

IU Kokomo

**Impact of Freshman Learning Communities
on Early Educational Outcomes**



University Planning,
Institutional Research, and Accountability
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Introduction

The purpose of this report is to provide faculty and administrators at IU Kokomo with the results of a series of statistical analyses regarding the impact of the IU Kokomo Freshman Learning Community (FLC) programs on the academic performance and persistence of participants relative to non-participants. The analyses employed in this report follow a black-box design – that is, FLC participants are identified by semester, but the full extent of their participation within an FLC program is not measured. Any systematic differences or particular nuances in program delivery across FLC programs are not captured in this design, nor are any potential “spillover” effects of FLC programs on non-participants. Although statistical controls are introduced into the analyses to account for some differences across programs of study and cohort years in the delivery of FLC programs, and although other statistical controls are introduced to adjust for potential systematic differences in FLC participation by some of the more commonly studied incoming characteristics of students, the black-box design has very specific limits in its utility as an evaluation tool. As such, the findings in this report should serve as but one piece of evidence among other materials collected as evaluative information upon which to form either formative or summative judgments about the effectiveness and ongoing status of FLC programs at IU Kokomo.

Overview of Findings

- Participation in an FLC program is not random. In addition to differences in participation rates by program of study and by cohort year, there were systematic differences in participation rates by the students’ high school diploma type and status as a Twenty-first Century Scholar. Students with lower academic credentials had greater probabilities than their peers of participating in an FLC program.
- After statistically controlling for differences in the entering characteristics of students, the remaining difference in the estimated fall semester GPA between FLC participants and non-participants is trivial and statistically non-significant. The difference in the estimated fall semester GPA between FLC participants and non-participants is explained almost entirely by the differences in the entering characteristics of these two groups.
- After statistically adjusting for the entering characteristics of students and for their fall semester academic performance, FLC participants had a significantly greater estimated probability than non-participants of persisting to the spring semester (at 0.88 and 0.72, respectively). This 16 percentage-point difference in the estimated probability of persisting is substantial.
- For students who participated in an FLC program during the fall semester, the decision to re-enroll in an FLC program for the spring semester versus either not enrolling in an FLC program or departing IU Kokomo was almost exclusively a function of the students’ fall semester GPA. The higher the students’ fall semester GPA, the greater the students’ estimated probability of re-enrolling in an FLC program.

Overview of Findings (continued)

- After controlling for the entering characteristics of students and for their first-semester academic performance, students who re-enrolled in an FLC program for the spring semester had a significantly higher estimated spring semester GPA than both non-participants and students who did not re-enroll in an FLC program. The difference in estimated spring semester GPA between students who did not re-enroll in an FLC program and other non-participants was statistically non-significant, however.
- After controlling for the entering characteristics of students and for their fall and spring semester academic performance, students who re-enrolled in an FLC program for the spring semester had a significantly greater estimated probability of persisting to the second year of college (at 0.71) than either non-participants or students who did not re-enroll in an FLC program (at 0.58 and 0.29, respectively). The difference in the persistence rates between students who did not re-enroll and other non-participants was also statistically significant.
- Regardless of the semester under study, there were no significant differences in the impact of FLC participation on GPA or persistence by gender, race, prior academic achievement, first generation status, or financial aid awarded.

Sample Selection

Although the original student population for this study included all entering beginner and transfer students at IU Kokomo for the fall semester of the 2005-06, 2006-07 and 2007-08 academic years, the target group for these analyses (i.e., FLC participants) is a distinct subset of this population, and the design of this study requires a comparison group comprised of students who had a similar likelihood of entering an FLC program. Compared to the entering student population, students that were bachelor's degree intending first-time full-time freshmen from programs in Business, Education, Nursing, Art & Sciences, and University Division were disproportionately enrolled in an FLC program. As such, the student population for this study was reduced to first-time full-time freshmen who were enrolled in programs leading to a bachelor's degree. To further reduce bias in the estimates of the impact of FLC participation on educational outcomes by the systematic differences of students who enter different programs of study, the sample was further reduced to those programs – Business, Education, Nursing, Art & Sciences, and University Division – in which more than a trivial number of students participated in an FLC program. These design choices employed to create a more similar comparison group reduced the overall population included in the study from 1,902 to 887, or 47% of the original population. The FLC target group, however, was only reduced from 580 to 490, or 84% of the original FLC target group.

Analysis

Two statistical models were estimated for most of the outcomes covered in this report. The first model included an indicator variable representing participation in an FLC program. This model provides an estimate of the difference in the educational outcome under study without taking into consideration any systematic differences in the entering characteristics of FLC participants and non-participants. The second model added a set of statistical controls to account for the students' gender, race, age, first-generation status, pre-college academic achievement, and financial aid package. Given differences in FLC participation by academic program and by cohort year, a set of variables was included in both models to remove the influence of these factors from the estimate of FLC participation on the educational outcomes under study.

Three statistical methods were employed to produce the findings in this report. A tobit model was used to estimate the impact of FLC participation on fall semester and spring semester GPA. A tobit model is an appropriate statistical method when a continuous outcome variable is censored at one or more ends of the distribution. Both fall semester and spring semester GPA are bounded by 0 and 4, providing both a floor and a ceiling as a measure of academic achievement. As a number of students at IU Kokomo clustered at either end of this GPA distribution, a tobit model takes into account this censoring to provide a better estimate of the impact of the predictors on academic achievement.

A binary logit model was used to estimate the impact of FLC participation on persistence to the spring semester of college and to the second year of college. A binary logit model is an appropriate statistical method when an outcome consists of a decision between two mutually exclusive categories. Persistence to the spring semester of college or to the second year of college are defined as a dichotomous outcome where 1='Persisted' and 0='Did not persist.' A binary logit model can be used to compute the impact of the predictors on the students' estimated probability of persisting at IU Kokomo.

Finally, a multinomial logit model was used to examine the spring semester status of students who participated in an FLC program during the fall semester. A multinomial logit model is appropriate when the outcome consists of a decision between three or more mutually exclusive categories. Spring semester status among fall FLC participants is defined as polytomous outcome where 1= 'Departed IUK,' 2= 'FLC Fall Only,' and 3= 'FLC Fall & Spring.' A multinomial logit model can be used to compute the impact of the predictors on the estimated probability of choosing any of the three outcomes, and the probabilities across the outcomes sum to 1.

Predicting Fall Semester Participation in a Freshman Learning Community

To provide some context for interpreting the impact of FLC programs on college grades and persistence, a logistic regression model of FLC participation was estimated to examine the differences in the entering characteristics of FLC participants and non-participants. As participation in a learning community is voluntary for several of the years under study, academic and socioeconomic characteristics were included in the model to test for systematic differences in participation by the students' entering levels of human, social and cultural capital. The full results of this model are provided in Appendix Table 1. As anticipated given the development of the learning communities over the past few years, participation levels differed by program and by cohort year. Specifically, compared to other programs, students within Business and Education had the greatest relative chances of participating in a learning community. Compared to prior cohorts, students in the 2007 cohort had the greatest chances of participating.

Perhaps the most interesting findings of this model, however, are differences in FLC participation rates by high school diploma type and status as a Twenty-first Century Scholar. All else being equal, students who graduated from high school with an academic honors diploma had a significantly lower estimated probability of participating in a learning community than their peers with either a Core 40 or regular high school diploma (See Figure 1). Students who were Twenty-first Century Scholars had a significantly greater estimated probability of FLC participation than other entering students, all else being equal (See Figure 2). These characteristics of students will be included in further analyses to control for their bias in the examination of potential differences in the educational outcomes of FLC participants and non-participants.

Figure 1.
Estimated Probability of FLC Participation
by High School Diploma Type

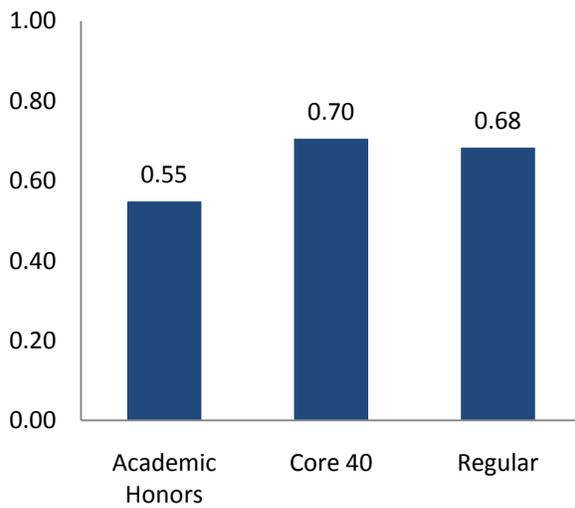
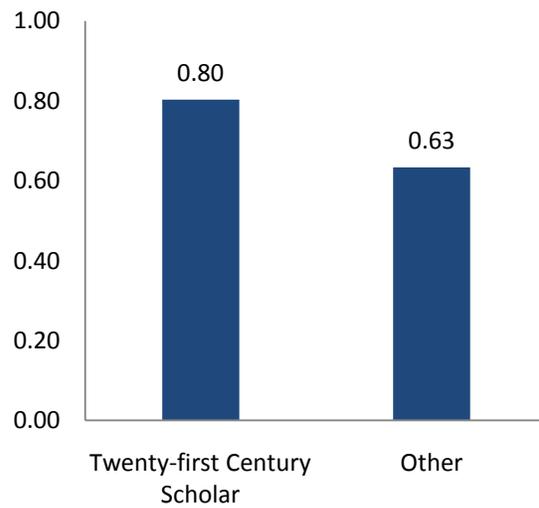


Figure 2.
Estimated Probability of FLC Participation
by 21st Century Scholar Status



Fall Semester GPA

Following the analytic strategy outlined for this report, two tobit models were estimated to examine the impact of FLC participation on fall semester GPA. The full results of these models are provided in Appendix Table 2 and are summarized below.

Without statistically controlling for differences in the entering characteristics of participants and non-participants, students within an FLC program had a lower estimated fall semester GPA than non-participants (See Table 1). Specifically, FLC participants had an estimated average fall semester GPA of 2.11, whereas non-participants had an estimated average GPA of 2.27, for an estimated difference of 0.15. This difference in GPA, however, was statistically non-significant. After statistically controlling for differences in the entering characteristics of students, the difference in the estimated fall semester GPA between FLC participants and non-participants remained statistically non-significant and became smaller – at less than 0.01. As seen in Table 1, the introduction of the statistical controls in the model adjusted downward the GPA of non-participants and adjusted upward the GPA of FLC participants.

Table 1.
Differences in Estimated Fall Semester GPA among FLC Participants and Non-participants

	Without Statistical Controls		With Statistical Controls	
	GPA	Diff	GPA	Diff
Non-participant	2.267		2.184	
FLC participant	2.114	-0.153	2.176	-0.008

* Statistically significant difference

Together, these findings suggest that the difference in the estimated fall semester GPA between participants and non-participants is explained almost entirely by the differences in the entering characteristics of these two groups. As illustrated earlier, students with lower academic credentials had greater probabilities than their peers of participating in a freshman learning community at IU Kokomo. Not surprisingly, the students' SAT scores, high school diploma type, and status as a Twenty-first Century Scholar were all significant predictors of fall semester GPA. Once these differences in prior academic achievement were included as statistical controls, the difference in estimated fall semester GPA by FLC participation is relatively nonexistent.

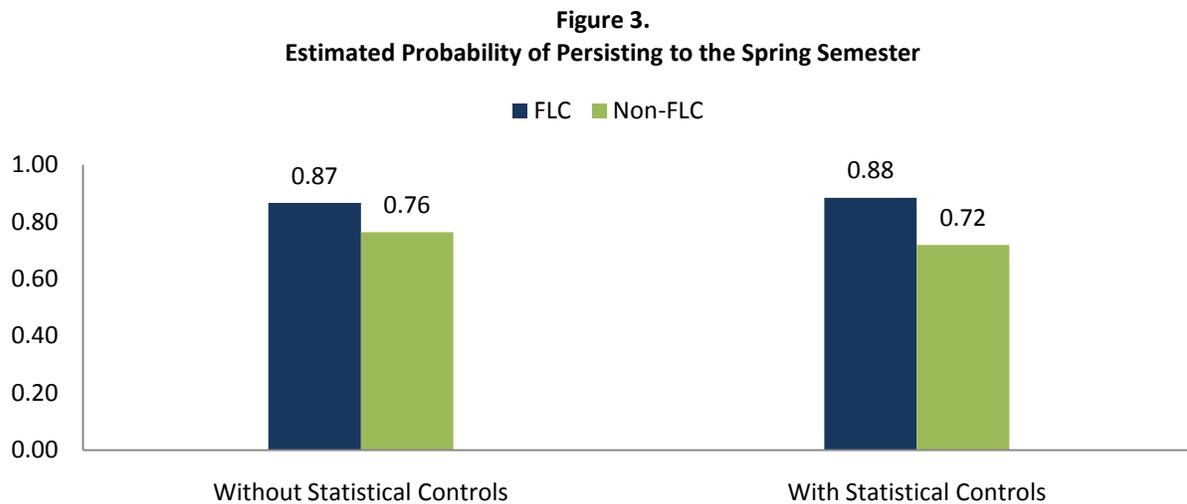
Among the other findings of this model, all else being equal, students with no financial need earned higher estimated fall semester GPAs than students with some level of financial need. However, students with a greater percentage of their financial need met by gift aid earned higher estimated fall semester GPAs than those with other financial aid packages. This finding suggests that more gift aid could reduce the financial burdens that compete with schooling for the students' attention.

A series of cross-products were entered into the second tobit model to examine systematic differences by the students' backgrounds in the estimated impact of FLC participation on fall semester GPA. Tests for these cross-products suggested no significant differences in the impact of FLC participation on GPA by gender, race, prior academic achievement, first generation status, or financial aid awarded.

Persistence to the Spring Semester

As outlined earlier in this report, two binary logit models were estimated to examine the impact of FLC participation on persistence to the spring semester of college. Included among the statistical controls introduced in the second model was the students' fall semester GPA. The full results of these models are provided in Appendix Table 3 and are summarized below.

Before controlling for the entering characteristics of students and for their fall semester academic performance, FLC participants had a significantly greater estimated probability than non-participants of persisting to the spring semester of college (See Figure 3). Specifically, the estimated probability of persisting was 0.87 for FLC participants and was 0.76 for non-participants, for a difference of 11 percentage points. After controlling for the entering characteristics of students and for their fall semester academic performance, this gap in the estimated persistence rates that favored FLC students actually widened. After adding the statistical controls to the model, FLC participants had an estimated probability of persisting to the spring semester (at 0.88) that was 16 percentage points greater than the estimated probability for non-participants (at 0.72).



Among the other findings of this model, all else being equal, Twenty-first Century Scholars had significantly lower chances than their peers of persisting to the spring semester. Although students with no financial need had greater chances than students with some level of need of persisting to the spring semester of college, an increase in the percentage of need met by gift aid increased the students' chances of persisting. Again, this finding suggests that more gift aid could reduce the financial burdens that compete with schooling for the students' attention. Finally, as expected, fall semester GPA was positively related to the students' chances of persisting to the spring semester of college.

A series of cross-products were entered into the second logit model to examine potential differences in the estimated impact of FLC participation on persistence to the spring semester. Tests of these cross-products suggested no systematic differences in the impact of FLC programs on persistence by gender, race, prior academic achievement, first generation status, or financial aid package.

Spring Semester Re-enrollment in a Freshman Learning Community

A multinomial logit model was estimated to predict the spring semester status of fall semester FLC participants. The possible outcomes for this model were: (1) departing from IU Kokomo, (2) attending IU Kokomo during the spring but not re-enrolling in an FLC program, or (3) attending IU Kokomo during the spring and re-enrolling in an FLC program. The full results of this model are presented in Appendix Table 4 and are summarized below.

For students who participated in an FLC program during the fall semester, the decision to re-enroll in an FLC program for the spring semester versus either not enrolling in an FLC program or departing IU Kokomo was almost exclusively a function of the students' fall semester GPA. Figure 4 provides a graphical depiction of this relationship, and Table 2 reports the estimated probabilities that produced the figure. As the figure and table illustrate, as Fall GPA increases, the estimated probability of re-enrolling in an FLC program increases substantially, whereas the estimated probability of either not re-enrolling in an FLC program or departing IU Kokomo decreases significantly.

Figure 4.
Estimated Probability of Re-enrolling in an FLC by Fall Semester GPA

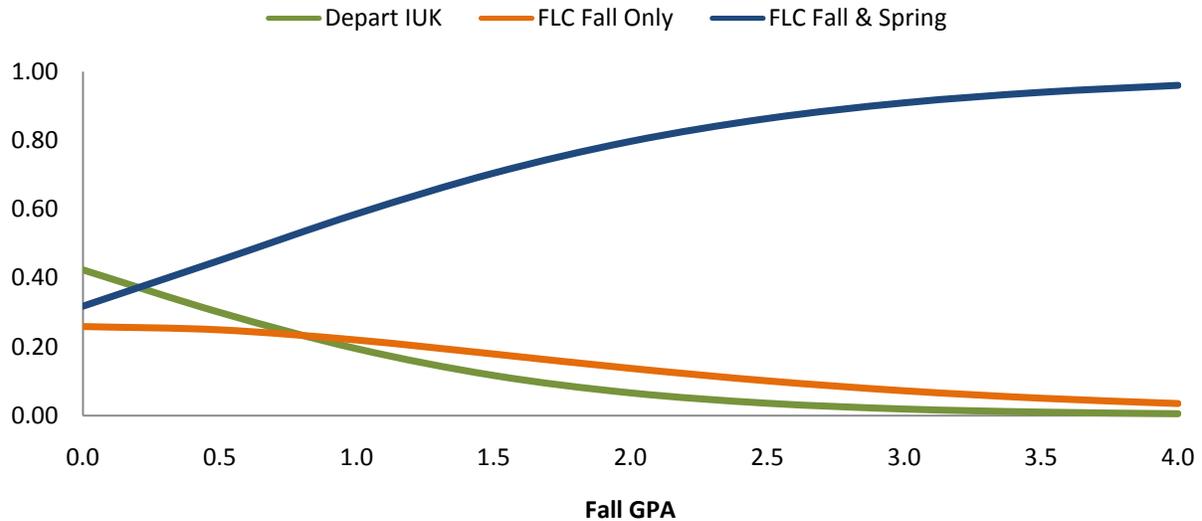


Table 2.
Estimated Probability of Re-enrolling in an FLC by Fall GPA

Fall GPA	Prob. of Departing IUK	Prob. of FLC Fall Only	Prob. of FLC Fall & Spring
0.00	0.42	0.26	0.32
0.50	0.30	0.25	0.45
1.00	0.19	0.22	0.59
1.50	0.12	0.18	0.70
2.00	0.07	0.14	0.80
2.50	0.04	0.10	0.86
3.00	0.02	0.07	0.91
3.50	0.01	0.05	0.94
4.00	0.00	0.03	0.96

Spring Semester GPA

As with the analysis of fall semester GPA, two tobit models were estimated to examine the impact of FLC participation on spring semester GPA. Included among the statistical controls introduced in the second model was the students' fall semester GPA. The full results of these models are provided in Appendix Table 5 and are summarized below.

Without taking into consideration any statistical controls for the entering characteristics of students or for their fall semester academic performance, students who did not re-enroll in an FLC program for the spring semester had a significantly lower estimated spring semester GPA than either re-enrollees or non-participants (See Table 3). The difference in the estimated spring semester GPA between re-enrollees and non-participants, however, was statistically non-significant. Specifically, students who did not re-enroll in an FLC program had an estimated average spring semester GPA of 1.53, whereas re-enrollees had an estimated average GPA of 2.43 and non-participants had an estimated average GPA of 2.28.

After controlling for the entering characteristics of students and for their first-semester academic performance, the difference in estimated spring semester GPA between students who did not re-enroll in an FLC program and other non-participants became statistically non-significant. Students who re-enrolled in an FLC program, however, had a significantly higher estimated spring semester GPA than both non-participants and students who did not re-enroll in an FLC program. As seen in Table 3, the introduction of the statistical controls in the model adjusted downward the estimated GPA of non-participants and adjusted upward the estimated GPA of former and current FLC participants.

Table 3.
Differences in Estimated Spring Semester GPA among FLC Participants and Non-participants

	Without Statistical Controls			With Statistical Controls		
	GPA	Diff from 'Non-participant'	Diff from 'FLC Fall Only'	GPA	Diff from 'Non-participant'	Diff from 'FLC Fall Only'
Non-participant	2.281			2.124		
FLC Fall Only	1.534	-0.747*		1.994	-0.130	
FLC Fall & Spring	2.431	+0.150	+0.897*	2.471	+0.347*	+0.476*

* Statistically significant difference

Among other significant findings of this model, all else being equal, students who received an academic honors diploma in high school had a higher estimated spring semester GPA than students who received a regular diploma. Compared to other students, Twenty-first Century Scholars had a lower estimated spring semester GPA. Students who had a greater percentage of their financial need met by gift aid earned higher estimated spring semester GPAs than those students with other financial aid packages. Finally, as expected, students with higher fall semester GPAs had significantly higher estimated spring semester GPAs than their lower achieving peers.

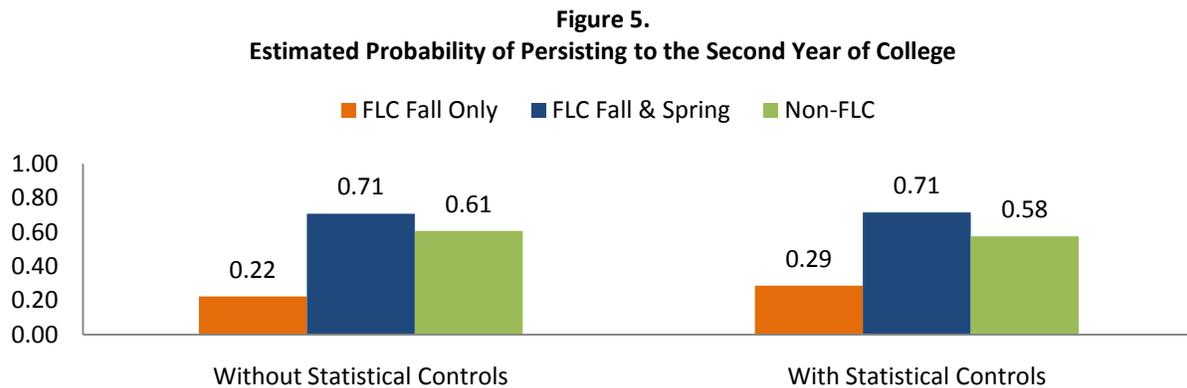
A series of cross-products were entered into the second tobit model to test for systematic differences in the estimated impact of FLC participation on spring semester GPA. No significant differences in the impact of FLC participation on spring semester GPA were found by gender, race, prior academic achievement, first generation status, or financial aid awarded.

Persistence to the Second Year of College

As per the analytic strategy outlined earlier, two binary logit models were estimated to examine the impact of FLC participation on persistence to the second year of college. Given the longitudinal nature of this analysis, additional controls for fall semester GPA and spring semester GPA were added to the second model. The full results of these models are provided in Appendix Table 6 and are summarized below.

Without controlling for the entering characteristics of students and their first and semester academic performance, students who did not re-enroll in an FLC program during the spring semester had a significantly lower estimated probability of persisting to the second year of college than either re-enrollees or non-participants (See Figure 5). Specifically, the estimated probability of persisting to the second year of college among students who did not re-enroll in an FLC program was 0.22, compared to probabilities of 0.71 and 0.61 among re-enrollees and non-participants, respectively. The difference in the estimated probability of persisting to the second year of college between re-enrollees and non-participants (at 10 percentage points) was also statistically significant.

After controlling for the entering characteristics of students and their fall and spring semester academic performance, students who did not re-enroll in an FLC program still had a significantly lower estimated probability of persistence to the second year of college (at 0.29) than either re-enrollees or non-participants (at 0.71 and 0.58, respectively). With the introduction of these statistical controls, the difference in the estimated probability of persisting between re-enrollees and non-participants remained statistically significant and actually widened to 13 percentage points.



Among the other findings of this model, all else being equal, older students had a greater estimated probability of persisting than younger students. Students who performed better academically in either the fall or spring semester of college relative to their peers also had greater persistence probabilities.

A series of cross-products were entered into the second model to test for differences in the estimated impact of FLC participation on persistence to the spring semester. Tests of the cross-products did not reveal any significant differences in the impact of FLC participation on persistence by gender, race, prior academic achievement, first generation status, or financial aid package.

Discussion

The results of this study suggest that participation in an FLC program does not have a visible compensatory effect on fall semester academic performance when compared to non-participants. A visible compensatory effect would be present if, after controlling for academic preparation and other demographic characteristics, the impact of FLC participation on fall semester GPA was positive and statistically significant. Although we do not know the precise reasons for the lack of this effect, one speculation supported in part by other findings of this study is that there is a delay in the impact of FLC participation on academic performance. Although re-enrollment in an FLC program for the spring semester was almost entirely a function of the students' fall semester GPA, after holding constant this past academic performance, students who re-enrolled in an FLC program had a significantly greater GPA than either non-participants or students who did not re-enroll. Re-enrollees also had significantly greater probabilities of persisting to the second year of college than either non-participants or students who did not re-enroll, even after holding constant their fall and spring semester academic performance.

As found in this study, FLC participants had significantly greater chances than non-participants of returning for the spring semester of college. Fall semester performance, however, was the primary determinant of whether or not the students re-enrolled in an FLC program for the spring semester. Whether student departure from an FLC program is a function of the students' choice or is the result of some failure to meet the minimum requirements to continue, differences in spring semester performance and subsequent persistence among one- and two-semester FLC participants are substantial. These results suggest that an FLC program might serve two functions. For students who have initial academic success, FLC programs could continue to contribute positively to persistence and academic performance during the course of the first year of college. For students who struggle initially, however, FLC programs could begin to offer both an early warning system and a second chance (i.e., spring semester) for campus intervention. By presumably having more direct faculty monitoring and support, FLC participants who are struggling academically could have an advantage over non-participants at having their academic trajectory detected and realigned during the fall semester of college. Because students who participated in an FLC program have greater chances than their peers of returning to the campus, those students who do not re-enroll in an FLC program could be targeted for some other form of intervention during the spring term that would increase their academic performance and chances of returning for a subsequent year of college.

APPENDIX

Appendix Table 1
Binary Logit Model Predicting FLC Participation

Predictor	Odds Ratio	S.E.	Sig.
Female	1.203	0.201	0.359
White	1.141	0.319	0.678
Age	0.981	0.073	0.793
SAT	1.000	0.001	0.600
Academic Honors	0.564	0.271	0.034
Core 40	1.111	0.229	0.644
21st Century Scholar	2.360	0.351	0.014
First Generation	1.134	0.195	0.520
No Financial Need	1.010	0.238	0.966
% of Need met by Gift Aid	0.883	0.390	0.749
Business Program	4.114	0.290	0.000
Education Program	3.649	0.299	0.000
Nursing Program	0.253	0.302	0.000
University Division	0.629	0.248	0.061
2005 Cohort	0.057	0.274	0.000
2006 Cohort	0.054	0.271	0.000
Intercept	19.189	1.603	

N = 789

APPENDIX (continued)

**Appendix Table 2
Tobit Models Predicting Fall Semester GPA**

Predictors	Without Controls			With Controls		
	B	S.E.	Sig.	B	S.E.	Sig.
Freshman Learning Community	-0.153	0.107	0.153	-0.008	0.098	0.933
Female				0.274	0.092	0.003
White				0.177	0.144	0.221
Age				0.125	0.036	0.001
SAT				0.002	0.000	0.000
Academic Honors				0.591	0.124	0.000
Core 40				0.033	0.110	0.767
21st Century Scholar				-0.448	0.152	0.003
First Generation				-0.014	0.087	0.873
No Financial Need				0.366	0.109	0.001
% of Need met by Gift Aid				0.843	0.174	0.000
Business Program	0.085	0.140	0.541	0.087	0.129	0.502
Education Program	0.009	0.142	0.948	0.037	0.134	0.783
Nursing Program	0.293	0.136	0.032	0.188	0.131	0.151
University Division	-0.023	0.126	0.855	0.120	0.117	0.303
2005 Cohort	0.124	0.117	0.292	0.219	0.112	0.050
2006 Cohort	-0.058	0.121	0.633	0.075	0.111	0.499
Intercept	2.178	0.142		-2.763	0.790	

N = 789

APPENDIX (continued)

**Appendix Table 3
Binary Logit Models Predicting Persistence to the Spring Semester of College**

Predictors	Without Controls			With Controls		
	Odds Ratio	S.E.	Sig.	Odds Ratio	S.E.	Sig.
Freshman Learning Community	2.004	0.228	0.002	2.993	0.286	0.000
Female				0.773	0.261	0.326
White				1.906	0.346	0.062
Age				0.966	0.123	0.778
SAT				0.999	0.001	0.135
Academic Honors				1.168	0.352	0.659
Core 40				1.893	0.293	0.029
21st Century Scholar				0.214	0.434	0.000
First Generation				1.292	0.253	0.311
No Financial Need				3.253	0.282	0.000
% of Need met by Gift Aid				39.355	0.674	0.000
Fall GPA				3.217	0.117	0.000
Business Program	1.087	0.292	0.774	0.798	0.365	0.536
Education Program	1.707	0.328	0.103	1.732	0.414	0.184
Nursing Program	1.507	0.280	0.144	0.913	0.365	0.802
University Division	1.509	0.267	0.123	1.157	0.329	0.657
2005 Cohort	1.660	0.262	0.054	1.778	0.347	0.097
2006 Cohort	1.116	0.255	0.667	1.171	0.312	0.613
Intercept	2.050	0.283		0.258	2.513	

N = 789

APPENDIX (continued)

**Appendix Table 4
Multinomial Logit Model of Spring Semester Status among Fall FLC Participants**

Predictors	FLC Fall & Spring vs. IUK Departure			FLC Fall & Spring vs. FLC Fall Only		
	Odds Ratio	S.E.	Sig.	Odds Ratio	S.E.	Sig.
Female	1.134	0.376	0.738	1.164	0.330	0.644
White	1.177	0.531	0.758	0.727	0.589	0.588
Age	1.188	0.253	0.495	1.222	0.209	0.337
SAT	0.999	0.001	0.576	0.998	0.001	0.059
Academic Honors	0.844	0.581	0.771	1.105	0.462	0.830
Core 40	2.244	0.463	0.081	1.528	0.368	0.248
21st Century Scholar	0.317	0.564	0.042	0.834	0.616	0.768
First Generation	1.964	0.392	0.085	1.472	0.327	0.237
No Financial Need	3.322	0.439	0.006	1.526	0.403	0.294
% of Need met by Gift Aid	41.507	0.973	0.000	2.682	0.710	0.165
Fall GPA	1.365	0.530	0.558	0.876	0.454	0.771
Business Program	2.019	0.604	0.244	0.787	0.463	0.606
Education Program	0.432	0.582	0.149	0.270	0.612	0.032
Nursing Program	0.795	0.497	0.645	0.422	0.450	0.056
University Division	4.150	0.705	0.044	0.159	0.386	0.000
2005 Cohort	0.991	0.415	0.983	1.643	0.527	0.346
2006 Cohort	4.026	0.182	0.000	2.174	0.151	0.000
Intercept	0.005	5.079		0.264	4.190	

N = 400

APPENDIX (continued)

**Appendix Table 5
Tobit Models Predicting Spring Semester GPA**

Predictors	Without Controls			With Controls		
	B	S.E.	Sig.	B	S.E.	Sig.
FLC Fall Only	-0.747	0.183	0.000	-0.130	0.140	0.355
FLC Fall & Spring	0.150	0.123	0.224	0.347	0.095	0.000
Female				-0.014	0.083	0.867
White				-0.238	0.145	0.101
Age				0.010	0.031	0.746
SAT				0.000	0.000	0.214
Academic Honors				0.283	0.114	0.013
Core 40				-0.049	0.103	0.637
21st Century Scholar				-0.328	0.147	0.026
First Generation				-0.126	0.078	0.106
No Financial Need				0.143	0.105	0.174
% of Need met by Gift Aid				0.448	0.161	0.005
Fall GPA				0.740	0.044	0.000
Business Program	-0.014	0.155	0.926	-0.137	0.119	0.247
Education Program	0.088	0.154	0.570	0.098	0.120	0.414
Nursing Program	0.253	0.152	0.096	0.039	0.122	0.748
University Division	-0.048	0.140	0.733	0.078	0.107	0.468
2005 Cohort	-0.005	0.128	0.971	0.048	0.101	0.631
2006 Cohort	-0.194	0.131	0.140	-0.005	0.101	0.958
Intercept	2.294	0.158		-0.243	0.705	

N = 631

APPENDIX (continued)

**Appendix Table 6
Binary Logit Models Predicting Persistence to the Second Year of College**

Predictors	Without Controls			With Controls		
	Odds Ratio	S.E.	Sig.	Odds Ratio	S.E.	Sig.
FLC Fall Only	0.186	0.341	0.000	0.297	0.383	0.002
FLC Fall & Spring	1.568	0.216	0.037	1.840	0.253	0.016
Female				1.055	0.218	0.808
White				0.883	0.381	0.745
Age				1.526	0.161	0.009
SAT				0.999	0.001	0.290
Academic Honors				1.781	0.304	0.058
Core 40				1.237	0.270	0.430
21st Century Scholar				0.619	0.402	0.232
First Generation				1.158	0.209	0.483
No Financial Need				1.564	0.273	0.102
% of Need met by Gift Aid				1.370	0.431	0.465
Fall GPA				1.665	0.138	0.000
Spring GPA				1.854	0.116	0.000
Business Program	0.892	0.274	0.677	0.705	0.310	0.260
Education Program	1.284	0.278	0.369	1.041	0.327	0.903
Nursing Program	1.683	0.273	0.057	1.208	0.331	0.568
University Division	0.871	0.242	0.568	0.866	0.283	0.610
2005 Cohort	1.382	0.230	0.161	1.622	0.267	0.070
2006 Cohort	1.016	0.231	0.944	1.397	0.265	0.208
Intercept	1.638	0.273		0.000	3.287	

N = 631