

GRADUATION RATES ACROSS CATEGORIES OF FIRST YEAR SEMINAR

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This is dedicated to the students who inspire us.

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ABSTRACT

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by Kathy Rise

This study investigates the outcomes of students participating in freshmen seminar during the 2009-2010 academic year at a Mid-Western University. The aim of the study is to examine the relationship between freshmen seminar and on time graduation. The investigator analyzed a variety of input factors to determine if participation in a freshmen seminar increased persistence and completion for students with specific risk factors. The input factors considered were high school GPA, race, socio-economic status and parents' level of education. The environmental factors were eight types of freshmen seminars categorized into three main groups; no seminar, seminar alone, and seminar with learning community. These groups were compared to see if there were differential effects on the outcome measures of student persistence and four-year graduation.

The sample, drawn from institutional data of one Midwestern University, consisted of all full-time, US residents, first time in any college (FTIAC) students who were admitted in the 2009/2010 academic year. Cross tabs, tests for significance and regression modeling were used for data analysis. Comparisons were made across the input variables, environmental factors and programs of study.

The findings demonstrate that academic factors, such as high school GPA, have strong positive relationships to on time graduation. Seminars with learning communities increased the likelihood of persistence, especially among underserved students.

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CHAPTER I

INTRODUCTION

Background

Based on 2,313 public institutions across the country, a little more than half of undergraduate students earn a bachelor degree in six years (National Center for Education Statistics, 2011). This means students spend 150% of the anticipated time to graduate with a four year degree. Essentially, bachelor's degrees are billed as four year programs, but less than one quarter of students meet that expectation. In Michigan, the median four year graduation rate for public institutions is 17.2%. The sample institution in this study is slightly ahead of the state average and graduates 20% of students in four years, 57% in 6 years, and retains 76% (National Center for Education Statistics, 2011).

Problem statement:

Despite the economic and personal costs of high attrition rates, increased accessibility to college may be worth the burden. Liberal arts advocates believe that the American Education system is for the common good and, thus a core value for society. According to Pascarella and Ternzini (2005), educated people have principled moral reasoning and ethically oriented behavior, along with better health. This may be due to better working conditions and healthier lifestyles. Pascarella and Ternzini (2005) also state that children of parents who complete college have better conditions from their prenatal care up to the time that they themselves enter college. Another benefit to society is that college graduates are involved in their communities and participate in political activities, discussions, and voting (Pascarella & Ternzini, 2005). Conservatives

also agree that the economy thrives by utilizing a talented workforce. However, in order to receive the full benefit, students must graduate.

Ultimately, graduation is the primary goal of attending college. It is the measure of success for both the student and the university (U.S. News & World Report, 2014). As public concern grows, universities are under the spotlight to achieve higher graduation rates. Politicians are beginning to base university funding on outcome measures. Field (2014) reported that “under the president’s new plan, colleges would get bonuses, varying according to the type of institution, based on the number of their Pell grant students who graduate on time” (p.6). This puts the impetus on universities to take action now to ensure higher rates of graduation. Universities utilize a variety of programs which support students seeking graduation and this report examines the outcomes of first year seminar.

The premise of first year seminar is simple: Introduce students into college with a one credit seminar that covers the basic skills and connects them with campus resources. This is an extended orientation (Barefoot, 1992), acclimating students to the norms and academic standards of campus life. Feldman (1981) states that expectations “shape subsequent behaviors and experiences” High impact practices like first year seminar are expected to increase student persistence and on time graduation (Kuh, et al., 2007). Integrating first year seminars with learning communities show even greater gains (Swaner & Brownell, 2009). Theory explains why first year seminars and learning communities may have positive outcomes.

Theoretical Background

Astin's I-E-O Model

In 1993, Astin undertook a monumental study of more than 200 colleges and 25,000 students (Astin, 1993). He used this vast information to model the relationship between student characteristics, the college environment, and the expected outcomes. Pascarella and Ternzine (2005) describe Astin's theory as a function of three elements; inputs, environment, and outcomes. Inputs are "the demographic characteristics, family backgrounds, and the academic and social experiences that students bring to college" (Pascarella & Ternzine, 2005, p. 52). The environment is "the full range of people, programs, policies, cultures, and experiences that students encounter in college, whether on or off campus" (Pascarella & Ternzine, 2005, p. 52). This study looks at the first year experience program as one of Astin's environmental elements. The outcomes, as defined by Astin are "student characteristics, knowledge, skills, attitudes, values, beliefs and behaviors as they exist after college" (Pascarella & Ternzine, 2005, p. 52). Astin (1993) emphasized the importance of the environment in changing outcome behaviors. Freshmen seminars are designed to expose students to campus. Several techniques implemented in this universities freshmen seminar have been found to be instrumental in engaging students and addressing both their academic and non-academic needs (Lotkowski, Robbins, & Noeth, 2004; Hurd, 2000; Ramirez, 1997; Tinto, 1997). Peer to peer mentoring is used to involve students socially and class sizes are kept small to increase faculty to student interactions. Students are challenged to evaluate, who they are and why they are in college. This study will explore the

outcomes of students as a function of the pre-college inputs and the learning environment provided by freshmen seminar. Based on Astin's (1993) IEO model, the expected benefit of modifying the student environment is behavior that leads to graduation.

Tinto's Theory of Student Departure

Tinto (2001) built upon Astin's environment. Tinto believed the quality of fit between a student and their environment would impact their success. He discussed the cultures and subcultures inside of colleges.

Integration is the extent to which the individual shares the normative attitude and values of peers and faculty in the institution and abides by the formal and informal structural requirement for membership in that community or in subgroups of it. As integration increases, it strengthens students' commitments to both their personal goals and to the institution through which these goals may be achieved. (Pascarella and Ternzine, 2005, p. 54)

Freshmen seminars integrate students during their first eight weeks of college, when they need it most. The purpose of this introduction into the campus norms and culture is to initialize a sense of belonging for students and strengthen their desire to remain. According to Tinto (2001), well integrated students will be less likely to depart and therefore persist to graduation. This study will measure students' persistence over time to see if freshmen seminar has a lasting impact on students' commitment to persist.

Schlossberg's Transition Theory

Students arriving on campus for the first time experience many unexpected changes. According to Schlossberg (1981), one can assist students in coping with these transitions by incorporating the following factors; situation, self, support, and strategies (Evans, et. al., 2010). Transition is a fundamental first year seminar theme (Porter & Swing, 2006). The freshman year is one of many trials where most students encounter new relationships, routines, assumptions, and roles (Evans et al, 2010). First year seminar provides these students an opportunity to increase self-knowledge, become aware of campus support networks, and learn strategies for success which help them progress through Schlossberg's (1981) stages: moving in, moving through and moving out. Freshmen in their first semester on campus are in the moving in stage. For many students, it is possibly first time they have been away from their parents, friends and other support people for an extended period of time, so they may not know whom to ask for help. New students are not familiar with the physical environment of campus, so they may not know where to go. At the extreme of this transition, moving into college is culture shock. Students who are unsupported during this transition are at risk for attrition. Schlossberg (1981) describes interpersonal support as a necessary factor which affects adaptation. The small first year seminars provide this support because as members of the same cohort, students share first year experiences and should develop a sense of belonging. This is particularly true of the special sections which have the added connection of learning communities. The mentor/mentee relationship works to build the institutional support and psychosocial competence Schlossberg (1981) describes by helping students acquire strategies to "move through" the challenges of

the first year of college. Persistence into year two will be used in this study to measure a successful transition to college.

Purpose Statement

Few studies have looked at graduation rates for seminar participants (Swaner & Brownell, 2009). The purpose of this study is to determine whether a relationship exists between freshmen seminar and on time graduation. This study will examine effectiveness of different types of first year seminar on retaining students having similar characteristics and programs of study.

Research Questions

Question 1. Is there a relationship between first year seminars, student factors, academic factors, and student persistence?

Question 2. Is there a relationship between first year seminars, student factors, academic factors, and student “on-time” graduation?

Definition of Terms

Attrition. The ratio of students who fail to attend or complete college to those who began. The inverse of persistence.

First generation. A student who reported that neither parent attended college.

Freshmen. A full time, US student who never attended college after high school completion.

FTIAC. First Time In Any College.

Learning community. A section of freshmen seminar identified by a designator which involves an affiliation outside of class.

On time graduation. Graduation which occurs with 4.5 years of the first semester enrolled in college after high school completion.

Persistence. The measure of those who continue to attend or complete college.

Program of study. A category determined by the intended major selected at the time of admission.

Retention. The ratio of students who continue to attend or complete college to those who began. The inverse of attrition.

Seminar. A one credit elective course which freshmen take their first semester to acculturate them to campus.

Socio-economic(SES). A student who received a Pell grant.

Stand alone. A seminar which is not connected or affiliated to any program.

Underrepresented. Students who indicated a race other than white.

Underserved. Students with characteristics that as a group show lower outcomes, typically SES, underrepresented and first generation.

CHAPTER II

REVIEW OF LITERATURE

Student Characteristics

Research shows students with certain characteristics are less likely to attain college degrees. African American, Latinos, and Native Americans are among the most underserved students in the US education system. (Kuh et. al., 2007, p. 24) According to the National Center for Education Statistics, Ross et al. (2013, p. 13) state that, “the percentages of Black (51 percent) and Hispanic (52 percent) full-time students at 4-year institutions who attained bachelor’s degrees were lower than the percentages of students of two or more races (66 percent), White students (73 percent), and Asian students (76 percent) who attained a bachelor’s degree”, indicating the gap between white and racial minority students completing their degree is more than 20%. The cultural perspectives of these students are less represented in the classroom, faculty and curriculum, which may cause students to disengage and lead to the attrition of racial minorities (Kuh, et al., p.308).

Low socioeconomic status negatively influences college success (Astin, 1993). Students from low SES tend to come from poor school districts and are less academically prepared because these schools sometimes lack policies, practices, advanced courses and guidance counselors which would properly prepare students for college (Ross et al., 2012). The likelihood of completing a degree increases incrementally with the parent’s income level, starting from below the poverty line at 59% and families with incomes over \$70,000 at 74% (Snyder & Dillow, 2010). This may be

because college is expensive and students without financial means may not be able to afford tuition or support themselves while they earn their degree. Of the students whom leave college without a degree, about one third does so for financial reasons (Ross et al., 2012). Also, working while in school can reduce the time spent on classes, study and social engagement (Astin). The challenges of completing a degree are compounded when impoverished students also come from homes where neither parent went to college (Engle & Tinto, 2008).

Students who are the first in their family to attend college struggle with college completion. First generation students account for approximately one in three college students (National Survey for Student Engagement, 2005). These students lack the family support, aspiration and preparation of students whose parents attended college (Perna & Titus, 2005). Kuh et al. (2007) suggests that first generation students are also less academically engaged because they tend to live off campus and have lower expectations. These factors contribute to a 14% gap in graduation rates between first generation students and students whose parents attended college (DeAngelo, 2011).

Academic Preparation

Regardless of their family background, students who are well prepared upon high school graduation are best positioned for success at the university (Kuh et al, 2007 p.34; Florida Department of Education, 2005; Gladieux & Swail, 1998, Horn & Kojaku, 2001; Martinez & Klopott, 2003; Warburton, Bugarin, & Nunz, 2001). The level of preparation is a factor of both the quality of the school and the student's performance. Schools that offer advanced courses in mathematics, writing, and analytical thinking

better prepare students for achievement tests and college entrance. A number of findings support standardized tests as a measurable indication of high school quality (Kuh et. al., p.35; Hoffman, Llagas, & Snyder, 2003). Standardized tests miss many of the soft skills that contribute to success; therefore, admissions officers also look at high school GPA. High school GPA measures students' academic skills, attitudes, and study habits (Kuh et al., 2007, p.36, National Survey of Student Engagement, 2005). High School GPA and ACT scores are the typical measures of college readiness and strongly correlate to retention (Lotkowski et. al., 2004; ACT, 1997; Tinto, 1997).

Program of Study

The intended program of study also predicts college success. Lotkowski, Robbins, & Noeth (2004) found that academic goals (.34) are a strong indicator of retention, even higher than high school GPA (.246) and socio-economic factors (.228). Students without an intended program of study are less likely to persist. There is disparity among who have a program of study as well. For example, students seeking vocational training frequently choose higher paying employment opportunities over college completion. This is particularly true when their skills and training qualify them for higher paid positions. Universities face the additional challenge of supporting students who select majors that they are academically unprepared for. As an example a student with a GPA of 3.0 and an ACT score of 20 will potentially face difficulty in completing medical school.

Programmatic Interventions

One tactic some universities take to increase retention is to set higher admissions standards. More selective institutions are perceived as higher quality institutions (Pascarella & Ternzini, 2005; Brewer, Eide, & Ehrenberg, 1999). Strict acceptance criteria make universities less accessible to the people who most need college. The ideal outcome is to increase retention without sacrificing accessibility. Universities need to create, support, and maintain programs that help students succeed. First year seminar is one of those programs.

Approximately 90% of universities offer some sort of freshmen seminar (Porter & Swing, 2006). The types of seminars vary from institution to institution and year to year. Persistence is a common goal of first year seminar, achieved through academic preparation, acculturation, and campus engagement (Barefoot, 2000; Porter & Swing, 2006; Kuh, et al., 2007; Pascarella & Ternzini, 2005). First year seminars have shown mixed results study by study. Generally, participation is found to be significant and positive toward increasing the likelihood of persistence and degree completion.

Pascarella and Ternzini state

It appears that the effects of FYS participation are at least indirect through enhancement of grades and various dimensions of academic and social integration, all of which, in turn, are related to retention and educational

attainment. In short, the weight of evidence indicates that FYS participation has statistically significant and substantial, positive effects on a student's successful transition to college and the likelihood of persistence into the second year as well on academic performance while in college and on a considerable array of other college experiences known to be related directly and indirectly to bachelor's degree completion.

With an overwhelming number of colleges offering freshmen seminars and most finding positive results, the question becomes what type of seminar is most effective in increasing retention and graduation rates. By easing the transition to college and acculturating students to belong, some types of first year seminars mitigate the negative effects that underserved populations share and encourage the resiliency and preparation that promotes persistence and on time graduation. This study investigates several categories of first year seminar at a Midwestern university and the differential effects on the 2009 FTIAC cohort.

CHAPTER III

METHODOLOGY

Research Design

The design is a quantitative comparative study which measures the outcomes of students participating in different types of freshmen seminars. Group A (control) attended no seminar at all. Group B attended seminar with a learning community (LC) and Group C attended seminar alone (FYE). In order to minimize confounding factors, students' characteristics were considered. Longitudinal connections between the variables were analyzed using multivariate statistics which examined the relationships between the pre-college characteristics, the seminar, and the outcomes over time.

Population and Sample

The sample population came from a mid-western public university with over 20,000 students. Despite some success to increase diversity in the last ten years, the FTIAC population is predominately homogenous in terms of age, ethnic, geographic, and socio-economic diversity. Institutional data provided information about the total freshmen enrollment for the main campus in the 2009-2010 academic year. This includes all first-time undergraduate students entering in the fall semester. The final sample of 3,632 includes only full time, U.S. residents. Forty five international and thirteen part time students were removed because their needs are different than the scope of this study.

Collection of Data

Secondary data was collected from the institutions enrollment data. Institutional research removed all identifiable student data from the 2009-2010 FTIAC table and combined freshmen seminar enrollment data to the table. Persistence is defined in this research as the measure of a students' enrollment or completion from one fall to the next. For example, persistence in year two is a student who began in the fall of year one and returned in the fall of year two. Institutional data recorded students' enrollment status in the fall of each year preceding their initial enrollment. A value of one is given to returning students.

Independent Variables

The predictive variable is first year seminar and there are three categories: No seminar, stand-alone seminar and seminar with learning communities. Athletics, business, culture, education, music , service , and leadership offer their own freshmen seminars. They are designated differently in the fall 2009 course catalog, so students taking one of these courses are coded as a being part of a seminar with learning community (LC). Students enrolled in the general sections of first year seminar are in the first year experience group (FYE). Students with neither section of seminar are in the control group. The research will measure if student's enrollment in a first year seminar changes the likelihood of persisting and graduating in four years. The researcher computed the multivariate frequency distribution of students in seminars within learning communities, stand-alone seminars, and no seminar, in order to compare the outcome differences between groups, and then tested for significance with

Pearson's Chi Square. We used the same computations on students intended program of study to see if there were differential effects between programs of study. There may be a great deal of variation from students' intended major to ones completed major. To compensate for the variance between one's intended major and one's actual major, the researcher combined similar majors into programs of study, as shown in appendix A. This may affect the validity of the results.

Dependent Variables

Persistence is a dependent variable. Persistence rates are the ratio of the number of returning or completed students of specified term over the number of students attending in the fall of year one. Comparisons were made between the three groups of freshmen seminar: LC, FYE, and the control. Aggregate data are presented for each group. The mean percent of students which persisted from year to year is the outcome parameter with the implicit benchmark at 100%. Pearson's chi square analysis tested for significance in persistence rates between groups.

Another dependent variable is time to graduation. The results were dichotomized so all students graduating by May 2013 are on time completers. Cross tabs displayed the mean graduation rates among students participating in the three categories of seminar. Because the data is longitudinal, progression codes were created to view the data across programs over time. Progression is derived from the persistence and graduation fields where students were coded according to their last enrollment or completion in college. This allows for an overall view of the mean data for students who

have completed their program while indicating how many are still in process. Pearson's Chi Squared analysis determines the significance of differences between the control and the experimental groups.

Confounding Factors

Analysis was conducted to determine what impact seminars have on graduation rates of students with similar characteristics, academic factors and programs of study. Prior research predicts that the factors of high school GPA and ACT scores increase the likelihood of persistence (Pascarella & Ternzini, 2005). Other characteristics, such as underrepresented students, first generation students and low income status, are shown to have a negative correlation with persistence in research (Astin, 1993). Institutional data contains students' ethnicity except for the 243 missing responses. Because the majority of students at this institution are white, all other students were counted as underrepresented. Students receiving a Pell grant were given the SES status and first generation students indicated that neither parent attended college. This study controlled for both student characteristics and academic preparation by analyzing multivariate logistic regression for categorical outcomes. This produces coefficients estimating the relationship between independent variables on the probability of the dependent outcome. The binary dependent variable was an indicator of whether the student persisted long enough to graduate. For the purpose of this study, five years was used. First year seminar category, high school GPA, income status, parent education level and race/ethnic background were entered simultaneously for the logit regression analysis to allow for the interpretation of relationships between each variable and five year persistence.

CHAPTER IV
RESULTS

The sample consists of 3,632 undergraduate freshmen. Of those, 1,068 first year students enrolled in one of eight categories of freshmen seminar. Subjects were grouped into three categories: participants who did not attend a freshmen seminar (group A), participants who attended a stand-alone freshmen seminar (group C), and participants who attended a freshmen seminar within a learning community (group B). The seminars in learning communities included the following designations: Athletics (n=83), Business (n=24), Cultural (n=62), Education (n=40), Music (n=41), Service (n=30), and Leadership (n=39). This report provides persistence and four year graduation rate statistics for first time freshmen cohorts broken down by category of first year seminar. Four year graduation rates can be defined as the percentage of students within each category of the fall 2009 cohort who graduated by May of 2013.

	Group A n=2564	Group B (LC) n=342	Group C (FYE) n=726
Retention	Control	Increase	No change
Time to Graduation	Control	Decrease	Increase

Figure 1. Outcome by Category of Freshmen Seminar

Participants

A summary of student’s pre-college characteristics can be found in table 1. Fifty seven percent of the sample is female and 9% are students of color. Nearly one quarter of the students in the sample are first generation students, meaning that neither parent attended college. Almost 14% of the cohort met the income restriction for a Pell grant and are classified as low income. Two measures of academic readiness are used, the

ACT and high school GPA. The average ACT score was 22, and the mean high school GPA was 3.30.

Table 1. Pre College Characteristics of the 2009 FTIAC Cohort

Variable	Description	%	M	SD
Female	Gender F=female, M= male	56.9		
Racial minority	1=racial minority, 0 else	9.0		
Low income	1=low income, 0=else	13.5		
First generation	1=first gen, 0=else	24.3		
High school GPA	Final grade point - high school		3.301	.4262
Composite ACT	ACT exam composite score		22.34	3.426
N= 3632	# of observations			

Note: Missing records occurred in the people of color (243), high school GPA (6) and composite ACT data (41).

Question 1

Is there a relationship between first year seminars, student factors, academic factors and student persistence?

Persistence rates are higher among students taking either type of freshmen seminar. Students who have taken a first year seminar show a three to four percent gain in retention rates to year two compared to their non-seminar counterparts (79% vs. 82%, $P = .021$) and this trend continues to year five (61% vs. 65%, $p = .031$). Student characteristics contribute to the likelihood of persistence as well. The 316 underrepresented students are less likely to persist overall (57%) than their white counterparts (63%), but more persist to year five with a freshmen seminar (66%) than without (49%). Approximately 54% of the 492 low income students are retained to year five. First year seminar does not show a positive impact on persistence of low income

students when seminar types are combined. A higher percentage of 884 first generation students persist to year five with first year seminar (64%) than without (56%).

However, this research investigates the differences between first year seminar groups. There was substantial variation between the groups. These data reveal that stand alone seminars have very little effect on persistence. While there is no change on second year retention among students taking first year seminar alone, at 9.3%, the seminars with learning communities demonstrate a higher improvement.

Table 2. Students Persisting Over Time as a Function of First Year Seminar

Seminar alone			
	With	Without	Difference
	(n=1068)	(n=2564)	
Persisted to Second Term	93.0%*	91.3%	1.7%
Persisted to Second Year	79.3%*	78.7%	0.6%
Persisted to Third Year	68.2%*	68.2%	0.0%
Persisted to Fourth Year	64.6%*	64.0%	0.6%
Persisted to Fifth Year	60.6%*	60.7%	-0.1%
Seminar with learning community			
	With	Without	Difference
	(n=1068)	(n=2564)	
Persisted to Second Term	95.3%*	91.3%	4.0%
Persisted to Second Year	88.0%**	78.7%	9.3%
Persisted to Third Year	79.8%**	68.2%	11.6%
Persisted to Fourth Year	75.1%**	64.0%	11.2%
Persisted to Fifth Year	72.8%**	60.7%	12.1%

Note: The values represent the percentage of students enrolling in the fall semester of the year indicated. Graduates are included in this number.

* P<.05, ** P < .01

Table 2 illustrates the difference in persistence rates of students over time by comparing those with freshmen seminar and those without. Of the 2,564 students who

did not enroll in any seminar, 60.7 % persisted to year five. Of the 1,068 students who enrolled in a freshmen seminar, 726 attended a seminar alone and 342 attended a seminar with a learning community.

Of the 726 who attended a stand-alone freshmen seminar, 60.6% persisted to year five. The difference between that and the 60.7% who did not attend a seminar is negligible for the long run. However, the short term effects show that those who attended the 8 week stand-alone seminar were 1.7% more likely to return in the spring and .6% more likely to return in the fall 2010.

Of the 342 who attended a seminar with a learning community, the data revealed a significant difference from those that did not attend a seminar. 72.8 persisted to the fifth year, which is a 12.1% increase over those who did not attend any seminar. Comparing those who attended a seminar with learning community and those who did not demonstrates that the likelihood of persisting for those attending increased 4% for the spring, 9.3% for the following fall, and gradually increased to 12.1% in year five. It could be interpreted that the impact of the learning community was long lived, supporting Tinto's (2003) assertion that learning communities positively impact student learning and persistence.

Table 3. Persistence by Seminar Category and Student Characteristic

	Total Students		First generation		Under-represented		Low income	
	n	% year 5	n	% year 5	n	% year 5	n	% year 5
No seminar	2564	60.7%	619	56.2%	169	48.5%	345	56.2%*
Seminar alone	726	60.6%	180	57.2%	64	50.0%	100	45.0%*
Seminar w/LC	342	72.8%**	85	77.6%**	65	78.3%**	47	61.7%
Total	3632	61.8%	884	58.5%	316	56.6%	492	54.5%

* P<.05, ** P < .01

While these data suggests that students attending seminars with learning communities have a greater likelihood of persisting to year five, it is relevant to know if learning communities benefit underserved students. Table 3 suggests that these students are better served by the learning communities as well. This table shows the total number of students in each seminar type on the far left. The percentage immediately to the left is the ratio of n that persisted to year five. In total, there were 342 students who attended learning communities. Of those, 47 were low income and of those, 61.7% persisted to year five. Comparing that to the 56.2% who did not attend a seminar (above) shows a 5.5% increase in persistence for the low income students in seminars with a learning community. First generation and underrepresented students are more than 20% more likely to be retained to year five if they participate in a learning community. There is little to no impact of freshmen seminar by itself to underserved students.

Table 4. Persistence by Type of Learning Community and Student Characteristic

	Total Students		First Generation		Under-represented		Low Income	
	n	% year 5	n	% year 5	n	% year 5	n	% year 5
LC Culture	62	79.0%	22	86.4%	55	81.8%	14	71.4%
LC Education	40	77.5%	10	100.0%	1	100.0%	-	-
LC Service	30	73.3%	6	83.3%	4	75.0%	6	66.7%
LC Leader	39	92.3%	10	100.0%	4	75.0%	2	100.0%

Table 4 illustrates the four learning communities that had the highest impact on underserved students. Although there are low numbers of students in each community, the increase in percentage above the 60.7% average of those with no seminars suggest that these learning communities are of particularly high impact. The leadership

community retained 92.3% of its 39 students. Of those, all of the ten first generation and both low income students persisted.

Table 5. Predictive Variables for Persistence

	B	S.E.	Sig.	Exp(B)
High School GPA	1.321	0.091	0.000	3.745
Learning Community	0.414	0.140	0.003	1.513
Under represented	-0.057	0.130	0.662	0.945
First generation	-0.179	0.088	0.041	0.836
Low income	-0.225	0.109	0.040	0.799
Constant	-3.786	0.300	0.000	0.023

A logistic regression demonstrates the predictive value of student characteristics on the likelihood of persistence into year five. When analyzing the independent factors of high school GPA, learning communities, racial underrepresentation, first generation, and low socio-economic status effect on persistence, high school GPA is by far the best predictor. A student is 3.75 times more likely to persist as high school GPA increases. Independent of all other factors listed, minority status was not shown to be a significant indicator of retention. This is important to note because when looking at overall persistence of racial minorities, one can see a decline in completion rates, but what this research shows is that being a member of an underrepresented group by itself is not a significant factor once one considers income, parent education level, and high school grades. Students with neither parent attending college are about 17% less likely to complete their course of study. The most substantial deterrent to persistence is low income status, reducing one's chances of persisting by about 20%. Examining the effects of first year experience, learning communities were shown to be a significant

factor in boosting student retention to graduation. Students in learning communities are 51% more likely to stay in college than their counterparts.

Question 2

Is there a relationship between first year seminars, student factors, academic factors, and student “on-time” graduation?

Students who persist are more likely to graduate. Figure 1 suggests that students in seminars with learning communities have increased retention and on time graduation, shown in green and blue.

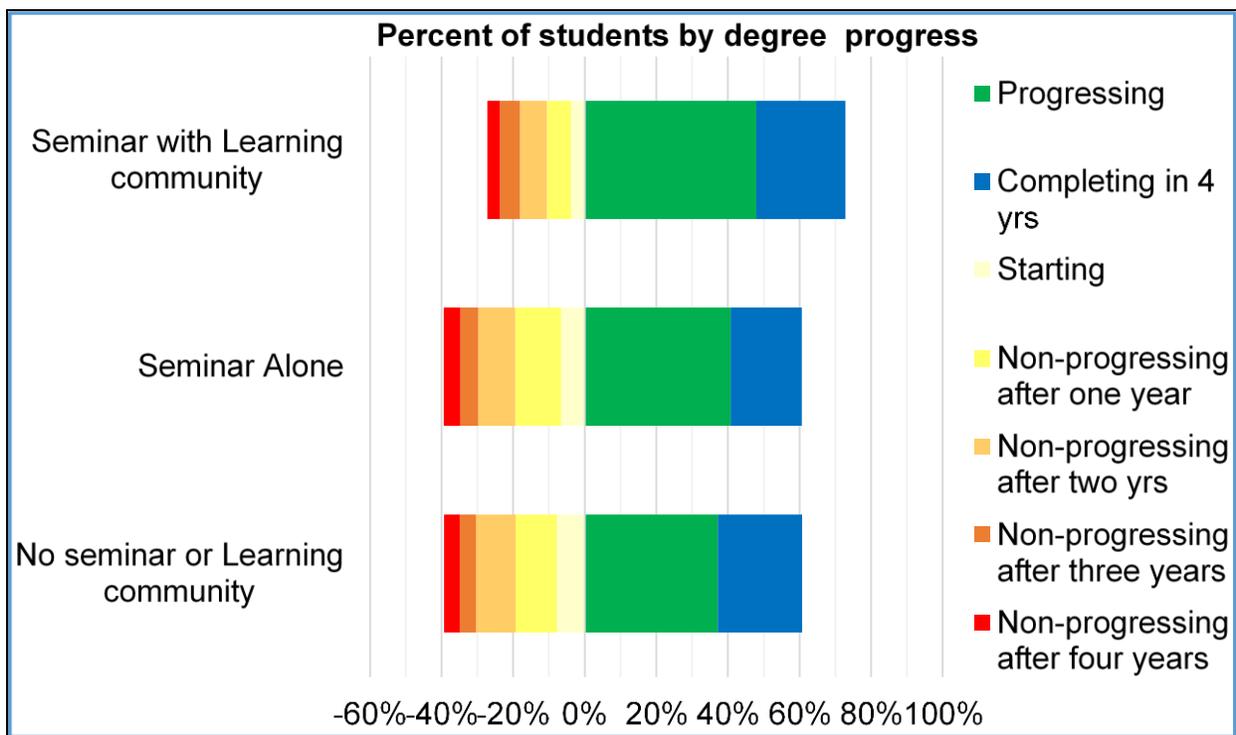


Figure 2. Progress by Seminar Type

Students who did not attend a learning community graduated on time 23.6% for no seminar and 19.8% if they attend a stand-alone freshmen seminar. The evidence

suggests that the students who attended seminars with learning communities are slightly more likely to graduate in four years. Of the 342 students in a learning community, 85 graduated in year 4. 24.8% of students in a learning community graduated on time. Three sections of FYE show a marked improvement over the university norm in four year graduation rates; Leadership (59%), Service (30%), and Cultural (27%).

Table 6. Graduation Rates by Seminar Section

Course	n	Graduated by year 4	Percent
None	2564	604	23.6%
FYE	726	144	19.8%
LC	342	85	24.8%
Total	3632	833	22.9%

Student characteristics play a factor in on time graduation. Grouping students with similar characteristics shows that seminars with learning communities have a greater correlation with on time graduation. Underrepresented students showed the most significant and substantial gains in four year graduation rates. (Table 7) Of the 316 students, 83 students participated in a learning community; of those, 22 graduated in four years. First generation students also correlated with a substantial and significant increase in four year graduation when taking a learning community seminar. Of the 884 first generation students, the average four year graduation is 21.2% but students in the LC group show 29.4% and those without are 20.3%. The data included 492 Pell Grant eligible students. These students demonstrate about a 5% increase between groups. Under-served students in the stand-alone seminar were less likely to graduate in four years, that data is shown in the “without” column of Table 7 below.

Table 7. Difference of Learning Communities on Graduation Rates for Underserved Students

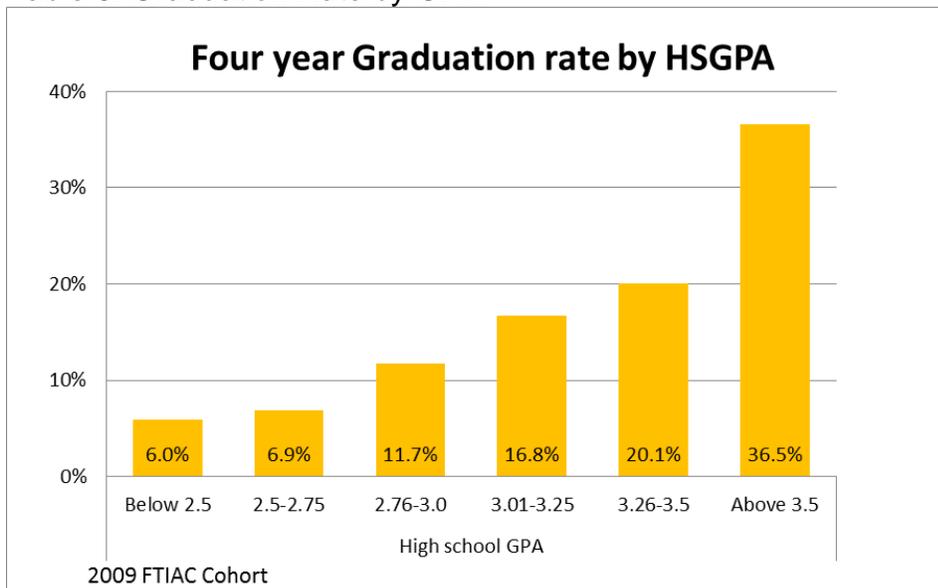
	With LC		Without		Difference
First Generation Status	29.40%	*	20.30%		9.10%
Low Income Status	21.30%		16.20%		5.10%
Underrepresented	26.50%	**	12.00%		14.50%

* p< .05, **p<.01

The most reliable factor in predicting on time graduation is high school GPA.

Table 8 demonstrates the linearity of the relationship between on time graduation and high school gpa. Students below a 2.75 has less than a 7% chance to complete in four years, while students above a 3.5 jump to a 36% chance. This indicates that academic readiness is far more important than family background in determining success. This also correlates with persistence data and table 5. Academic preparation may include helping students to select a major. Major selection appears to be a factor in on time graduation. Figure 2 demonstrates the persistence and graduation rates of intended programs of study.

Table 8. Graduation Rate by GPA



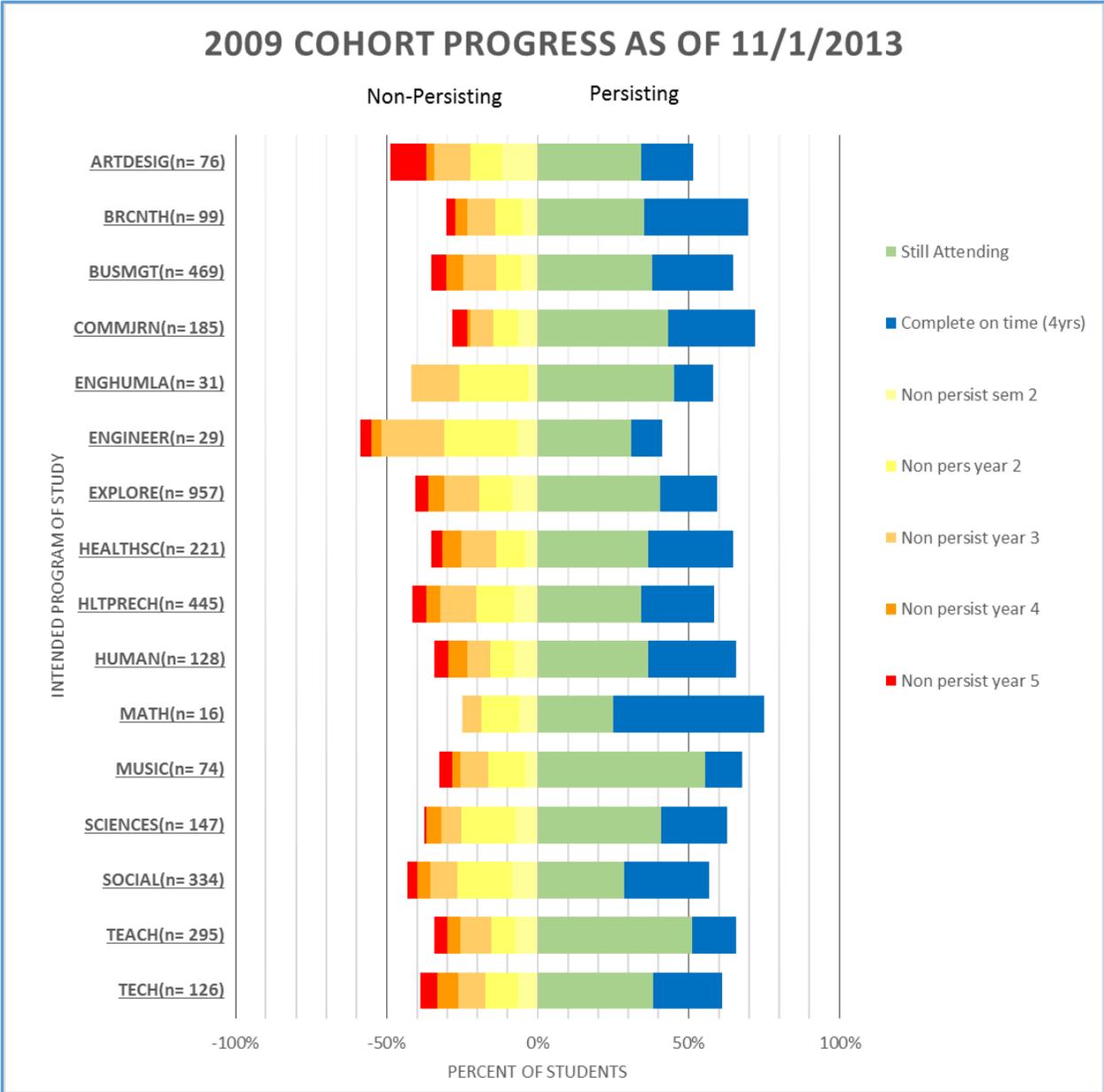


Figure 3. Progress across Programs of Study

For the 2009 FTIAC Cohort as of 11/1/2013, there were 833 students who completed college in four years (shown in dark blue), and 1412 still attending a 5 (shown in green), 672 Students left the university after one year (shown in yellow), 384 left after two years (shown in light orange), 173 left after three years (shown in orange) and 158 left after four or more (shown in red). Everything to the left of zero is attrition and

everything to the right is retention. This chart is used for this study because the colored bands make it easy to identify anomalies and trends in the data.

Data from the 2009 FTIAC cohort reveals that math, communication/journalism, and broadcasting/cinematic arts are the programs with the highest persistence rates. Math has no one leaving after their sophomore year and English/languages and Sciences have little attrition after the junior year. The experiential programs such as Art, Engineering, and Technology seem to lose students late in their academic careers. All three represent fields where skill sets are valued over degrees.

Students who earn less than a C in seminars are at the greatest risk for attrition. This first eight week course could serve as an early warning system for students in need of academic intervention.

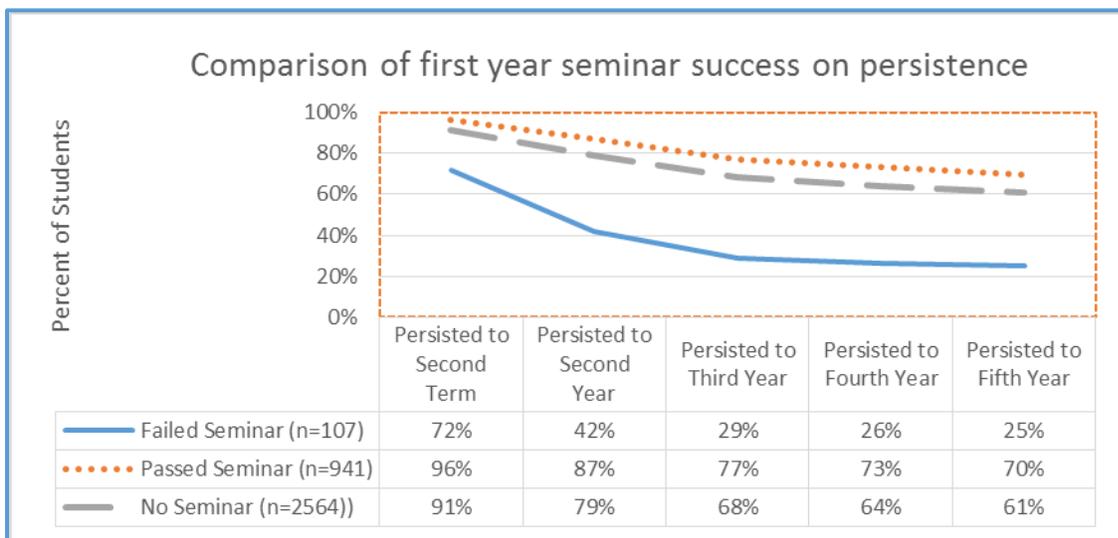


Figure 4. Comparison of First Year Seminar Success on Persistence

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Discussion

While there is no evidence to suggest that first year seminar by itself increases the likelihood of graduating in four years, this research uncovered some critical differences between the effectiveness of stand-alone seminars and seminars with learning communities. Seminars with learning communities have a substantial and significant impact on the probability of a student persisting until graduation and warrant further investigation. The students enrolled in special seminars persisted at a higher rate than those who did not, particularly among underserved students. First year seminars with learning communities demonstrate promise as a vehicle to bridge the gap for underserved students such as first generation, and underrepresented students. It is notable that seminars with learning communities showed higher rates of persistence and a marked reduction of attrition for each subsequent year. Tinto (2005) discusses learning communities as a way to integrate students and promote success. Learning communities also showed higher four year graduation rates, suggesting that students are more involved all the way through college. It is important for universities to identify interventions that have substantial and long lasting impact.

Integrating these findings with the reviewed theoretical background of Astin's IEO model, Tinto's(2001) theory of student involvement, and Schlossberg's(1981) transition theory, one can see a pattern of student progression through the undergraduate degree. Students begin in the starting stage, move through the progressing stage, and

finish in the completing stage. This study presents the first year seminar as a stage one intervention. However, it should be noted that some learning communities continued into stage two and three.

Table 9. Student Progression Model

Stage 1	Stage 2	Stage 3
Starting	Progressing	Completing
Non-Starting	Non-Progressing	Non-Completing

Stage 1 Starting vs. Non-starting

By default, students are non-starting and will not enter college without intervention. All of the students in this study are starting students, those who apply and enroll in college. Integrating the findings with Astin’s (1993) IEO model, it is apparent that students begin college with a variety of student characteristics including academic ability, socio-economic backgrounds, aspirations, and social tendencies. This study looked at the input factors of high school GPA, SES, parent education level, intended major, and ethnicity. It was found that students enter college with a variety of input factors. (Table 1) These factors have been shown in research to have substantial impact on a student’s likelihood of completing college (Pascarella & Tetrazzini, 2005). First year seminar is an intervention designed to prepare and acclimate students into college life. One could apply the framework of Schlossberg’s transition theory to this study. Students with first year seminar were offered support and strategies to cope with the freshmen transition that the control group was not. The positive outcome of this stage is progressing. Using the outcome of persistence to measure, students with a freshmen seminar demonstrated a higher likelihood to persist to year two than those

without, supporting the theory that transitional interventions can positively affect retention. This claim is strengthened by the higher level of support offered in learning communities increasing that likelihood. (Table 2) One limitation of this study is that it does not qualify the level of support in learning communities. Theoretically, students who are well transitioned will progress and those who are not will become non-progressing.

Stage 2 Progressing vs. Non-progressing

Usually by the time a student enrolls in their second year of college, they are in the progressing stage. The progressing student has adapted to college and has begun to develop strategies and supports. During this stage, students' progress academically and must be engaged throughout this stage. If one looks at Figure 3, demonstrating the pass-fail rate for students in first year experience as a measurement of an effective transition, it is apparent that those who aren't able to cope with a transition course are three times more likely to quit. Environmental factors such as learning communities, program of study, advising, as well as student affairs programs interplay with individual student factors. Table 3 and 4 demonstrate how learning communities can be an effective support for underserved students. Students of similar academic and family backgrounds are more likely to persist to year five when involved in a learning community. Major selection may also influence on students at this stage. Figure 2 shows variation in persistence and program of study, indicating that students may be more likely to progress with certain majors. The most substantial piece of Astin's (1993) theory to consider is that colleges can modify the environment to positively affect

outcomes. This research focused on the first year environment; however, longer lasting learning communities demonstrated a greater impact. Students who continue making academic progress will move to completing.

Stage 3 Completing vs. Non-completing

Based on Astin (1993), this is the outcome stage. Completing students graduate from their academic program. At this stage it is important that students see a connection between their coursework and their careers, so it is here where the program of study becomes of most importance to students. Figure 2 demonstrates that some programs have higher four year graduation rates than others. Because this is a transition to career, it is important that colleges support students during this time. Programs which provide support to career will notice better outcomes (Schlossberg, 1981).

Further Study

This study establishes strong empirical evidence to correlate freshmen seminars with learning communities to increased student persistence, reinforcing that the college environment matters. Since freshmen seminars have a positive influence on persistence in other research as well, it is recommended that a qualitative study be done to examine what these learning communities are doing to impact student success. It also demonstrates that the timing of the intervention matters. Freshmen seminars with learning communities impact persistence rates into year five and serve as early warning indicators before the end of the first semester. Applying the progression model to future studies will help institutions evaluate when programming is most effective in achieving

student outcomes. For example, internships may be highly effective in the progressing stage to start the transition between college and career and boost on time graduation. The chart in Appendix A could serve as a useful tool in illustrating student progress across programs because it concisely displays the complex longitudinal data needed to analyze persistence and graduation.

The effect program of study has to on time graduation should also be explored thoroughly. Even though this study was limited because it examined intended majors rather than actual majors, it revealed sizable variance between programs in time to graduate and persistence, which builds on the importance of academic programs to student outcomes. In order to substantially increase retention and on time graduation, more study is needed on where students fail to progress in their academic programs.

This research identifies one type of freshmen seminar which maximizes outcomes for students with pre-college risk factors students. Learning communities in freshmen seminar are shown to correlate with long term persistence in underserved students at the sample institution. More inquiry is needed on the specific learning communities that show potential to mitigate the disparity between underrepresented students, first generation students, and their counterparts. Future analysis should compare this institution to others to add to the dialog on best practices for enriching a diverse academic community. In evaluating student risk factors which delay graduation for this sample, and by including students enrolled in freshmen seminars, the worst obstacle is lack of income and the greatest indication of on time graduation is past

performance, i.e. high school GPA. Therefore, freshmen seminar should bridge to practices which better promote students of low socio-economic backgrounds and marginal academic performance risk factors, such as financial aid and remedial courses.

In conclusion, the type, timing and quality of freshmen seminar may increase the effectiveness and longevity of its impact on persistence and graduation. Other interventions, such as using first year seminars as an early warning system for students in difficulty could be expanded upon to have an even greater impact on retention. Freshmen seminars may have effects not measured by persistence and graduation rates, which should be studied, as well as the data on subsequent cohorts of students involved at this university. Most importantly, this research demonstrates there are differential effects in the outcomes of different types of freshmen seminars and this evidence supports the practice of incorporating learning communities when designing freshmen seminars.

APPENDICES

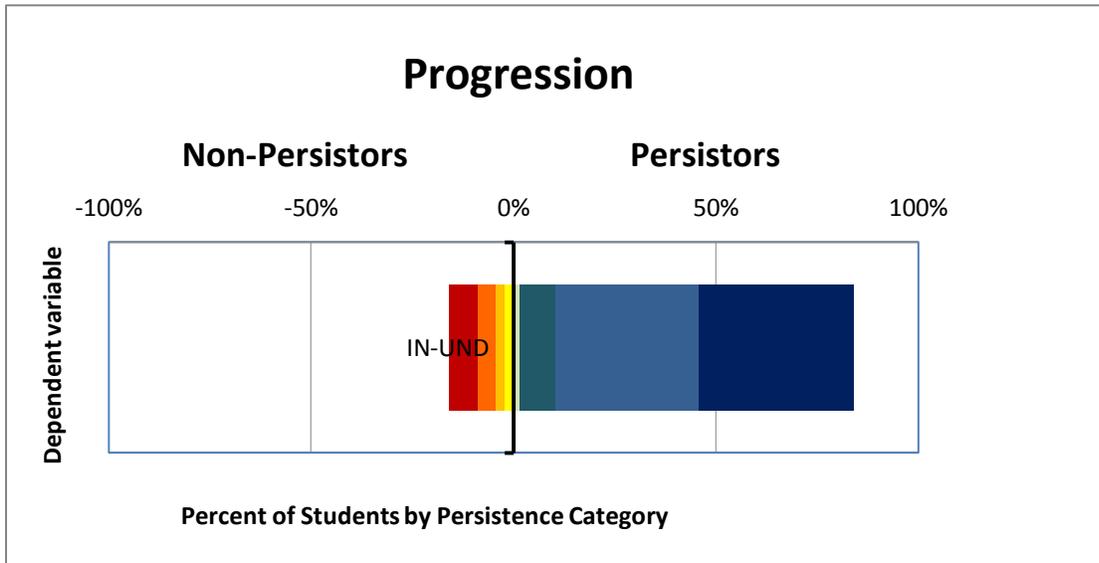
APPENDIX A

CODING OF INTENDED MAJORS INTO PROGRAM OF STUDY

Intended Program	Included majors (number of students in each major)	n
ARTDESIG :	Art(18), Graphic Design(42), Pre Architecture (16)	76
BRCNTH :	Broadcasting (70), Dance(4), Music Theater(9), Theater(16)	99
BUSMGT :	IN-ACC(54), IN-BUS(285), IN-BUS COMP(2), IN-ECO(3), IN-ENT(12), IN-FIN PLAN(1), IN-FINANCE(15), IN-HOSP(18), IN-HUM RES(10), IN-INT BUS(10), IN-LOG(2), IN-MGT(10), IN-MKT(32), IN-PUB REL(13), IN-RET MGT(2)	469
COMMJRN :	IN-ADV(15), IN-COMM(49), IN-JRN(61), IN-SPE(34), MJ-JRN ONLIN(14), MJ-JRN:ADV(1), MJ-JRN:NEWS(7), MJ-MECH ENG(1), MJ-PHOTJOURN(3)	185
ENGHUMLA :	IN-ENG:CW(13), IN-ENG:LARTS(6), IN-ENG:SECLG(1), IN-GERMAN(1), IN-HUM(2), IN-MUS STUD(1), IN-PHIL(2), IN-SPAN(5)	31
ENGINEER :	IN-ELEC ENG(13), , IN-MECH ENG(15), MJ-ELEC ENG(1), 957	29
EXPLORE :	Blank(110), IN-BTE(1), IN-FLLN(3), IN-LMT(1), IN-MLE(3), IN-TEI(1), IN-TR(4), IN-UND(834)	957
HEALTHSC :	IN-AUD(2), IN-COACHING(2), IN-COMM DIS(10), IN-COMM HTH(1), IN-EXER SCI(8), IN-HTH ADM(10), IN-HTH EDU(6), IN-HTH PREV(5), IN-HTH PROM(6), IN-HTH SCI(52), IN-SPE PATH(22), IN-SPT MED(71), IN-SPT MGT(26)IN-PRE ARCH(16)	221
HLTPRECH :	IN-MED TECH(7), IN-PHY ASST(40), IN-PHY ED SP(3), IN-PHY EDU(1), IN-PHY THER(117), IN-PPA(19), IN-PPT(41), IN-PRE DEN(36), IN-PRE ENG(1), IN-PRE MED(115), IN-PRE OPT(6), IN-PRE PHARM(23), IN-PRE VET(36)	445
HUMAN :	IN-AM&D(36), IN-CHD(7), IN-DIET(24), IN-EARLY CHD(24), IN-FAM ST(2), IN-FAMSTED(1), IN-FOODSERV(4), IN-HUM DEV(1), IN-INT DES(17), IN-NUT(2), IN-NUT&DIET(6), IN-REC(1), IN-RLA(1), IN-RPLSA(2)	128
MATH :	IN-ACT SCI(6), IN-MTH(10)	16
MUSIC :	IN-MUSIC(74)	74
SCIENCES :	IN-ASTRO(6), IN-BIO(43), IN-BIO:MIC(5), IN-CHEM(12), IN-CHEM-PHY(5), IN-EARTH SCI(3), IN-ENV LAND(1), IN-ENV STUD(17), IN-METEOR(33), IN-NAT RES(11), IN-PHY(4), IN-SCI(6), MJ-BIO:MSCI(1)	147
SOCIAL :	IN-ANT(7), IN-COUNS(2), IN-EUR ST(1), IN-HISTORY(20), IN-HST:EUR(1), IN-LEG STUD(24), IN-MIL SCI(4), IN-NEURO(15), IN-POLS(27), IN-PSC:IR(3), IN-PSY(163), IN-SOC(3), IN-SOC SCI(2), IN-SOC STD(4), IN-SOC:CSJ(44), IN-SWK(14)	334
TEACH :	IN-EAD:CL(1), IN-EDU(131), IN-ELED(86), IN-SECED(54), IN-TEACHED(23)	295
TECH :	IN-COMP MANU(1), IN-COMP SCI(31), IN-COMP TECH(15), IN-CS MTH(3), IN-ENG(20), IN-ENG TECH(37), IN-GEO INFO(1), IN-IND AUTO(1), IN-IND CONST(4), IN-IND EDU(1), IN-IND TECH(3), IN-INFO SYS(1), IN-INFO TECH(7), IN-MIS(1)	126

APPENDIX B

SAMPLE PROGRESSION CHART



Progression is derived from the persistence and graduation fields.

Students who are;

Completing college in four years (shown in dark blue)

Completing in five years (shown in blue)

Completing in six years (shown in teal)

Completing in more than six years or still attending (shown in green)

Progressing for four years (shown in light green)

Progressing for three years (shown in light green)

Progressing for two years (shown in light green)

Starting for one year (shown in yellow)

Non-progressing after one year (shown in yellow)

Non-progressing after two years (shown in light orange)

Non-progressing after three years (shown in orange)

Non-progressing after four or more (shown in red)

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