and University Educators. https://acue.org/wp-content/uploads/2025/12/ACUE_StudentImpactReport_TWU_052019.pdf

Lester, J., Brown Leonard, J., & Mathias, D. (2013, August 1). Transfer student engagement: Blurring of social and academic engagement. *Community College Review*, *41*(3), 202–222. https://doi.org/10.1177/0091552113496141

Lundberg, C. A., Kim, Y. K., Andrade, L. M., & Bahner, D. T. (2018). High expectations, strong support: Faculty behaviors predicting Latina/o community college student learning. *Journal of College Student Development*, *59*(1), 55–70. https://doi.org/10.1353/csd.2018.0004

MacCormack, P., Snow, M., Gyurko, J., & Candio Sekel, J. (2018). *Connecting the dots: A proposed accountability method for evaluating the efficacy of faculty development and its impact on student outcomes*. Association of College and University Educators. https://acue.org/wp-content/uploads/2025/12/ACUE_Connecting-the-Dots_022018.pdf

Nora, A., Barlow, E., & Crisp, G. (2005). Student persistence and degree attainment beyond the first year in college. In A. Seidman (Ed.), *College student retention: Formula for student success*, (pp. 129–153). Praeger. https://doi.org/10.5040/9781639736522

Pippins, T., Chasteen, A., Lester, K. F., Lawner, E. K., & Snow, M. (2021a, July). *Gateway to gains: Improved grades, passing and DFW rates in gateway courses taught by ACUE faculty at the University of Southern Mississippi*. Association of College and University Educators. https://acue.org/wp-content/uploads/2025/12/USM-Technical-Report-Gateway-to-Gains_072021.pdf

Pippins, T., Hartigan, L., Lawner, E. K., & Snow, M. (2021). Continuous Improvement: Improved grades in sections taught by ACUE faculty at Purdue University Northwest in the year after they earned their credential. Association of College and University Educators. https://acue.org/wp-content/uploads/2025/12/PNW-Cohort-B--Technical-Report_032021.pdf

Pippins, T., Lawner, E. K., & Snow, M. (2021c). *A lasting impact: Improved grades at Texas Woman's University*. Association of College and University Educators. https://acue.org/wp-content/uploads/2025/12/TWU-3-year-cohort-A-Technical-Report_2021.pdf

Queensborough Community College. (n.d.). *About Queensborough Community College*. https://www.qcc.cuny.edu/about/index.html

Schneider, M., & Preckel, F. (2017). Variables associated with achievement in higher education: A systematic review of meta-analyses. *Psychological Bulletin*, *143*(6), 565–600. https://doi.org/10.1037/bul0000098

Seidman, A. (2012). *College student retention: Formula for student success*. Praeger.

Strayhorn, T. L., & Johnson, R. M. (2014, June). Black female community college students' satisfaction: A national regression analysis. *Community College Journal of Research and Practice*, *38*(6), 534–550. https://doi.org/10.1080/10668926.2013.866060

Theobald, E. J., Hill, M. J., Tran, E., Agrawal, S., Arroyo, E. N., Behling, S., Chambwe, N., Cintró, D. L., Cooper, J. D., Dunster, G., Grummer, J. A., Hennessey, K., Hsiao, J., Iranon, N., Jones, L., II, Jordt, H., Keller, M., Lacey, M. E., Littlefield, C.E., … Freeman, S. (2020, March 9). Active learning narrows achievement gaps for underrepresented students in undergraduate science, technology, engineering, and math. *Proceedings of the National Academy of Sciences*, *117*(12), 6476–6483. https://doi.org/10.1073/pnas.1916903117

Tovar, E. (2013). *A conceptual model on the impact of mattering, sense of belonging, engagement/involvement, and socio-academic integrative experiences on community college students' intent to persist* [Doctoral Dissertation, The Claremont Graduate University]. ProQuest. https://www.proquest.com/docview/1346677788

U.S. Department of Education, National Center for Education Statistics. (2020). Table 306.50: Total fall enrollment in degree-granting postsecondary institutions, by control and classification of institution, level of enrollment, and race/ethnicity of student: 2019. *Digest of Education Statistics.* https://nces.ed.gov/programs/digest/d20/tables/dt20_306.50.asp

Wine, J., Siegel, P., Stollberg, R., & Hunt-White, T. (2018, May). *2015–16 National Postsecondary Student Aid Study (NPSAS:16).* U.S. Department of Education, National Center for Education Statistics. https://nces.ed.gov/pubs2018/2018482.pdf

Wood, J. L., & Harris, F, III. (2016, February). The effect of academic engagement on sense of belonging: A hierarchical, multilevel analysis of Black men in community colleges. *Spectrum: A Journal on Black Men, 4*(1), 21–47. https://doi.org/10.2979/spectrum.4.1.03

At ACUE, our programs are grounded in evidence-based teaching practices and informed by rigorous research. That's how we deliver impact for institutions, faculty, and students. If you'd like to explore more of our technical briefs or learn about our faculty development offerings, please visit www.acue.org or contact us at research@acue.org.