

Evaluation of First Year Experience Program at Georgia Southern University

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Abstract. To increase the retention rate, Georgia Southern University launched the First-Year Experience (FYE) program. FYE is a comprehensive program which includes two mandatory courses (FYE 1220: First-Year Seminar, and FYE 1410: Global Citizens), conversations with professors, intrusive academic advising, giving early alert/midterm grades, and limiting number of withdrawals. The two mandatory courses have been offered since fall 2008. This study is to assess the impact of the two mandatory courses on academic performance of students majoring in information technology (IT). A comparison is made among the two mandatory courses, two general education courses (English and Math), and two information technology courses. Grade point averages (GPA) and the grades of six courses were extracted from the university data warehouse. Pearson correlation is used to detect the dependence between course grades and GPA. The result shows that the two mandatory courses have higher correlations with GPA than the other courses do. The two IT courses have higher correlations with GPA than the two general education courses do. The first course FYE 1220 is designed with a purpose of facilitating students integrated into academic environment, and the second course FYE 1410 is designed with emphasis of social integration. The result of the strong correlations validated Tinto's integration theory, i.e., academic integration and social integration leads to the academic success.

Keywords: retention rate; academic performance; social integration; academic integration; college courses

1. Introduction

At Georgia Southern University, about 20% of freshmen left school at the end of the first year, and less than half eventually graduate. The financial costs of college dropout to individuals, states, and the federal government are tremendous (Grumke, 2011). The intangible costs to the students' lives are immeasurable (Damast, 2012). Universities worldwide invested enormous amount of effort in implementing prevention programs, such as peer mentoring (Terrion & Leonard, 2007), curriculum development (Taylor, 2005), one-on-one counseling (Kadar, 2001), intrusive advising (Erwin, 1997), workshops or seminars (Raymondo, 2003).

2. Previous Research on Academic Success

The phrases of dropout rate and retention rate are frequently used interchangeably. Academic success or failure is another term related to dropout and retention. Academic success is measured in term of GPA in many studies (Pascarella & Terenzini, 1983; Okun, Benin, & Brandt-Williams, 1996). As a dependent variable, dropout rate, retention rate, academic success or academic failure share similar relationships with independent variables (Marsh, 1984; Aysan, Tanrıöğen, & Tanrıöğen, 1996; Connolly & McGrail, 1978). For example, numerous studies broadly investigated the characteristics of student personal and family background as the influential factors for academic success or failure.

Such characteristics include race, gender, high school performance, parents' income and education (Pascarella & Terenzini, 1983; Stage & Hossler, 1989). Behavioral scientists drilled down to the cause of academic success and contributed the cause to students' educational expectations, intention, and level of commitment (Okun et al., 1996). Organizational perspective draws from the literature on organizations and focuses on characteristics such structural and functional of institution, school's mission and size, student values, and career attainment. Bradford and Garris' study based on the student-institution fit model and found that private institutions had higher degree attainment rates than public institutions (Bradford & Garris, 1991).

The current study is based on the integration theory that claims students' academic success depends on the degree of their successful integration into the academic and social environments of the institution.

3. Integration Theory - Theoretical Framework of This Research

Lead by Vince Tinto, researchers claim that retention rate is determined by how well students integrated into school environment socially and academically (Wolniak, Mayhew, & Engberg, 2012; Tinto & Cullen, 1973, Pascarella & Terenzini, 1983). Figure 1 is Tinto's integration model. The evidence from many empirical studies supported the integration theory (Pascarella & Terenzini, 1983; Caisson, 2007).

Our theoretical framework is based on Tinto's integration theory. This study proposes that two mandatory courses facilitate social and academic integration of students into school and community, and ultimately deliver positively impact on academic performance. Figure 2 illustrates the proposed framework.

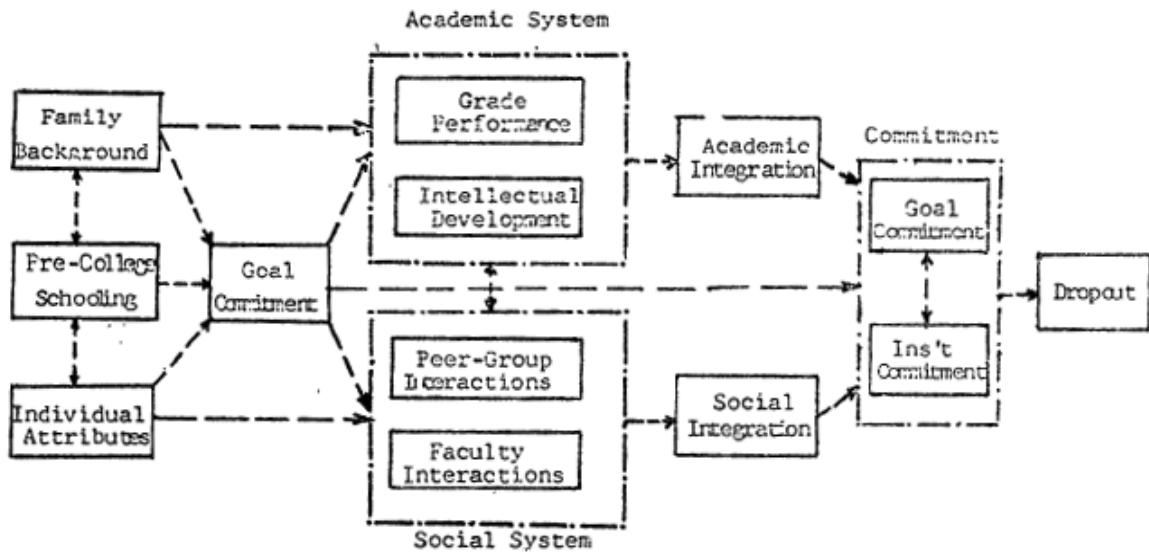


Figure 1: A Conceptual Schema of the College Dropout Process
Source: Tinto & Cullen, 1973:42.

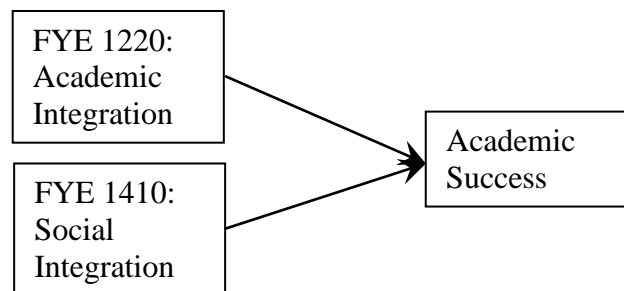


Figure 2: Theoretical Framework of This Study

4. Two Courses Focus on Integration

In an effort to increase the retention rate, Georgia Southern University launched FYE program which includes two mandatory courses (FYE 1220: First-Year Seminar, and FYE 1410: Global Citizens), conversations with professors, intrusive academic advising, giving early alert/midterm grades, and limiting number of withdrawals. This study focuses on the two mandatory courses. FYE 1220 is designed to facilitate academic integration, that is, to help students integrated into the university environment. FYE 1410 is designed for social integration which helps students socially engaged in local and global communities. According to Tinto's integration theory, these two courses should provide positive impact on academic success through facilitating social and academic integration.

4.1 FYE 1220 first-year seminar

FYE 1220 First-Year Seminar is a two-credit-hour seminar that serves as an academic, theme-based introduction to college-level inquiry and extends the orientation process into a student's first semester at Georgia Southern University. The catalog description of FYE 1220 is as follows:

Thematic seminar designed to promote information literacy skills and support students' cognitive and affective integration into the university

community. Required during the first semester for all students new to the university (except for transfer students with 30 hours or more); students may not withdraw.

4.2 FYE 1410 global citizens

FYE 1410 Global Citizens is a one-credit hour course and is recommended to be taken in second semester after taking FYE 1220. Students will identify major themes across diverse societies in their historical and cultural contexts and will apply this knowledge through engagement in local and global communities. The catalog description of FYE 1410 is as follows:

Graduates in all fields face many challenges in today's world that require the ability to think and engage globally. Doing so requires recognizing that different cultural perspectives influence the understanding of world issues. In this seminar, students explain factors that contribute to their cultural perspective, apply multiple cultural perspectives to global issues, and then apply this knowledge through engagement with local communities or problems. Faculty from across the university design courses drawing on examples from their disciplines, and students are encouraged to select sections offered by faculty in their fields or potential fields. In preparation for subsequent coursework as upper-class students, first-year students enroll in this course in their second semester. Prerequisite: FYE 1220

5. Hypotheses of The Study

This study is to evaluate the impact of two mandatory courses on academic success of students majoring in information technology. Academic success is measured by GPA. The level of impact is measured by degree of correlation between course performance and GPA. The hypotheses of this research are:

- The correlation between FYE 1220 grade and GPA is higher than the correlations of other course grades with GPA.
- The correlation between FYE 1410 grade and GPA is higher than the correlations of other course grades with GPA.

6. Descriptions of Other Four First-Year Courses

Four first-year courses are selected to make the comparison with FYE 1220 and FYE 1410. ENGL 1101 and MATH 1111 are selected from general study courses. English and math courses are considered as gateway courses and are important in terms of student persistence and academic success (Clery, 2011). IT1130 and IT1430 are required courses for freshmen major in information technology.

6.1 ENGL 1101 composition I

ENGL 1101 is a composition course focusing on skills required for effective writing in a variety of contexts, with emphasis on exposition, analysis, and argumentation, and also including introductory use of a variety of research skills.

6.2 MATH 1111 college algebra

MATH 1111 is a functional approach to algebra that incorporates mathematical modeling of real data, business applications and use of appropriate technology.

Emphasis will be placed on the study of linear, quadratic, piece-wise defined, rational, polynomial, exponential and logarithmic functions. Prerequisite: Two years of high school algebra or equivalent.

6.3 IT 1130 introduction to information technology

IT 1130 introduces IT as an academic discipline and the structure of IT Bachelor of Science degree at Georgia Southern University. It also introduces a range of IT applications in different disciplines and different industries. It covers some of the techniques that students will need for later courses, in particular databases and SQL. Prerequisite(s): Familiarity with productivity tools.

6.4 IT 1430 web page development

IT 1430 is a thorough introduction to the languages tools (HTML, CSS, JavaScript) for web page design. It stresses the importance of good coding style. The course also introduces students to the principles of good human computer interface design, including design for people with disabilities. Finally, the course introduces students to object-oriented design.

7. Data Collection

A query similar to the example below was executed for each course with a different WHERE clause. Total 6 courses with 6 sets of data were extracted from the university data warehouse.

```
SELECT gpa, courseGrade
FROM main
WHERE course = 'FYE 1220'
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8. Data Analysis

This study uses Pearson correlation to measure dependency between course grade and GPA. The 6 sets of data generated 6 Pearson correlation statistics (See Table 1).

Table 1: Correlation between Course Grade and GPA

Course	Correlation with GPA	Sample Size
FYE1410	0.84	108
FYE1220	0.69	392
IT1430	0.63	411
IT1130	0.62	512
ENGLISH 1101	0.58	468
MATH 1111	0.58	455

9. Discussion

9.1 Validation of hypotheses

FYE1410 and FYE1220 have higher correlations with GPA (0.86 and 0.69) than other four courses do (0.63, 0.62, 0.58, and 0.58). The statistic result confirmed the hypotheses of this study. That is,

- The correlation between FYE 1220 grade and GPA is higher than the correlations of other course grades with GPA.

- The correlation between FYE 1410 grade and GPA is higher than the correlations of other course grades with GPA.

Correlation does not imply causation. Strong correlations between FYE 1220 grade and GPA and between FYE 1420 grade and GPA do not necessarily imply that FYE 1220 and FYE 1420 cause the academic success of freshmen. Since there are many uncontrollable influential factors, we can only infer the causation.

9.2 Validation of Tinto's theory

The first course FYE 1220 is designed with a purpose of facilitating students integrated into academic environment, and the second course FYE 1410 is designed with emphasis of social integration. The strong correlations between FYE 1220 grade and GPA and between FYE 1420 grade and GPA validated Tinto's integration theory, that is, academic integration effect of FYE 1220 and social integration effect of FYE 1410 leads to higher academic performance.

Tinto's integration theory has been supported by many empirical studies (Pascarella & Terenzini, 1983; Caisson, 2007). This study provided additional evidence and increased the popularity of the integration theory. The future studies may consider using Tinto's theory to pin down the influential factors that contributed to academic success.

9.3 Validation of first year experience program

Over the last decade or so, Georgia Southern University has invested tremendous amount of effort in implementing First Year Experience Program. As part of First Year Experience Program, FYE 1220 and FYE 1420 have been offered as the mandatory courses since fall 2008. This study finally assessed the impact of the two mandatory courses on academic performance of students and drawn a conclusion to the effort put forward by the faculty and the task force.

With the conclusion, the program can move forward into a fine tuning phase. Faculty can fine tune FYE 1220 and FYE 1420 and make sure that the courses will deliver the outcome of academic integration and social integration which is crucial for retaining freshmen.

9.4 New perspective on introductory courses

Previous studies have reported that English and math courses are gateway courses or momentum points for college students. Failure in passing these courses may delay graduation or trigger drop out (Clery, 2011; Calcagno, Crosta, Bailey, & Jenkins, 2007). For engineering program in particular, calculus has been viewed as a critical filter among freshmen (Mwavita, 2005). However, this study presents a different perspective, that is, it is the major introductory courses that make the difference in academic success or failure amount freshmen major in information technology. The gateway courses might be major introductory courses rather than English and math courses. Table 1 shows that two IT courses have higher correlations with GPA than English and math courses do.

As we often say that first impression matters. Introductory courses are important for freshmen to find motivation and interest to stick with a program.

Introductory courses require special attention at department level. We ought to remind ourselves if we have assigned the most experience professors to the introductory courses. Unfortunately in many cases, the answer is no. In fact, it has been a concern of lack of emphasizing on introductory courses in many undergraduate institutions where introductory courses are taught by graduate teaching assistants. Moreover, the graduate teaching assistants often receive little preparation before going solo (Parrett, 1987). This study remind us that the effort should be made on delivery of introductory level courses and training graduation teaching assistants in order to increase retention rate.

10. Limitations

In social study, the typical limitation is the ability to control the independent variables. There are many influential factors that are uncontrollable or unpredictable. Thus, it weakens the validity of the study and put a limit on generalizations.

"In the social sciences it is rarely possible to pose questions and provide answers in the manner of some of the natural sciences, and it is a refusal to recognize this that has often led us up the wrong path." (Schonfield, 1971).

This study is not to produce a clear answer, but to promote future investigations in deeper and wider perspectives. It is a solid study that validates the existing theory and produces new perspective on gateway courses.

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