

A Multiyear Study of the High Impact Practice of First Year Seminars on Community College Student Success

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Abstract

This multiyear quantitative study looks at the high-impact practice (HIP) of first-year seminars (FYS) at a large urban community college. We examine discipline-specific FYS courses at the 0-credit, 2-credit, and 3-credit levels. We also explore the impact of the FYS on different student subgroups, including full- and part-time students and students from different demographics, using a quasi-experimental design to account for selection bias. Our findings highlight that FYS is a promising practice that increases student success as measured by GPA, retention, and graduation rates.

Keywords: retention, community college, student success, GPA, graduation, academic achievement, first year seminar, high impact practices

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This research took place at LaGuardia Community College, which strives to facilitate student success by offering a number of high-impact practices (HIPs) that, when done well, elevate the experiences of community college students (Center for Community College Student Engagement (CCCSE), 2012, 2014; Kuh, 2008). LaGuardia Community College is designated as both a Hispanic-Serving Institution (HSI) and an Asian American and Native American Pacific Islander-Serving Institution (AANAPISI) and is part of the City University of New York (CUNY).

The college's most prevalent HIP is the first-year seminar (FYS), which is also one of the most common HIPs across institutions of higher education. According to a 2023 national survey, 77% of responding institutions offer first-year seminars (Mowreader, 2024). While there is a breadth of research on the positive impacts of FYS for student success (see Harrington's 2025 narrative literature review), there is limited research on its impact on community college students. From Harrington's (2025) literature review of 72 studies on FYS, only four looked specifically at community college students. Permzadian and Credé (2016) conducted a meta-analysis of quantitative research looking at the impact of FYS on GPA and retention; only 7 of 284 studies looked at community college students. They found that FYS impacted GPA at community colleges more than at four-year colleges, but cautioned this interpretation due to the limited data on community colleges. This study fills in gaps in previous research by examining how first-year seminars (FYS) affect student GPA, retention, and graduation rates, using a large, multi-year dataset that includes both full-time and part-time community college students.

As Zilvinskis et al. (2022) noted, work around HIPs often brings together people in higher education who do not typically collaborate. This is the case here, with one author being a data analyst in our Center for Teaching and Learning, one being the director of First Year Programming, and the third a faculty member in the Department of Education and Language Acquisition. This research brought together our unique experiences with FYS and our different areas of expertise.

There is evidence that LaGuardia's FYS has a strong positive impact on student success, including student survey research (Battle et al., 2017; Francis & Quish, 2021) and a quantitative evaluation showing that students who took FYS had higher GPAs and retention rates than a matched group of students not taking FYS (Finley, 2019). However, the quantitative research report only looked at full-time students and did not consider student subgroups or look at FYS courses with different credit loads. This study builds on Finley's (2019) findings, looking at more recent data on FYS at our college, and was guided by two alternative hypotheses: (H1) Across all majors, first-time degree-seeking students who completed the FYS course in their first semester demonstrate higher GPA, retention, and graduation than their peers who did not take an FYS course during their student career at LaGuardia Community College¹; (H2) First-time degree-seeking students in each FYS course-credit group who completed the FYS course in their first semester demonstrate higher GPA, retention, and graduation rates than their peers in the same FYS majors within the same course-credit group who did not take an FYS course during their student career at LaGuardia Community College. The null hypothesis (H0) for each alternative hypothesis is that there are no differences in GPA, retention, and graduation rates of first-time degree-seeking students between those who completed the FYS course in their first

¹ While the FYS is a required course, prior to the policy implementation in 2025, students may have been waived from the requirement.

semester and those in the comparison group who did not take an FYS course during their student career at LaGuardia Community College.

This study examined short-term impacts (1-semester and 1-year retention and GPA) and longer-term impacts (both 3- and 6-year graduation rates) for both hypotheses. For H1, we also analyzed differences in GPA, retention, and graduation among full- and part-time students and across demographic subgroups, given notable evidence that HIPs are especially impactful for historically underserved students (Zilvinskis et al., 2022).

As Hodges et al. (2022) noted, the gap in the research literature on FYS courses limits their ongoing development in practice. This study aimed to address this gap and contribute to research on the impact of FYS on student GPA, retention, and graduation rates by analyzing a large multi-year dataset that included both full-time and part-time community college students with a focus on discipline-specific FYS courses. Furthermore, the FYS courses at LaGuardia, depending on the major, are at different credit levels, ranging from 0 to 3 credits; therefore, we examine how these variations influence student success. Finally, the study also aimed to better understand the course effects and the varying benefits on different student demographics, including gender and ethnicity.

Literature Review

History of FYS

In their historical review of FYS courses, Hodges et al. (2022) noted that the first freshman orientation class launched at Boston College in 1888 (Gardner, 1986, as cited by Bigger, 2005). FYS emerged to help students as they face college challenges and to support their transition to a college environment (Keup & Barefoot, 2005). While the prevalence of these courses decreased by the 1960s, the present-day FYS initiative appeared as a result of the Civil Rights movement. In 1971, the University of South Carolina's president reimagined the FYS as a way to cultivate trust between students, faculty, and staff and therefore improve retention (University of South Carolina, n.d.).

FYS, often used interchangeably with student success courses, represents a subset of these courses that the literature identifies as an avenue for teaching essential college skills. Despite their varied formats, FYS courses share a common long-term goal: increasing student success through degree attainment. To achieve this outcome, first-year seminars serve as institutional strategies that support students' transition to college by enhancing both academic and social integration. A study by Hatch et al. (2018) to better understand how student success courses work in practice revealed that participants cited the social learning that takes place in them. The study included student and faculty interviews, class observations, and document analysis of four student success courses delivered in diverse contexts. A key aspect of student success courses was their role in fostering connections with peers and the larger college community. When well-designed, student success courses facilitate student integration by helping learners build meaningful connections with peers and faculty, understand institutional structures and expectations, and develop essential college success skills such as help-seeking behaviors (Karp et al., 2017).

Now widely offered for college credit at both 2- and 4-year institutions, the FYS encompasses a range of objectives and curricular approaches. Barefoot and Fidler (1992)

identified five types of FYS: extended orientation, academic seminars with either uniform or varied content, introductory courses to discipline-specific fields or professional programs, and basic study skills courses. The most common are extended orientation courses designed to help students transition to college by building study skills, time management, and awareness of campus resources, while also supporting career preparation and academic advising (U.S. Department of Education, 2016).

Research on FYS Student Outcomes in Community Colleges

As noted above, a recent narrative literature review on the impact of FYS (Harrington, 2025) included four (out of 72) studies focused on Community College students. Three of the studies compared retention rates of students who participated in a distinct FYS or Student Success Course (SSC) versus those who did not. The fourth study (Hatch-Tocaimaza et al., 2019) was qualitative, based on survey data, and did not look at student outcomes. There are no recent community college studies focused on the impact of FYS on graduation rates.

A mixed-methods study by Karp et al. (2017) was based at Bronx Community College (BCC), which is also part of the CUNY system, and looked at a redesign of a student success course to include academic success skills, academic content, and personal development that was taught by academic faculty and integrated some disciplinary content. The FYS course was a 2-hour course at BCC, though the credit level was not specified. Instructors at BCC were offered professional development around teaching FYS, and peer mentors were involved. In the study, Karp et al. used propensity score matching in order to compare students who took FYS with those who did not take FYS. They found that retention rates after one semester were 9.6 percentage points higher for students who took FYS (81.7% v 72.1%) and after one year were 10.3 percentage points higher for students who took FYS (64.4% v 54.1%). They also found that the first-semester GPA was 0.47 points higher for students who took FYS.

McLeod (2019) also researched the effects of redesigning a Student Success Course (SSC) at a community college, although the new version of the course only added major-specific modules to the original SSC. They found that students in the redesigned courses had a 1-semester retention rate of 85% while those in the original course design had a 1-semester retention rate of 75%. The 10-percentage point difference for 1-semester retention is similar to that in Karp et al. (2017).

Kimbark et al. (2017) looked at the relation between participation in an SSC at a mid-sized Community College in southeast Texas and persistence, retention, and academic achievement in English and math. They found that 99% of students who took the SSC persisted to the following semester versus 95% who didn't take the SSC. Sixty-eight percent of students who took the SCC were retained the following year, whereas 56% of students who did not take the SCC were retained. The course they researched was a 1-semester credit-bearing Student Success Course (SSC) taught by psychology professors, so it is different from the FYS course at LaGuardia.

High-Impact Practices Done Well

This study draws on work focused on HIPs in both higher education in general and community colleges specifically. In a seminal paper, Kuh (2008) identified 10 HIPs in higher

education, including FYS. Building on Kuh and others' work on HIPs at the American Association of Colleges and Universities (AAC&U), the Center for Community College Student Engagement (CCCSE) focused on community college students and identified 13 promising practices, including first-year seminars (CCCSE, 2012). Included in the publication was a list of design principles that influenced the effectiveness of the promising practices, making them HIPs. Similarly, Kuh and O'Donnell (2013) published a list of eight key elements of HIPs that have been emphasized in order to ensure HIPs are done well.

The eight key elements that make HIPs excel are: performance expectations being set at appropriately high levels; significant investment of time and effort by students over an extended period of time; substantive interactions with faculty and peers; experiences with diversity; frequent, timely, and constructive feedback; periodic structured opportunities to reflect and integrate learning; opportunities to discover relevance of learning through real-world applications; and public demonstration of competence (Kuh & O'Donnell, 2013). Keup and Young (2018) consolidated the eight criteria into three categories—quality of effort, interpersonal interaction, and pedagogical approaches—and argued that first-year seminars are most effective when they have these elements.

The CCCSE list of design principles behind HIPs, also called promising practices, at community colleges is: a strong start; clear, coherent pathways; integrated support; high expectations and high support; intensive student engagement; design for scale; and professional development (CCCSE, 2014).

First-Year Seminar at our Institution

In 2012, LaGuardia Community College convened a college-wide committee of 75 faculty, staff, and students aimed at improving retention and completion rates. The outcome was the recommendation of a required, discipline-specific FYS course. First-year seminars vary greatly between institutions, but they all share the goal of supporting students in their first semester of college (Young, 2020). By 2022, the college implemented 16 discipline-specific FYS courses (ranging from 0 to 3 credits) that connect students and faculty within the same major through a discipline-based curriculum. As of Fall 2025, the college's academic policy dictates that all incoming full-time students register for an FYS in their first semester and all part-time students before they accumulate nine credits.

Content across all courses includes an introduction to a major's discipline, college resources, college success strategies, degree planning, career exploration, and cocurricular engagement. Embedded in the FYS course is the use of another HIP: ePortfolio. Students build an ePortfolio to collect and reflect on coursework as well as to develop academic, transfer, and career plans.

LaGuardia's FYS has many of the key elements of HIPs (Kuh & O'Donnell, 2013) and design principles for promising practices (CCCSE, 2014). For example, the FYS has high expectations with high support, is scaled and required of all students, and all FYS instructors must complete professional development that prepares them to teach the course. In addition, the FYS contextualizes learning by integrating courses within specific academic majors. In a study on student success courses at community colleges, FYS courses that contained major-specific modules had a stronger impact on student success (as measured by retention) than FYS courses that were general (not contextualized for different majors) (McLeod, 2019). The FYS promotes a

strong start for students by familiarizing them with coherent pathways and providing integrated support from both student affairs and academic affairs. Furthermore, it prioritizes reflective and integrative learning and builds in significant time for students to have substantive interactions with both faculty and peers. Finally, a distinctive aspect of the course is the dedicated one-hour session facilitated by a Student Success Mentor (SSM), who is either a current or former LaGuardia Community College student enrolled in an undergraduate program. Thus, our FYS has built-in peer mentors for all students.

Student survey research on the FYS at LaGuardia Community College highlights the presence of the core components of HIPs and their influence on students. For example, the FYS course involves student investment of time, connection to authentic problems, and regular feedback and reflection (Battle et al., 2017). The following excerpt from an article about the FYS for business majors at LaGuardia Community College sums up research on FYS students and the positive impacts of the course:

students leave the FYS with a better understanding of themselves, their strengths, and their weaknesses. Students also feel strongly that they have developed concrete educational, transfer, and career plans and that they are able to solve complex problems that may arise related to these areas. They also indicate a strong understanding of the requirements of their major and how they will structure their schedules to fulfill those requirements, which provides insight into the work of faculty to explain the logic of the curriculum, the strength of supporting tools related to the major, and course selection, and ultimately the development of agency in students. Further highlighting the importance of thoughtful integration of supporting tools, students also positively rate their experience with ePortfolio as a technological tool to reflect, explore career and transfer plans, and make their academic plans visible. The impact of the SSM (FYS Peer Mentor) also garners strong responses with respect to helping students understand course requirements and how to be successful in college. (Francis & Quish, 2021)

Methodology

The principal purpose of this study is to evaluate the impact of the FYS at LaGuardia Community College guided by two hypotheses: Across all majors, first-time degree-seeking students who completed the FYS course in their first semester demonstrate higher GPA, retention, and graduation rates than their peers who did not take an FYS course at LaGuardia (H1); First-time degree-seeking students in each FYS course-credit group who completed the FYS course in their first semester demonstrate higher GPA, retention, and graduation rates compared to their peers in the same FYS majors within the same course-credit group who did not take an FYS course at LaGuardia (H2). With approval from the college's Institutional Research Review Board, we obtained 13,095 records of de-identified data for students in the FYS majors who entered LaGuardia Community College as first-time degree-seeking students between Fall 2018 and Spring 2024. The raw dataset contained each student's non-cumulative GPAs in the first two semesters, retention for the second and third semesters, graduation year, Pell Grant recipient status, first English and math classes enrolled in, demographic profiles (gender, ethnicity, age), and other academic profiles (major, FYS course grade, math and English Proficiency Index). Based on the information in the raw data, we identified 9,541 students (73%) who completed the FYS course in their first semester with a passing grade of A to D- or S for "Satisfactory" in 0-credit courses, and 3,554 students (27%) who never took an FYS course or

registered but never attended an FYS course. In this study the first group of 9,541 students was defined as FYS students and the second group of 3,554 students as non-FYS students. Students who enrolled in FYS but withdrew before completion were not included in this study.

The ultimate goal of the data analysis was to examine the effectiveness of the FYS course by providing statistical evidence of higher GPAs, retention rates, and graduation rates of FYS students who completed the FYS course compared to those who never took an FYS course at LaGuardia Community College. To assess the strength of the relationship between student outcomes (higher GPA, retention, and graduation) and FYS course completion, this study employed a quasi-experimental design, using Propensity Score Matching (PSM) to control for variables that could influence student enrollment in an FYS course and to ensure the two comparison groups (FYS vs. non-FYS) were probabilistically as equivalent as possible in terms of the likelihood that any individual student will enroll in an FYS course. Large-scale HIPs research often uses propensity score-matching (Byrd et al., 2022). To address random assignment effects, students who participated in the FYS course and those who did not were matched on academic level and socioeconomic status. Academic level was measured by the initial English and math they enrolled in, rather than CUNY's English and Proficiency Index (PI), due to too many missing data points for individual PI scores. Socioeconomic status was based on whether a student received a Pell grant. These variables were selected as baseline traits for individual students and as covariates to compute each student's propensity score and match students for the two comparison groups. However, the comparison groups in the dataset were highly unbalanced, with a smaller control group (3,554 non-FYS students) than the treatment group (9,541 FYS students). To tackle this challenge, two matching techniques for sample balance were tested and compared after matching. Applying nearest-neighbor matching with replacement for the control entities yielded a superior balance of the covariates between the two groups compared to matching without replacement, as measured by absolute mean differences closer to 0 and variance ratios nearly 1. Figure 1 illustrates the covariate balances after matching ("Adjusted") in the two different matching techniques. The final dataset for this study was based on propensity score matching with replacement. After matching, all FYS students remained, but 1,156 unmatched non-FYS students were discarded. As a result, the study samples contained 9,541 FYS students and 2,398 non-FYS students. Table 1 presents the demographics of FYS and non-FYS students in the matched samples.

Each hypothesis was tested by examining the significance of differences in FYS course completion and the outcome variables (GPA, retention, and graduation rates), and by measuring the effect size as a magnitude of the impact of FYS completion on student outcomes. More specifically, Fisher's exact test was used to examine whether the association between FYS completion and student retention and graduation is statistically significant ($p < .05$), along with the Odds Ratio as an effect size. Also, Welch's two-sample t -test was used to examine whether the association between student GPA and FYS completion was statistically significant ($p < .05$), along with Hedges' g as an effect size. Although the study sample was fairly large, Hedges' g rather than Cohen's d was used because the two comparison sets differed markedly in sample size. For GPA analysis, each student's non-cumulative GPA in their first two semesters was examined separately. For retention analysis, each student's 1-semester and 1-year retention was assessed after the student's first semester. For graduation data, cumulative graduation rates at 3 and 6 years were measured. These statistical outcomes were also examined by subcategories, such as students' full-time or part-time enrollment status, gender, and ethnicity.

Figure 1

Covariate Balance after Propensity Score Matching with Replacement vs. without Replacement

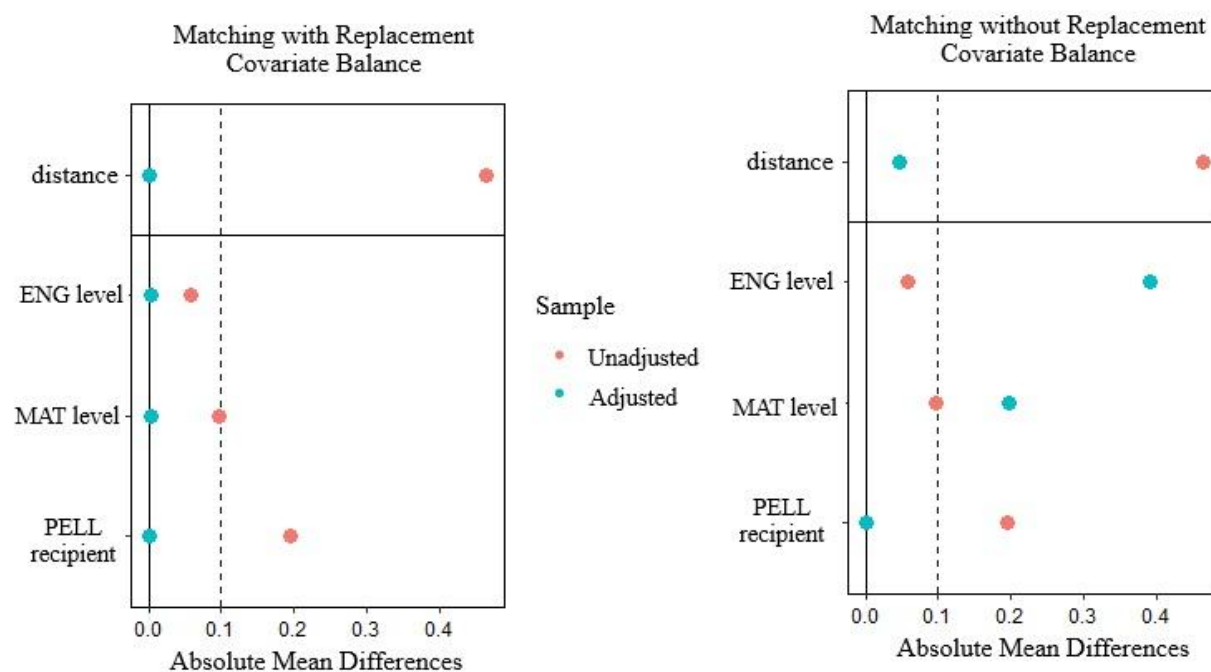


Table 1*Demographics of Matched Samples*

Characteristic	Full sample <i>N</i> = 11,939		FYS <i>n</i> = 9,541		non-FYS <i>n</i> = 2,398	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender						
Female	6,802	57.0	5,634	59.1	1,168	48.7
Male	5,057	42.4	3,848	40.3	1,209	50.4
Other	63	0.5	46	0.5	17	0.7
Unspecified	17	0.1	13	0.1	4	0.2
Ethnicity						
Asian	2,476	20.7	2,135	22.4	341	14.2
Black	2,611	21.9	1,950	20.4	661	27.6
Hispanic	5,819	48.7	4,616	48.4	1,203	50.2
Native American	359	3.0	294	3.1	65	2.7
Unknown	119	1.0	98	1.0	21	0.9
White	555	4.6	448	4.7	107	4.5
Enrollment Status						
Full-time	10,726	89.8	8,767	91.9	1,959	81.7
Part-time	1,213	10.2	774	8.1	439	18.3
PELL Recipient						
No	3,226	27.0	2,364	24.8	862	35.9
Yes	8,713	73.0	7,177	75.2	1,536	64.1
Course Credit						
3	4,584	38.4	3,580	37.5	1,004	41.9
2	2,864	24.0	2,254	23.6	610	25.4
0	4,491	37.6	3,707	38.9	784	32.7

Results

The results are organized by our hypotheses. For H1, we considered each measure of student success for the whole group, followed by subgroup analyses. For H2, we examined each measure of student success for the different credit levels of our FYS courses.

Hypothesis One Results

H1: Across all majors, first-time degree-seeking students who completed the FYS course in their first semester demonstrate higher GPA, retention, and graduation rates than their peers who did not take an FYS course during their student career at LaGuardia Community College.

H1 Whole Group Analysis GPA

When comparing first-semester GPAs across all FYS courses combined, the average GPA of FYS students was 0.59 points higher than that of non-FYS students. Their Hedges' *g* value for the standardized mean difference of GPAs between FYS and non-FYS students in their first semester indicated a moderate effect. Hedges' *g* value of 0.65 also means that approximately 74% of non-FYS students had a GPA below the average GPA of FYS students. For the second-semester GPAs in all FYS courses combined, the average GPA of FYS students was 0.21 points higher than that of non-FYS students. Their Hedges' *g* value for the standardized mean difference of GPAs between FYS and non-FYS students in their second semester indicated a small effect.

H1 Subgroup Analysis GPA

Examining the mean difference in GPAs between FYS and non-FYS students by enrollment status, full-time students showed effect sizes similar to that of the whole group in the first and second semesters, as they composed 90% of the entire sample. Comparing the first- and second-semester GPAs by gender, female students in both FYS and non-FYS groups had higher GPAs than male students on average. However, male students had a higher Hedges' *g* value than female students in both semesters, indicating that male students had a larger difference in GPA between FYS and non-FYS than female students. See Table 2.

Disaggregated by ethnicity, Black students had the lowest GPA on average, followed by Hispanic students in both first and second semesters. Black and Hispanic students also showed the largest standardized mean differences in their first-semester GPAs between FYS and non-FYS, and their Hedges' *g* values indicated a moderate effect. However, the mean difference in the second-semester GPAs between FYS and non-FYS within each ethnicity was not statistically significant ($p > .05$).

Table 2*GPA*

Category	GPA, 1st Semester				GPA, 2nd Semester			
	FYS	non-FYS	Hedges' <i>g</i>	<i>p</i> value*	FYS	non-FYS	Hedges' <i>g</i>	<i>p</i> value*
All	2.93	2.34	0.65	< .001	2.88	2.67	0.21	< .001
Full-time	2.93	2.31	0.68	< .001	2.88	2.64	0.25	< .001
Part-time	2.99	2.60	0.39	< .001	2.87	2.95	-0.07	.630
Female	2.98	2.46	0.58	< .001	2.94	2.79	0.15	.044
Male	2.87	2.22	0.68	< .001	2.80	2.55	0.26	.001
Asian	3.30	2.91	0.47	< .001	3.24	3.02	0.26	.028
Black	2.72	2.10	0.67	< .001	2.65	2.47	0.18	.104
Hispanic	2.83	2.24	0.65	< .001	2.77	2.60	0.18	.028
White	3.23	2.80	0.50	.009	3.20	2.83	0.42	.106

**p* values from Welch's two-sample *t*-test

H1 Whole Group Analysis Retention

Ninety-one percent of FYS students reenrolled at LaGuardia Community College for one subsequent semester after completing the FYS courses in their first semester, while 47% of non-FYS students reenrolled. This also means that the 1-semester retention of FYS students was 44 percentage points higher than that of non-FYS students. The difference between FYS and non-FYS widened for 1-year retention rates, with FYS students 55 percentage points higher. More specifically, 79% of FYS students reenrolled at LaGuardia Community College for two subsequent semesters after completing the FYS course, while 24% of non-FYS students reenrolled. The odds ratios ($p < .001$) in Table 3 indicated that students who completed the FYS course in their first semester were 11 times more likely to return to the college for two subsequent semesters than non-FYS students who never took an FYS course. In Fisher's exact test, $p < .001$ statistically confirmed that the odds ratios were far from 1, indicating a strong relationship between FYS course completion and student retention.

H1 Subgroup Analysis Retention

Full-time students had statistics (mean, odds ratio, and *p*-value results) similar to those of the whole group since the majority of our sample were full-time students. Comparing student retention by gender, both female and male students in FYS and non-FYS showed statistics nearly identical to those of the whole group.

Disaggregated by ethnicity, students who took the FYS course had significantly higher retention rates than those who did not take FYS across all ethnicities. For 1-semester retention rates, Hispanic and Asian students showed the largest difference between those enrolled in the FYS and those not. For 1-year retention, Asian and White students evidenced the largest difference between those enrolled in FYS and those not.

For students taking FYS, Black and Hispanic students had lower retention rates than Asian students: Black and Hispanic students, respectively, demonstrated a 4- and 2-percentage point lower retention rate after one semester and a 9- and 6-percentage point lower retention rate after one year compared to Asian students. Table 3 shows that White students had the lowest 1-semester and 1-year retention compared to other ethnicities within their respective groups, FYS or non-FYS; however, in interpreting these results, it is important to note that White students were only a small percentage of our sample.

Table 3

Retention

Category	Retention, 1-semester				Retention, 1-year			
	FYS	non-FYS	Odds ratio	<i>p</i> value**	FYS	non-FYS	Odds ratio	<i>p</i> value**
All	.91	.47	11.28	< .001	.79	.24	11.53	< .001
Full-time	.92	.50	11.63	< .001	.80	.26	11.30	< .001
Part-time	.77	.33	6.88	< .001	.60	.14	9.18	< .001
Female	.91	.47	11.18	< .001	.79	.26	10.81	< .001
Male	.91	.47	11.30	< .001	.78	.23	12.09	< .001
Asian	.93	.52	12.47	< .001	.84	.30	12.31	< .001
Black	.89	.49	8.39	< .001	.75	.25	9.27	< .001
Hispanic	.91	.45	12.55	< .001	.78	.22	12.06	< .001
White	.88	.39	10.77	< .001	.73	.18	12.59	< .001

***p* values from Fisher's Exact Test

H1 Whole Group Analysis Graduation Rates

The analysis indicated that 31% of FYS students, compared to only 4% of non-FYS students, graduated in 3 years. FYS students were approximately 10 times more likely to graduate within 3 years than non-FYS students ($p < .001$). 37% of FYS students, compared to only 5% of non-FYS students, graduated in 6 years. FYS students were 11 times more likely to graduate within 6 years than non-FYS students ($p < .001$). Fisher's exact tests for the 3-year and 6-year graduation rates yielded $p < .001$, indicating a statistically significant association between FYS course completion and graduation rates.

H1 Subgroup Analysis Graduation Rates

For students enrolled full-time, FYS students were approximately 9 times more likely to graduate within 3 years and 10 times more likely to graduate within 6 years than non-FYS students ($p < .001$).

Comparing graduation rates by gender, female students had a slightly higher graduation rate than male students in both the FYS and non-FYS groups. However, male students showed larger differences and higher odds ratios ($p < .001$) when comparing 3-year and 6-year graduation rates between FYS and non-FYS students.

For students taking FYS, Black and Hispanic students demonstrated lower 3- and 6-year graduation rates than Asian students. However, Black and Hispanic students had higher odds ratios, which indicated a greater impact of FYS on these students than on Asian students. Table 4 shows that White students showed the highest odds ratios, reflecting the largest difference in graduation rates between the FYS and non-FYS groups, compared to other ethnicities.

Table 4
Graduation

Category	Graduation, 3-year				Graduation, 6-year			
	FYS	non-FYS	Odds ratio	p value**	FYS	non-FYS	Odds ratio	p value**
All	.31	.04	10.50	< .001	.37	.05	11.47	< .001
Full-time	.33	.05	9.62	< .001	.39	.06	10.46	< .001
Part-time	.09	.01	13.76	< .001	.17	.01	17.66	< .001
Female	.32	.06	7.80	< .001	.38	.06	9.25	< .001
Male	.31	.03	15.45	< .001	.37	.04	14.64	< .001
Asian	.35	.06	8.36	< .001	.43	.07	9.37	< .001
Black	.27	.03	10.14	< .001	.32	.04	10.20	< .001
Hispanic	.31	.04	10.69	< .001	.36	.05	11.49	< .001
White	.40	.03	22.57	< .001	.49	.03	32.73	< .001

** p values from Fisher's Exact Test

Hypothesis Two Results

H2: First-time degree-seeking students in each FYS course-credit group who completed the FYS course in their first semester demonstrate higher GPA, retention, and graduation than their peers in the same majors within the same course-credit group who did not take an FYS course during their student career at LaGuardia Community College.

H2: GPA

When comparing GPAs of FYS and non-FYS students by three different FYS course-credit loads (0, 2, and 3 credits), the FYS group demonstrated a higher average GPA than the non-FYS group in all three loads and in both their first and second semesters. Notably, the 3- and 2-credit FYS courses evidenced the most significant differences in first-semester GPA between FYS and non-FYS students, and their Hedges' *g* values indicated a moderate-to-large effect size. Hedges' *g* values of 0.77 and 0.80 also mean that approximately 78% to 79% of non-FYS students had first-semester GPAs below the average GPA of FYS students in their respective course-credit groups. In comparing second-semester GPAs, the 3-credit FYS courses showed almost no difference, but the 2-credit FYS courses had a significant mean difference between FYS and non-FYS students. The effect sizes for the 0-credit FYS courses were small to medium in both semesters. See Table 5.

Table 5

GPA

Course credit	GPA, 1st Semester				GPA, 2nd Semester			
	FYS	non-FYS	Hedges' <i>g</i>	<i>p</i> value*	FYS	non-FYS	Hedges' <i>g</i>	* <i>p</i> value
3	2.86	2.16	0.77	< .001	2.77	2.76	0.01	.890
2	3.05	2.33	0.80	< .001	3.02	2.56	0.51	< .001
0	2.93	2.54	0.42	< .001	2.90	2.66	0.25	.002

**p* values from Welch's two-sample *t*-test

H2: Retention

When comparing student retention across the three different FYS course-credit loads, the 2- and 3-credit courses demonstrated larger differences between FYS and non-FYS students and higher odds ratios than the 0-credit courses. FYS students in 3-credit FYS courses had 1-semester retention rates 50 percentage points higher and 1-year retention rates 60 percentage points higher than non-FYS students. FYS students in the 2-credit FYS courses had 1-semester retention rates 46 percentage points higher and 1-year retention rates 62 percentage points higher than non-FYS students in the same majors. FYS students in the 0-credit courses had 1-semester retention rates 34 percentage points higher and 1-year retention rates 43 percentage points higher than non-FYS students in the same majors. The odds ratios ($p < .001$) for 1-semester retention indicated that FYS students in the 3-, 2-, and 0-credit FYS courses were, respectively, 16, 17,

and 6 times more likely to return than those who never took an FYS. The odds ratios for 1-year retention also showed a similar likelihood of FYS students being reenrolled at LaGuardia Community College two semesters after completing the FYS course, compared to non-FYS students in the same FYS majors and course-credit groups. See Table 6.

Table 6

Retention

Course credit	Retention, 1-semester				Retention, 1-year			
	FYS	non-FYS	Odds ratio	<i>p</i> value**	FYS	non-FYS	Odds ratio	<i>p</i> value**
3	.92	.42	16.07	< .001	.81	.21	15.90	< .001
2	.94	.48	17.51	< .001	.83	.21	18.36	< .001
0	.88	.54	6.37	< .001	.74	.30	6.37	< .001

***p* values from Fisher's Exact Test

H2 Graduation Rates

FYS students taking the 2-credit FYS courses, followed by the 3-credit FYS courses, had the highest odds of graduating in 3 or 6 years, as they showed the greatest mean differences from non-FYS in both 3-year and 6-year graduation rates. FYS students in the 2-credit FYS courses were 42 times more likely to graduate in 3 years and 46 times more likely to graduate in 6 years than non-FYS students. FYS students in the 3-credit FYS courses were 25 times more likely to graduate in 3 years and 26 times more likely to graduate in 6 years compared to non-FYS students in the same majors. However, the 0-credit FYS courses demonstrated a much smaller impact on student graduation than the 2- or 3-credit FYS courses. FYS students taking the 0-credit FYS courses were 2 times more likely to graduate in 3 years and 3 times more likely to graduate in 6 years than non-FYS students. See Table 7.

Table 7

Graduation

Course credit	Graduation, 3-year				Graduation, 6-year			
	FYS	non-FYS	Odds ratio	<i>p</i> value**	FYS	non-FYS	Odds ratio	<i>p</i> value**
3	.39	.02	25.53	< .001	.45	.03	26.22	< .001
2	.41	.02	42.45	< .001	.46	.02	46.75	< .001
0	.17	.08	2.33	< .001	.25	.10	3.04	< .001

***p* values from Fisher's Exact Test

Discussion

The results of this study provide statistical evidence that the FYS functions as a highly effective High-Impact Practice (HIP) at LaGuardia, substantially contributing to improvements in student GPA, retention, and graduation outcomes. Building on these findings, the discussion is organized around key patterns observed across each measure of student success.

GPA

We have similar results to the study at BCC, another CUNY Community College, which showed a 0.47-point higher first-semester GPA for students who took FYS versus those who did not (Karp et al., 2017). They did not look at the second-semester GPA. We found GPA differences between FYS and non-FYS groups were greater in the first semester than in the second, with a 0.59-point difference in the first-semester and a 0.21 -point difference in second-semester GPA. This difference could be attributed to students being introduced to the HIP during the first semester and the effectiveness of the course itself. As FYS is one of the only courses at LaGuardia Community College that requires instructors to complete professional development to teach the course, quality instruction is supported. As a HIP, an effective FYS should deepen the engagement of students and therefore support their success in the course. Research on HIPs has shown the effectiveness of HIPs, particularly among underrepresented minorities. Our study further supports this, particularly in the first-semester GPA differences among Black and Hispanic students who took FYS versus those who did not; Black students who took FYS had a GPA 0.62 points higher than those who did not, and Hispanic students who took FYS had a GPA 0.59 points higher than those who did not.

Looking at the impact of the different FYS credit loads on GPA, the first semester GPA showed greater differences across credit loads between FYS and non-FYS groups, similar to the whole group analysis. Notably, students in 2- and 3-credit FYS courses had first-semester GPAs 0.70-0.72 higher than students who did not take FYS. Unexpectedly, students who completed a 3-credit FYS did not maintain a gain in GPA in their second semester.

A meta-analysis of research looking at GPA differences between students who took an FYS versus those who did not take an FYS had a limited number of studies based in community colleges. Nevertheless, our findings are in line with the analysis that indicated an effect of FYS on GPAs among community colleges (Permzadian & Credé, 2016). Our study can contribute to future meta-analyses that compare the impact of FYS on GPA in community colleges and 4-year colleges.

Retention

The retention rate differences between the FYS and the non-FYS students are striking. Students who completed FYS were 11 times more likely to enroll for the following two semesters than students who did not take FYS. Our subgroup analyses for ethnicity showed similar retention gains across groups, again with a clear distinction in retention for students who took FYS versus those who did not. The 1-year retention rate was at least 50 percentage points higher across all ethnic groups for students who took FYS.

When looking at retention rates for FYS of different credit loads, there was a clear difference between the 0-credit courses and the 2- and 3-credit courses. Students in the 2- and 3-credit FYS had a 1-year retention rate at least 60 percentage points higher than students who did not take FYS; students in the 0-credit FYS had a 43-percentage point difference. Furthermore, the odds ratios were much higher for 2-and 3-credit FYS, showing that student retention was at a higher rate when the FYS course carried 2 or 3 credits.

The impact of FYS on retention rates is compelling, especially when compared with 1-year retention rates reported in previous research at community colleges; Karp et al. (2017) found a 10-percentage point difference in 1-year retention rates, and Kimbark et al. (2017) found a 12-percentage point difference in 1-year retention rates between those who did and did not take an FYS. McLeod (2019) looked only at 1-semester retention rates but found a 10-percentage point difference in 1-year retention rates, similar to findings by Karp et al. (2017) and Kimbark et al. (2017). These studies did not specify the number of credits associated with the courses; in fact, only Kimbark et al. (2017) described the course as credit-bearing. However, even for the 0-credit courses, our study indicated that students who took FYS had a 1-semester retention rate 34 percentage points higher than students who did not take FYS. These previous studies did not provide a detailed description of the FYS, particularly in terms of whether the FYS had the eight key elements which make HIPs excel. As Keup and Young (2018) argued, FYS courses that embed the eight criteria will be most effective. As mentioned in the description of the FYS at LaGuardia, we intentionally designed the course to meet the criteria for what makes a HIP high impact.

Graduation Rates

In the aforementioned student success outcomes, there were minimal differences between genders. However, FYS appears to have a stronger influence on the graduation rates of males, as males who took FYS were about 15 times more likely to graduate within 3 and 6 years as compared to those who did not.

Across all ethnic groups, the 3- and 6-year graduation rates of students who did not complete FYS were in the single digits. Although the graduation rates showed the largest difference for White students, it is important to remember that our dataset contained very few White students; this difference must be interpreted with caution.

Limitations and Directions for Future Research

The dataset used in this study had limited samples of certain subgroups, in part due to our inclusion and exclusion criteria. In our FYS group, we included only first-time degree-seeking students who successfully completed FYS in their first semester. In our non-FYS group, we included only first-time degree-seeking students who never attended or registered for an FYS course while enrolled at LaGuardia Community College. Therefore, students who may have completed FYS in their second or third semester were excluded, likely limiting the number of part-time students included in our data. Only 10% of the students in the matched dataset are part-time students; the part-time students in the FYS group make up only 8% of those students, whereas the part-time students in the non-FYS group make up 18% of the non-FYS student group. However, it is important to note that according to the 2025 Institutional Profile, 58% of LaGuardia Community College students were enrolled part-time. The ethnic composition of

students in our dataset is broadly consistent with the demographic profile of the campus population. According to our 2025 Institutional Profile, 45% of the student population identify as Hispanic, 25% as Asian, 15% as Black, 14% as White, and 1% as Native American. In our dataset, we have fewer students who identify as White (less than 5%). Thus, caution is warranted when interpreting comparisons across ethnic groups, particularly those involving White students, because the sample is so small.

The non-FYS group encompasses students who never attended or registered for an FYS course. We used propensity scores to match student characteristics between the two groups based on Pell Grant status and the initial math or English course enrollment. Despite efforts to match students based on academic preparation, those in the non-FYS group may still reflect less proactive behaviors, as suggested by their failure to enroll in a required course. Going forward, all LaGuardia Community College students should complete FYS, in alignment with the new requirement that it be taken within the first nine credits.

More research on the impact of FYS on student outcomes in community colleges is needed, particularly studies that consider student subgroups and detail the type of FYS, including the credit level associated with the course. Furthermore, future research should examine how the FYS embodies the key elements of a HIP. LaGuardia's FYS arguably has the eight key elements, although the 0-credit courses do not have the extended time on task and as much time for substantive interactions as the 2- and 3-credit courses.

It is important to recognize that student success encompasses far more than traditional metrics such as retention, GPA, and graduation rates. Thus, a limitation of our study is that we did not broaden the definition of student success and combine quantitative results with qualitative research. The findings of this study highlight the importance of further examining three core features of LaGuardia's FYS: peer mentoring, required faculty training, and the intentional pairing of high-impact practices.

First, Moore et al., (2024) assert that mentoring relationships are learner-centered and can support growth in academic, social, and identity development. As per Mattson (2025), serving as a peer mentor provides mutual gains for both the mentor and mentee that contribute to student success. Student experience surveys consistently demonstrate the positive impact of Student Success Mentor support at LaGuardia Community College. Therefore, understanding how the peer support provided by the Student Success Mentor in the course influences FYS student success warrants attention.

Second, as noted above, faculty who teach the FYS course are required to complete a comprehensive professional development before being assigned to teach the course. Fidler et al. (1999, as cited in Mattson, 2025) argue that faculty development plays a critical role in student success. The required professional development LaGuardia faculty complete prior to teaching the FYS is highly reflective and invites faculty to understand the new-to-college student experience through the lens of their own educational journeys thus potentially encouraging greater empathy, and cultivating a student-centered mindset. As such, exploring whether participation in faculty development prior to teaching the FYS supports student success may also be of interest to the field.

Finley and McNair (2013) found that historically underserved students benefited greatly from HIPs, with participation in multiple HIPs creating cumulative, enhanced effects. Cuéllar (Clarke, 2025) refers to the intersection of high-impact practices as "Super HIPs." In

acknowledging that LaGuardia's new-to-college students are presented with two HIPs, i.e., the FYS along with ePortfolio, findings suggest that providing students with an intentional pairing of HIPs can deepen learning and facilitate student success. We recommend further investigating the impact of multiple HIPs on student success.

References

- Barefoot, B. O., & Fidler, P. P. (1992). *National Survey of Freshman Seminar Programming, 1991. Helping First Year College Students Climb the Academic Ladder. The Freshman Year Experience: Monograph Series Number 10*. National Resource Center for The Freshman Year Experience. <https://files.eric.ed.gov/fulltext/ED354842.pdf>
- Battle, T., Chandler, L., Eynon, B., Francis, A., Radhakrishnan, P., & Quish, E. (2017). LaGuardia Community College, CUNY. In T.L. Skipper (Ed.), *What makes the first-year seminar high impact? An exploration of effective educational practices*. (Research Reports No. 7). (pp. 59-64). National Resource Center for The First-Year Experience & Students in Transition.
- Bigger, J. (2005). *Improving the odds for freshman success*. NACADA. <https://nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Advising-first-year-students>
- Byrd, A., Haeger, H. A., Lin, W., Ninon, A. S., & Graunke, S. S. (2022). Using propensity score matching to assess high-impact practices outcomes. In J. Zilvinskis, J. Kinzie, J. Daday, K. O'Donnell, & C.V. Zande (Eds.), *Delivering on the promise of high-impact practices: Research and models for achieving equity, fidelity, impact, and scale* (pp.262-272). Taylor & Francis. <https://doi.org/10.4324/9781003444022>
- Center for Community College Student Engagement (CCCSE). (2012). *A matter of degrees: promising practices for community college student success (A first look)*. Community College Leadership Program. https://www.ccsse.org/docs/matter_of_degrees.pdf
- Center for Community College Student Engagement (CCCSE). (2014). *A matter of degrees: Practices to pathways (High-impact practices for community college student success)*. Program in Higher Education Leadership. https://www.ccsse.org/docs/matter_of_degrees_3.pdf
- Clark, J. E. (2025). *Learning that lasts: How high-impact practices transform student experiences*. CUNY Academic Commons. <https://hipsatlaguardia.commonsgc.cuny.edu/>
- Finley, A. (2019). Project COMPLETA: Comprehensive support for student success at LaGuardia Community College, CUNY (P116F40213). Evaluator's Report: Year 5.
- Finley, A. & McNair, T. (2013). *Assessing underserved students' engagement in high-impact practices*. American Association of Colleges & Universities. <https://www.aacu.org/publications-archive>
- Francis, A. & Quish, E. (2021). LaGuardia Community College: Advising in the first year seminar for business. In C. Fountain (Ed.), *Academic advising as a tool for student success and educational equity*. National Resource Center for The First-Year Experience & Students in Transition.
- Harrington, C. (2025). Exploring the relationship between first-year seminars and student success outcomes: A narrative literature review. *Journal of Postsecondary Student Success*, 4(3). https://doi.org/10.33009/fsop_jpss135660

- Hatch, D. K., Mardock-Uman, N., Garcia, C. E., & Johnson, M. (2018). Best laid plans: How community college student success courses work. *Community College Review*, 46(2), 115–144. <https://doi.org/10.1177/0091552118760191>
- Hatch-Tocaimaza, D. K., Garcia, C. E., Mardock-Uman, N., Rodriguez, S. L., & Young, D. G. (2019). What works: Learning outcomes due to design variations in community college student success courses. *Teachers College Record*, 121(7), 1–46. <https://doi.org/10.1177/016146811912100707>
- Hodges, R., Lollar, J., & Acee, T. (2022). Historical review of how-to-study courses and the emergence of first-year seminars and learning frameworks courses. *Learning Assistance Review*, 27(2), 227-263.
- Karp, M. M., Raufman, J., Efthimiou, C., & Ritze, N. (2017). Revising a college 101 course for sustained impact: Early outcomes. *Community College Journal of Research and Practice*, 41(1), 42–55. <https://doi.org/10.1080/10668926.2016.1152929>
- Keup, J. R., & Barefoot, B. O. (2005). Learning how to be a successful student: Exploring the impact of first-year seminars on student outcomes. *Journal of First-Year Experience*, 17(1), 11–47. <https://doi.org/10.65005/154230705813695146>
- Keup, J. R., & Young, D. G. (2018). Investigating the first-year seminar as a high-impact practice. In R. S. Feldman (Ed.), *The first year of college: Research, theory, and practice on improving the student experience and increasing retention* (pp. 93-125). Cambridge. <https://doi.org/10.1017/9781316811764.005>
- Kimbark, K., Peters, M. L., & Richardson, T. (2017). Effectiveness of the student success course on persistence, retention, academic achievement, and student engagement. *Community College Journal of Research and Practice*, 41(2), 124–138. <https://doi.org/10.1080/10668926.2016.1166352>
- Kuh, G. D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter*. Association of American Colleges and Universities. <https://www.aacu.org/publications-archive>
- Kuh, G., & O'Donnell, K. (2013). *Ensuring quality and taking high-impact practices to scale*. Association of American Colleges and Universities. <https://www.aacu.org/publications-archive>
- Mattson, H. (2025). The evolution of the first-year experience: Effective strategies to support today's generation of college students. *Journal of College Academic Support Programs*, 7(2), 30-40. <https://doi.org/10.58997/7.2sc1>
- McLeod, J. J. (2019). The effects on student retention by implementing contextualised, program-specific learning modules in an online student success course. A practice report. *Student Success*, 10(1), 141–146. <https://doi.org/10.5204/ssj.v10i1.1095>
- Moore, J. L., Vandermaas-Peeler, M., & Peeples, T. (2024). *Mentoring matters: Supporting students' development of mentoring constellations in higher education*. Center for Engaged Learning. <https://www.centerforengagedlearning.org/mentoring-matters/>

- Mowreader, A. (2024). Survey: Half of first-year seminars focus on academics, student success. *Insider Higher Ed*. <https://www.insidehighered.com/news/student-success/academic-life/2024/02/26/academic-success-priority-first-year-seminars>
- Permzadian, V., & Credé, M. (2016). Do first-year seminars improve college grades and retention? A quantitative review of their overall effectiveness and an examination of moderators of effectiveness. *Review of Educational Research*, 86, 277-316. <https://doi.org/10.3102/0034654315584955>
- University of South Carolina (n.d.). *University 101 programs: History*. https://sc.edu/about/offices_and_divisions/university_101/about/history/index.php
- U.S. Department of Education. (2016). First year experience course. *What Works Clearinghouse Intervention Report*. Institute of Education Sciences. https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_firstyear_102116.pdf
- Young, D. G. (2020). Is first-year seminar type predictive of institutional retention rates? *Journal of College Student Development*, 61(3), 379-390. <https://doi.org/10.1353/csd.2020.0035>
- Zilvinskis, J., Kinzie, J., Daday, J., O'Donnell, K., & Zande, C. V. (2022). Introduction: When done well—14 years of chasing an admonition. In J. Zilvinskis, J. Kinzie, J. Daday, K. O'Donnell, and C.V. Zande (Eds.), *Delivering on the promise of high-impact practices: Research and models for achieving equity, fidelity, impact, and scale*. Taylor & Francis.



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