

Freshmen In Transition: A Second Year Evaluation to Determine the Program's Impacts on Academic Achievement, Leadership Skills Development, Institutional Loyalty and Integration, and Retention

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Abstract

The purpose of this formative evaluation project was to determine the impact of the *Freshmen In Transition* program on the academic achievement, leadership skills development, institutional integration and loyalty, and retention of the participants. The FIT program was sponsored by the College of Agricultural Sciences & Natural Resources to provide a smooth transition for traditional incoming freshmen from high school to college life through a variety of interventions. The program was successful in contributing to the academic achievement and retention of the participants, while no changes were observed in the development of leadership skills or institutional integration/loyalty of participants compared to non-participants. The findings of the study suggest further improvements in the program, including a review of the nature and number of interventions that the participants are required to complete.

Introduction

In recent years, one type of program that has received the attention of researchers is residential learning communities and their intellectual and social effects on college students. Research studies by Pascarella and Terenzini (1991), Davis and Murrell (1993), and Pike (1999), have shown that residential learning programs have the potential to positively impact college student co-curricular activities, faculty-student interaction, institutional bonding, and retention.

With the success of several living-learning communities across the nation in mind, Oklahoma State University (OSU), College of Agricultural Sciences and Natural Resources (CASNR) created the *Freshmen in Transition* (FIT) program in fall 2000. The FIT program was designed to provide a comprehensive academic and social experience to first-time freshmen that were enrolled in CASNR. Social programs designed to bring about desirable changes in participants should be constantly evaluated to understand their strengths and weaknesses for program improvement.

This evaluation was formative and participatory in nature (Worthen, Sanders, & Fitzpatrick, 1997). In this report, FIT students referred to the students who successfully completed the FIT program in fall 2001 and spring 2002; the non-FIT students referred to those CASNR freshmen who were traditional residence hall students and who were not participants in the FIT program

Background and Context

The FIT program was founded in fall 2000 for the purpose of helping students to transition from high school to college life. To achieve this goal CASNR hired tutors several hours a week for math, biology, and chemistry assistance. Thirteen volunteer Student Academic Mentors (SAM) were also in residence and provided support to the participants in the form of weekly meetings (small group meetings) and were available when students had emotional or academic needs. The SAMs were sophomore students who were in the FIT program the year before (2000-2001). The SAMs were expected to conduct weekly small group meetings with the students in their group and discuss the happenings in the FIT program and difficulties their group members had.

All FIT participants were expected to complete a variety of activities, nicknamed *expectations* or *requirements*, throughout the academic year. The expectations were designed to achieve the programs goal of integrating the students into college life.

Theoretical Framework

The evaluation approach used for this study was derived from Chen's *Theory Driven Evaluation* model (1990). In using this evaluation approach, the evaluator tries to discover the causal elements (program theory) of the program's outcomes. The causal elements are then analyzed in light of the program model where judgments about the program can be made.

The causal elements (program theory) of the FIT program can be associated with two models of college experiences, Chickering's (1969) model of the effects of background and college experiences and intellectual development and Tinto's (1993) model of institutional departure.

Chickering provided four elements that have an effect on students in their academic life: (a) background characteristics, (b) college experiences that promote differentiation, (c) college experiences that enhance integration, and (d) gains in learning and intellectual development. The model presumes that gains in learning and development are related to students' background characteristics, involvement, and interaction and integration with the university community.

Tinto's model (1993) provided a longitudinal view of the process of voluntary departure. The model correlates several complex interactions between the student and the environment that serve as contributors to retention. According to this model, the student comes to the college with certain pre-entry attributes, which effect the continuing formulation of the goals and commitment stage. The pre-entry attributes and the goals and commitment level determines student performance and interaction and integration with the social and academic systems of the institution (Pascarella & Terenzini, 1980). The next level of institutional experience (academic and social) effects the personal/normative integration of the student. The student's academic performance and interaction with the human environment determines the integration of the student with the institution. The extent of this, along with a reassessment of intentions and commitments, determines the student's decision to stay or leave college (Satterfield, 1999).

Purpose and Objectives

The purpose of the evaluation was to determine the impact of the *Freshmen In Transition* program on the participants' academic achievement, leadership development, institutional integration and loyalty, and retention. Specific research hypothesis were:

H₀₁: There was no difference between the FIT and non-FIT groups in background formation such as age, gender, race, employment status, family association with agriculture, distance of school from home, parents'/guardians' educational levels, and 4-H and FFA association.

H₀₂: There was no difference between the FIT and non-FIT students in their academic achievement for their freshman year in CASNR.

H₀₃: There was no difference between FIT and non-FIT students in the development of their leadership skills during their freshman year at CASNR.

H₀₄: There was no difference between FIT and non-FIT students in their perceptions of institutional loyalty and integration within CASNR and OSU.

H₀₅: There was no difference between FIT and non-FIT students in retention status.

Methodology

The evaluation used a mixed-methods approach for gathering data from both the FIT and non-FIT students. Quantitative data consisted of the student responses to a survey instrument developed specifically by the researchers for the evaluation of the program. The instrument measured the five research variables along with some demographic data through Likert like and multiple-choice questions. Qualitative data was sought through open-ended questions on the survey and interviews conducted with purposefully selected stakeholders and students at the conclusion of the program.

From September to December 2001 the researchers conducted critical incident interviews with major program stakeholders to gather input for the research questions. Based on the input a survey instrument was constructed in March 2002. Feedback for the survey was obtained from a panel of experts and a pilot study. Recommendations from the panel of experts were incorporated into the survey. The survey was pilot tested in March-April 2002 by mailing it to 30 randomly selected students from the non-FIT student population. Eleven responses were obtained; therefore, a test of reliability was not conducted. The researchers qualitatively evaluated the returned surveys and made appropriate changes for the final draft.

Two final instruments were constructed. One was a general instrument that was administered to all students (FIT and non-FIT). The non-FIT students were mailed the surveys following the modified Dillman's (2000) four-phase mailing procedure in April 2002 for a 38% usable response rate ($n=53$). The FIT students were administered the survey in Zink Hall during the evening hours between April 29 to May 3, 2002. The FIT response rate was 89 % ($n=62$).

The Cronbach coefficient alpha for internal consistency for the general instrument mailed to all FIT and non-FIT students was measured at 0.53. The instrument was found to be relatively reliable as Ary, Jacobs, and Razavieh (1996) state that when the measurement results were to be used for deriving some conclusions about a group or for research purposes, a reliability coefficient of the range of 0.5 to 0.6 was acceptable.

Demographic and academic information such as GPA, SAT, and ACT scores, hours enrolled, and hours earned were downloaded from the OSU Student Information System and were used as variables in the analysis. The data was analyzed using SPSS 8.0 (1997) for Windows. Descriptive and inferential statistics are reported according to the nature of the items.

Cross tabs analysis using Chi-Square was used to determine differences for FIT and non-FIT members on all nominal variables. An independent samples t-test was run on scaled items to determine differences between the two groups. An alpha level of .05 was set a priori when determining differences among variables.

To handle non-response error, respondents were compared to non-respondents by "double-dipping" (Miller & Smith, 1983). Fifteen non-respondents from the non-FIT group were randomly selected and telephoned. The interviewer administered selected questions from the survey for comparison with respondents. There were no differences found between the

respondents and non-respondents for the demographic variables of age, gender, employment status, educational goals, and past 4-H and FFA association.

The primary limitation of the study was that it was not an experimental study with random assignment of groups. Second, though the researchers tried to find out if any differences existed between the groups, all intervening variables could not be controlled between the groups. Therefore, the results of this study should not be generalized beyond the FIT program for the 2001-2002 academic year.

Findings and Conclusions

Comparative Profiles of FIT and non-FIT students (H_{01})

The FIT and non-FIT students were compared on their demographic data to establish equivalence between groups. A Chi-Square test suggested no significant differences between demographic variables of gender, marital status, ethnic background, place of employment, family association with agriculture, past membership in FFA and 4-H organizations, whether they had any siblings studying in the university, their parents'/guardians educational levels, their personal educational goals, and if they were enrolled in the honors program. However, a significant difference was found between their employment status. More FIT respondents were employed (47.5%) than non-FIT respondents (28.3%) (Tables 1). The Cramer's V test revealed a weak association between the employment statuses of the two groups (0.197) (Warmbrod, 2001).

Table 1: *Chi-Square Analysis for Intervening Demographic Factors*

<i>Demographic Factors</i>	<i>FIT (%)</i>	<i>Non-FIT (%)</i>	<i>Pearson Chi-Square</i>	<i>Asymp. Sig. (2-sided)</i>
Employment Status				
Employed	47.5	28.3	4.429	0.04
Unemployed	52.5	71.7		

An independent samples t-test between demographic variables of age, distance of parents' home from Stillwater, number of hours employed per week, and the number of years of FFA and 4-H membership did not reveal any significant differences between the two groups. However, significant differences were found between the high school GPA and the adjusted ACT scores of the students. The non-FIT students had higher means in both high school GPA and adjusted ACT scores (Table 2). The Cohen's *d* calculated for high school GPA and the ACT scores was 0.328 and 0.418, which suggested a medium effect size (Cohen, 1988). These variables could be considered as intervening variables for academic and social development of students (Chickering, 1969), their retention status (Tinto, 1993, Ruddock, Hanson, & Moss, 1999, Stafford, 1999), and leadership qualities (Balschweid & Talbert, 2000).

Therefore, it was concluded as two independent groups, more FIT students were employed than non-FIT students and non-FIT students were more academically prepared than the FIT students when starting college.

Table 2: Independent Samples t-test for Intervening Demographic Factors

Demographic Factors	<i>n</i>	Mean	SD	SE	<i>P</i>
High School GPA					
FIT	70	3.57	0.33	3.94	
Non-FIT	129	3.68	0.34	3.03	0.03
ACT Scores					
FIT	70	24.00	3.36	0.40	
Non-FIT	138	25.54	3.98	0.34	0.01

Academic Achievement(H₀₂)

An independent samples t-test revealed that there were no significant differences between the FIT and the non-FIT students in the fall 01, spring 02 and the cumulative GPAs. However, an independent samples t-test on the number of hours enrolled and earned in fall 01 and spring 02 found significant differences between the two groups, the FIT students having earned more hours than the non-FIT students in the spring semester. The Cohen's *d* of 0.3749 for this variable suggested medium effect size (Cohen, 1988).

Table 3: FIT vs. Non-FIT t-test for Academic Indicators

Academic Indicators	<i>n</i>	Mean	SD	SE	<i>P</i>
Product of GPA & Hours Spring					
FIT	70	45.20	14.65	1.75	
Non-FIT	141	40.42	18.81	1.58	0.05*
Academic Activities Participated					
FIT	55	40.11	33.23	4.48	
Non-FIT	56	25.11	19.24	2.57	0.01*

* Equal variances not assumed

Another independent samples t-test run on the product of GPA and hours earned in both fall and spring semesters suggested no significant difference for the fall semester, but significant difference for the spring semester. The FIT students had a higher product mean for GPA and hours earned in spring 02. Similarly, significant difference was found in the number of academic activities the students participated in during the freshman year between the groups, and the FIT students again scored better on this variable (Table 3). The Cohen's *d* for the product mean for GPA and hours earned in spring 02 was calculated as 0.2835 and the number of activities participated during the freshman year was calculated as 0.5524 which suggested a small, and a medium effect size respectively.

A Chi-Square analysis of what the students considered as high academic achievement did not reveal significant differences between the FIT and non-FIT students. Similarly, a Chi-Square analysis of the factors that motivated students to earn higher grades did not reveal significant differences between the groups.

It can be concluded that the FIT program did make important, although not significant, contributions to the academic achievement of participants. The FIT students earned more credit

hours than non-FIT students spring semester, and the decrease in the college GPA from high school was less than that for non-FIT students. The FIT program intervened successfully to enable its participants to adjust to the academic expectations of college and provide a positive academic transition.

Leadership Skills Development(H₀₃)

The attitudes about leadership and effects of the leadership activities on the FIT and non-FIT, students were measured by multiple survey items. On some survey items the respondents were asked to report their perception of leadership. A Chi-Square analysis on that group of questions revealed no significant differences between the FIT and non-FIT students.

An independent samples t-test on the total number of leadership activities revealed that the students got involved in during the freshman year revealed that the FIT students were involved in a significantly higher number of leadership activities than the non-FIT students. However, on the scores of the Likert-type items that asked the students the perceived change in their leadership abilities as a result of getting involved in the leadership activities, the mean of the non-FIT students was significantly higher than the FIT students (Table 4). The Cohen’s *d* for the leadership activities was 1.132, a large effect size, while that for the changes in their leadership abilities was calculated as 0.483, a medium effect size.

Table 4: FIT vs. Non-FIT t-test for Leadership Activities and Scores

<i>Leadership Factors</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>SE</i>	<i>P</i>
Leadership activities during freshman year					
FIT	56	7.16	4.94	0.66	
Non-FIT	50	1.98	4.18	0.59	0.00
Score on leadership activities					
FIT	52	28.58	6.72	0.93	
Non-FIT	26	31.81	6.63	1.30	0.05

Note: Scale for leadership activities score: 0=Strongly Disagree, 1=Disagree, 2=Agree, 3=Strongly Agree

Based on these findings it is concluded that although the FIT students had a higher rate of participation in leadership activities, those activities did not increase their self-perception of becoming better leaders.

Institutional Loyalty & Integration (H₀₄)

Institutional loyalty and integration were measured by a series of questions that asked students about their experiences while at OSU. A Chi-Square analysis indicated that FIT and non-FIT students differed in their opinion on one item: the FIT students reported that graduating from CASNR was not an indicator of institutional loyalty, whereas the non-FIT students reported that graduating from CASNR was an indicator of loyalty (Table 5).

An independent samples t-test regarding the total participation in on-campus activities revealed that FIT students were involved in more on-campus activities than non-FIT students.

The five specific activities that FIT students participated in to a greater degree than non-FIT students were 1) approaching a sophomore/junior/senior for academic help, 2) general educational activities (outside their course requirements), 3) Allied Arts activities, 4) career developmental activities, and 5) community service activities (Table 6).

Table 5: *FIT vs. Non-FIT Qualities that Reflect Institutional Loyalty among Students*

<i>Factors</i>	<i>FIT (%)</i>	<i>Non-FIT (%)</i>	<i>Pearson Chi-Square</i>	<i>Asymp. Sig. (2-sided)</i>
Graduating from OSU				
Yes	69.4	84.9		
No	30.6	15.1	3.846	0.05

Table 6: *FIT vs. Non-FIT t-test Participation in On-Campus Activities*

<i>Activities</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>SE</i>	<i>P</i>	<i>Cohen's d</i>	<i>Effect Size</i>
Approaching a sophomore/junior/senior for academic help	58	7.67	8.68	1.14			
FIT	47	4.64	6.13	0.89	0.04*	0.4032	Medium
Non-FIT							
General Educational Activities							
FIT	61	10.02	11.85	1.52			
Non-FIT	49	2.00	2.48	0.35	0.00*	0.9368	Large
Allied Arts							
FIT	61	3.92	2.67	0.34			
Non-FIT	51	1.51	1.93	0.27	0.00	1.035	Large
Career Development Activities							
FIT	61	4.74	2.42	0.31			
Non-FIT	50	1.02	1.30	0.18	0.00*	1.9150	Large
Community Service Activities							
FIT	60	9.26	10.25	1.32			
Non-FIT	48	5.29	7.96	1.15	0.03	0.4326	Medium
Total Freshman Year Activities							
FIT	51	101.65	71.47	10.01			
Non-FIT	33	66.36	37.30	6.49	0.00*	0.619	Large

* Equality of variances not assumed

It can be concluded that although FIT students were expected to participate in a variety of activities that were thought to encourage and develop institutional loyalty and integration, those activities did not contribute to increasing institutional loyalty and integration among the FIT participants when compared to non-FIT students. Nevertheless, substantial claims about this variable can be made only when the data about students' changes in major and dropping out of CASNR or OSU is made available. Also, as suggested by Tinto's model (1993), such a study is longitudinal in nature.

Retention (H₀₅)

Retention is a function of institutional integration (Tinto, 1993). The survey asked students to respond to a variety of questions that inquired about critical factors affecting retention among freshmen. The only significantly different variable between FIT and non-FIT students was academic support systems. Twenty-six percent of the FIT students versus 9% of the non-FIT students reported that academic support systems were a motivating factor for retention (Table 7). A calculated Cramer's V of 0.211 suggested negligible association of the factor between FIT and non-FIT students.

Table 7: FIT vs. Non-FIT Motivating Factors for Completing their Freshman Year

<i>Factors</i>	<i>FIT (%)</i>	<i>Non-FIT (%)</i>	<i>Pearson Chi-Square</i>	<i>Asymp. Sig. (2-sided)</i>
Academic support systems				
Yes	25.8	9.4		
No	74.2	90.6	5.132	0.02

Students were asked a variety of questions regarding factors that would cause them to change their major. A lack of financial support and a lack of co-curricular activities on campus were the only significantly different variables between the groups (Table 8). The Cramer's V for the items calculated at 0.185 and 0.197 revealed a weak association between the two groups. When asked about reasons that a freshman would drop out of college there were no significant differences between the responses of FIT versus non-FIT students.

Table 8: FIT vs. Non-FIT Reasons for Changing Major

<i>Factors</i>	<i>FIT (%)</i>	<i>Non-FIT (%)</i>	<i>Pearson Chi-Square</i>	<i>Asymp. Sig. (2-sided)</i>
Lack of financial support systems				
Yes	35.5	18.9		
No	64.5	81.1	3.928	0.05
Lack of co-curricular activities on campus				
Yes	8.1	0.0		
No	91.9	100.0	4.468	0.04

A series of Likert-type items on the survey assessed the effect of the FIT expectations (or requirements) on motivating the FIT students to continue their studies with CASNR. An independent samples t-test on the mean scores on the list of items found a significant difference with a large effect size between the FIT and the non-FIT students (Table 9). FIT students were more motivated to continue studies in CASNR than non-FIT students.

Retention was measured by determining students' status of enrollment for fall 2002 using OSU SIS. On Aug 2, 2002, only selected information concerning students' enrolment status for fall 2002 could be obtained. A Chi-Square analysis of the enrolment status of both FIT and the non-FIT students suggested that the FIT students had a higher frequency of enrollment for fall 2002 (98.6%) versus non-FIT students (88.7%) (Table 10).

Table 9: *FIT vs. Non-FIT t-test on Motivation to Continue Studies in CASNR*

<i>Score on Motivation</i>	<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>SE</i>	<i>P</i>	<i>Cohen's d</i>	<i>Effect size</i>
FIT	59	6.00	3.25	0.42		0.7062	Large
Non-FIT	52	3.94	2.54	0.35	0.00		

Table 10: *FIT vs. Non-FIT Enrollment Status for Fall 2002*

<i>Fall 2002 Enrollment</i>	<i>FIT</i>	<i>Non-FIT</i>	<i>Pearson Chi-Square</i>	<i>Asymp. Sig. (2-sided)</i>
Enrolled				
Count	69	149		
Percent	98.6	88.7		
Not Enrolled				
Count	1	19		
Percent	1.4	11.3	6.268	0.01

Only one FIT student had not enrolled for fall 2002 compared to 19 non-FIT students. Based on this, and the higher score that the FIT students reported on motivation to continue studies with CASNR, it can be concluded that the FIT program made a positive impact on the retention status of students.

Recommendations

Academic Achievement

The literature on internal versus external locus of control states that when people are responsible for fulfilling their needs they are internally (self) motivated to seek help and do not require external pressure to complete a task (Bandura, 1997; Zimmerman, Bonner, & Kovach, 1996). Requiring FIT students to attend tutoring sessions may have served to shift the locus of control from internal to external, therefore, when the stimulus for action was removed (the FIT requirement or expectation) the motivation decreased.

Based on these findings it is recommended that a) the FIT students not be provided tutoring in-residence, but rather encouraged to seek out tutoring from sources already supported by the university, b) SAMs be trained to provide academic mentoring which focuses on developing an attitude of academic excellence among freshmen, c) the small group meetings be refocused toward academic excellence or replaced by study groups, d) and that the minimum GPA expectation be raised to 3.0.

Is the FIT Program a Learning Community?

The FIT program was originally modeled after several learning communities; however, a learning community is a reorganization of curriculum to link together course work in order to increase interaction with faculty and other students (Gabelnick, MacGregor, Matthews, & Smith, 1990). It is recommended that if the FIT program director desires to create a true learning community, he/she should create a common core curriculum and treat the students as a cohort group during their freshmen year.

Leadership Skills Development

Although the FIT students had a higher rate of participation in leadership activities (workshops, seminars, and lectures), those activities did not increase their perception of becoming better leaders. Leadership development depends on the role models students are exposed to (Smith, 1997). It is recommended that care be taken in selecting and training SAMs, as they are the immediate role models for leadership in the FIT program. Antonio (2000) reported that interracial and interethnic interactions enhance socialization and create a positive effect on leadership development.. It is recommended that fresh attempts be made to not only to increase racial diversity, but also to expose the students to diversity through programming such as offering a workshop on multiculturalism and tolerance.

Institutional Loyalty & Integration

Roweton (1994) reported that emotional and financial support, as well as social integration into campus life creates institutional loyalty. The FIT program excels at facilitating social activities for participants, but at the exclusion of non-FIT students. It is recommended that FIT social activities be more inclusive of all OSU students, faculty, and staff; with a special effort made to expose FIT students to a breadth and depth of individuals from all walks of life.

Retention

Studies documenting retention are incomplete until the students are graduated; however, as Ruddock, Hanson, and Moss (1999), Terenzini, Pascarella, and Blimling (1999), and Pike, Schroeder, and Berry (1997) have reported living in residence halls, attending freshman orientation, and increased involvement and interaction with other students and faculty helps to retention students at the university. It is recommended that the FIT program encourage all FIT participants to attend Camp Cowboy and continue to provide opportunities for social interaction with other students, faculty, and staff. It is also recommended that the director of the FIT program emphasize the importance of faculty and staff support to freshmen among the corridors of Agricultural Hall.

Recommendations for Further Research

The following issues should be addressed in future research concerning the FIT program:

1. Research of a longitudinal nature that tracks the present and past groups of FIT cohorts during their tenure at OSU should be conducted to substantiate gains made by students over non-FIT students.
2. More qualitative input from the FIT students and non-FIT students should be collected to evaluate the effects of the FIT program.

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