

Institutional Effectiveness: First Year Experience Courses and Retention

By Jake Morrison, Roy Caligan, Almat Yeraly

Abstract

This study examines the effectiveness of First Year Experience (FYE) courses offered to First Time in College (FTIC) students at EWU. The purpose of this analysis is to determine if FYE courses are fulfilling their purpose in fostering student success and retention at EWU. We gathered data from five cohorts of FTIC students and compared/analyzed short term outcomes for individuals who took FYE courses against those who did not. Using multiple regression specifications paired with econometric techniques, the model demonstrated a small positive effect on Fall to Winter retention for students who took FYE courses. In contrast, the model demonstrated a large negative effect on Fall to Winter retention for students who failed their FYE course. While there is a statistically significant effect of FYE courses on students' ability to persist into winter quarter, the consequence of failing the course is far greater than the effect of taking the course. Additionally, there is no evidence to suggest that taking an FYE course is associated with higher rates of Fall to Fall retention. Further analysis of First Year Experience courses may be beneficial to the evaluation and future implementation of these courses.

Introduction

Eastern Washington University enrolls First Time in College students (FTICs) with less than 30 credits into First Year Experience (FYE) courses during a student first fall quarter (in some cases, FTIC students between 30-45 credits were allowed to take an FYE course). FYE courses are designed "to familiarize them [FTICs] with the EWU community, resources available to them, and emphasize the development of success skills to assist them in being successful at EWU and beyond¹." The courses are counted for credits towards a student's breadth area core requirements (BACR) required for graduation. The courses titled ITGS110, ITGS120 and ITGS130 may count towards a Humanities, Natural Science or Social Science BACR. Each course has a distinct theme, such as:

Course	BACR Area	Course Title
ITGS110	HUMANITIES	COOL STORY, BRO: EXAMINING MASCULINITIES THROUGH POPULAR CULTURE
ITGS110	HUMANITIES	FEMALE DYSTOPIAS
ITGS120	NATURAL SCIENCE	THE WORLD YOU INHERIT
ITGS130	SOCIAL SCIENCE	MONEYBALL: THE ECONOMICS OF BASEBALL & OTHER PROFESSIONAL SPORTS
ITGS130	SOCIAL SCIENCE	FAKE NEWS? "ALTERNATIVE FACTS"?: EVALUATING NEWS AND INFORMATION IN THE GOOGLE AGE

Along with course topics, beginning in Fall 2018, each course provided students with resources for financial aid, health and wellness, student success and other campus resources. Additionally, FYE courses allow a space for students with similar interests to collaborate and form friendships. The University implemented the courses with the intent to increase student outcomes and drive first year

¹ <https://inside.ewu.edu/generaleducation/first-year-experience/>

student retention. In this study, we examine the possible effect FYE courses play in a student’s ability to persist² at the University.

Data

We gathered data for all FTIC students who start fall term from 2015 to 2019. Data gathered includes: indicators for student retention from fall quarter to winter, winter to spring and to the following fall quarter, course performance (grade), and a number of individual level characteristics³. Table 1 summarizes the data:

Table 1		
<u>Variables of Interest</u>		
Took an FYE Course	N	% of FTICs
2015	127	7.5%
2016	305	18.3%
2017	122	7.6%
2018	463	26.9%
2019	723	40.5%
Failed an FYE Course		
2015	7	5.5%
2016	38	12.5%
2017	10	8.2%
2018	76	16.4%
2019	137	18.9%
<u>Student Demographics/Characteristics</u>		
Gender		
Female	4992	58.8%
Male	3491	41.2%
First Generation	4044	47.7%
EOP	618	7.3%
Running Start	3560	42.0%
English Ready	6127	72.2%
Math Ready	3599	42.4%
Average Grade Value in FYE	3.084	
Cumalative GPA	2.952	
N		

² Persist and retain are sometimes used interchangeably; persisting is a student characteristic and defines a student who continues their education while retention is a university metric for students continuing their enrollment at their university.

³ Student demographics such as Race/Ethnicity and Biological Sex, and characteristics such as number of entering college credits or GPA.

Table 1 shows that the percent of FTICs taking FYEs increased from 7.49% in Fall 2015 to 40.48% in Fall 2019. Additionally, the number of students who failed an FYE are listed, these percentages increasing from 5.51% in Fall 2015 to 18.95% in Fall 2019. Table 2 displays summary statistics for the outcome variables

Table 2					
<u>Outcomes</u>	(1)	(2)	(3)	(4)	(5)
	<u>All FTICs</u>	<u>Took FYE</u>	<u>No FYE</u>	<u>Passed FYE</u>	<u>Failed FYE</u>
Retained Fall to Winter					
2015	93.5%	95.3%	93.4%	96.7%	71.4%
2016	93.6%	95.1%	93.3%	98.1%	73.7%
2017	92.7%	95.9%	92.4%	97.3%	80.0%
2018	89.4%	90.1%	89.2%	95.9%	60.5%
2019	91.7%	91.6%	91.7%	95.9%	73.0%
Retained Fall to Spring	-	-			
2015	88.7%	89.0%	88.6%	91.7%	42.9%
2016	88.0%	87.9%	88.0%	93.3%	50.0%
2017	87.2%	88.5%	87.1%	92.0%	50.0%
2018	85.2%	86.0%	84.9%	92.8%	51.3%
2019	84.9%	81.2%	87.5%	88.6%	49.6%
Retained Fall to Fall	-	-			
2015	75.9%	74.8%	76.0%	78.3%	14.3%
2016	76.1%	72.1%	77.0%	80.9%	10.5%
2017	74.5%	72.1%	74.7%	76.8%	20.0%
2018	70.1%	66.1%	71.5%	75.2%	19.7%
2019	70.7%	65.6%	74.2%	73.7%	30.7%

Table 2 demonstrates student retention broken down by the different populations in our dataset. Column 1 provides retention percentages for all FTIC students in a given cohort. Columns 2 and 3 provide retention percentages for FTIC students who took an FYE and those who did not. Columns 4 & 5 provide retention percentages for FTIC students who passed an FYE and those who did not. The table demonstrates a slight increase in Fall to Winter retention for students who took an FYE course. The table also demonstrates a large discrepancy in retention rates between students who Passed an FYE and those who did not. In the next section we will evaluate these differences in student retention rates.

Methods & Results

In order to evaluate the effects of FYE courses on a student's ability to persist, we used a variety of linear and logistic regression models accompanied by year fixed effects and clustered standard errors. The dependent variable for all regressions is a [0,1] indicator for student retention across the two time intervals, and the independent variable of interest is a [0,1] indicator for either taking an FYE course or failing an FYE course. A continuous grade earned variable is also used to evaluate the effect of grade earned on retention.

Table 3					
	Fall to Winter Retention	Fall to Fall Retention	Fall to Winter Retention	Fall to Fall Retention	Fall to Winter Retention
	(1)	(2)	(3)	(4)	(5)
Variables	took FYE course		failed FYE course		Grade in FYE course
FYE	0.019**	-0.021	-0.256***	-0.484***	0.008***
EOP	-0.038***	-0.118***	-0.012	-0.028	-0.006
# of Entering Credits	-0.0001	-0.0002	0.0003	0.002*	0.001
Running Start	-0.013*	-0.003	0.007	-0.005	0.0004
Gender	-0.005	-0.014	-0.001	-0.014	0.001
Dorm	0.005	-0.012	-0.003	-0.022	-0.003
Math Ready	0.050***	0.132***	0.001	0.107***	-0.004
English Ready	0.007	0.007	0.012	-0.023	0.013
First Generation	-0.015**	-0.043***	-0.02	-0.07	-0.016*
N	8483	8483	1740	1740	1740
*10 significance level, **5% significance level, ***1% significance level					
Regressions include individual level controls for Race/Ethnicity and year fixed effects. Standard Errors are clustered at the major level.					

Columns 1 and 2 display the results for regressions run with the [0,1] indicator for taking an FYE regressed on student retention from Fall to Winter and Fall to Fall. Columns 4 and 5 display the results for regressions run with the [0,1] indicator for failing an FYE regressed on student retention from Fall to Winter and Fall to Fall. Column 5 presents the results for the continuous grade earned variable regressed on Fall to Winter retention.

Column 1 demonstrates that there is some evidence to support that taking an FYE course leads to increased Fall to Winter retention rates. Column 2 demonstrates however, that there is no evidence to suggest that taking an FYE course is associated with higher rates of fall-to-fall retention. Column 3 demonstrates that failing an FYE course is associated with a **significant decrease** in student persistence to winter quarter. Column 4 demonstrates that failing an FYE course is also associated with a **significant decrease** in student persistence into the following fall quarter. Column 5 displays results for the continuous grade variable and demonstrates a positive relationship between achieving a higher grade in an FYE course and student persistence.

Column 1 demonstrates that students who take an FYE course are 1.9% more likely to persist into the next quarter, however when a student fails an FYE course (column 2) students are 25.60% less likely to persist to the following quarter. The regression models show that there is a statistically significant effect of these courses on first year students' ability to persist into their second quarter at EWU but the consequence of failing the course is far greater than the effect of taking the course. Fall to Winter quarter retention is an ideal outcome for this model because it allows us to evaluate the immediate effect of the course and eliminate other potential variation. While Fall to Fall regressions are presented,

our ability to interpret the causal pathway of taking/failing an FYE course becomes fuzzier. Much can happen between a student's first quarter and potentially fourth quarter in college, therefore we can only truly evaluate these estimates as anecdotal and weak in nature.

Conclusions & Future Analysis

Further analysis of First Year Experience courses may be beneficial to the evaluation and future implementation of these courses. This study provides a solid first look into the potential effects taking and/or failing an FYE course has on a student's academic journey. It's worth noting that of the 268 students who failed an FYE course over the 5-year period, only one student has gone on to graduate while 58 remain at the University, meaning 77.99% of these students have left the University. As this study provided a first look into the effect of FYE courses, the model may be improved by narrowing down the exact population of student who are required to take FYE courses and analyzing these students against those who did not take an FYE course; a possible econometric model for this analysis would be a regression discontinuity regression model. The model may also benefit from adding or evaluating other covariates associated with student success, specifically in their first quarter.