

## An examination of the impact of the Freshmen Seminar course on students' academic outcomes

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Tinto (1975) proposed a model of student retention that focusses on the impact of social and academic integration on goal and institutional commitment, and the subsequent decision to persist or withdraw from post-secondary institutions. Within this model, the extent to which an individual is motivated to earn a degree and to graduate from a specific institution are determined principally by students' characteristics and interactions with the social and academic environment. A meta-analysis (Napoli & Wortman, 1996) based on Tinto's model confirms that both academic and social integration have significant and beneficial effects on term-to-term and year-to-year persistence among community college students. Encouragement from others (Nora, 1987), specifically encouragement to continue attending (Metzner, 1984) and discouragement from leaving (Anderson, 1981) college have been shown to influence students toward persistence. Hays and Oxley (1986) observed that the development of social network, most importantly the density and frequency of network interaction, has a positive impact on adapting to college.

Commensurate with the mission at the community college to enhance both the social and the teaching/learning environment, a course which facilitates the social and academic integration of students is part of the curriculum. The Freshmen Seminar course is designed to present methods and techniques which students can adopt to promote their perseverance and success at college (SCCC, 1996). Insufficient academic preparedness is not the most frequent reason college students drop out. About three-fourths of those who quit are in good academic standing. Research, some of which is discussed above, has identified specific keys to college success, but ironically students are often unaware of these factors and of how much they matter.

The Freshmen Seminar is based on making the keys to success in college apparent and available to students at the beginning of their college careers. The Freshmen Seminar course curriculum (Gardner and Jewler, 1995) covers issues such as the value of interpersonal support and networking, optimal use of resources and time management, basic survival information and personal goal, skill and career development. Specific topics include college procedures and resources, academic advisement, goal setting, test and note taking, and health issues.

The adaptive skills fostered in the course have been identified by Gardner and Jewler (1995) as important prerequisite behaviors which have direct and indirect influences on academic success (i.e., persistence and graduation). The acquisition of these skills earlier, rather than later, in the student's course of study is assumed to have a more positive influence on academic achievement and persistence. Currently, however, no evidence exists to support or challenge this assumption for the community college population. To this end, the present set of retrospective studies was designed to assess the graduation rates and academic progress or persistence for students who enrolled in Freshmen Seminar classes. The goal of the first study was to assess the association between Freshmen Seminar experience (grade outcome) and relevant academic outcome measures (graduation rate, persistence rate, persistence in terms of the number of college credits completed, and overall grade point average). The second study sought to tease out specifically those differences that may logically exist between students who enrolled in Freshmen Seminar classes during their first semester and students who chose to enroll in the course in a subsequent semester.

### Study 1

#### Method

#### Sample

The sample for the first study consisted of 6,648 students enrolled in Freshmen Seminar classes during the Fall 1992 (n=3,364) and Fall 1993 (n=3,284) semesters at a multi-campus suburban community college with an enrollment of approximately 20,000 students.

#### Procedure

Based on the final course grade in the Freshmen Seminar, students were dichotomized into a C or better group (n =

5,777) or a below C group (n = 1,808). Students in the C or better group obtained Freshmen Seminar course grades of C, C+, B, B+ or A, indicating successful completion of the course. Students in the below C group received final course grades of W, F, D, or D+, indicating failure to successfully complete the freshman seminar in the designated Fall semester<sup>(1)</sup>.

### Measures

Three outcome measures were selected to assess the influence of the Freshmen Seminar class. These measures consisted of graduation rates, overall grade point average, persistence rates based on continued enrollment, and persistence in terms of the total number of college credits completed as of the Fall 1995 semester. High school grade point average and placement test scores were employed to serve as a covariate for those analyses which controlled for previous academic achievement.

## Results

Statistical analyses reveal that students who successfully completed the Freshman Seminar course with a C, or better grade, had significantly higher rates of persistence and graduation and lower rates of withdrawal ( $p < .0001$ ) than students who earned less than a C grade. Specifically, an examination of Table 1 shows that, for both the Fall 1992 and Fall 1993 cohorts, Freshmen Seminar "C or better" students were more than 4 times more likely to have graduated as of the Fall 1995 semester, than "below C" students ( $X^2_{1992}(1) = 37.1, p < .01; X^2_{1993}(1) = 18.5, p < .01$ ). Freshmen Seminar "below C" students were more likely to have withdrawn as of the Fall 1995 semester, than "C or better" students, 47% for the Fall 1992 cohort ( $X^2(1) = 49.97, p < .01$ ), and 59% for the Fall 1993 cohort ( $X^2(1) = 63.15, p < .01$ ). Freshmen Seminar "C or better" students in the Fall 1993 cohort were 60% more likely to have persisted to the Fall 1995 semester ( $X^2(1) = 13.13, p < .01$ ) than "below C" students, however persistence rates ceased to be significantly different between "C or better" students and "below C" students in the Fall 1992 cohort. This last finding is not surprising as a majority of those students intending to graduate or transfer do so within three years.

Additional analyses indicate that students receiving C or better Freshmen Seminar grades earned significantly higher ( $p < .0001$ ) GPAs and completed significantly more ( $p < .0001$ ) credits than students receiving less than C grades in the Freshmen Seminar. Moreover, significant group differences continued to be observed after controlling for high school average, and placement test scores (see Table 2). This latter finding greatly reduces the possibility that Freshmen Seminar students, with C or better course grades, earned higher GPAs and completed more credits simply because they have greater academic aptitude. Rather, the results suggest that positive (C, or better, grade) Freshmen Seminar outcomes are related to greater persistence (more credits completed), and higher GPA, above and beyond that which might be predicted by previously demonstrated academic aptitude.

## Summary

The goal of study one concerned the assessment of the association between positive Freshmen Seminar experiences (grade outcomes of C or better) and several relevant academic outcome measures (graduation rates, persistence, and overall grade point average). Results indicate that successful completion of the Freshmen Seminar course is associated with higher overall grade point average, persistence, and an increased likelihood to graduate. Importantly, the results for GPA and persistence (credits complete) were maintained after statistically controlling for previous academic achievement (i.e., high school average and placement test scores), which allowed for a more direct and less biased examination of relationship between Freshmen Seminar pass/fail outcomes and achievement. Thus, these findings also suggest that persistence and graduation positively correlate with Freshmen Seminar skill proficiencies. That is, as course related knowledge increases, so too would the likelihood to persist and graduate. Overall, the study demonstrates that a C or better grade in the Freshmen Seminar is associated with better academic outcomes.

Having established a general positive link between Freshmen Seminar course skills and academic outcomes, it is important to examine the impact of earlier acquisition of these skills on academic achievement and persistence, and to determine whether or not students benefit from earlier enrollment in the Freshmen Seminar. A second study was designed to assess the graduation rates and academic progress or persistence for students who enrolled in Freshmen Seminar classes during their first semester as opposed to students who chose to enroll in the course in a subsequent semester. To examine the graded influence of Freshmen Seminar skills, the second study also assessed the relationship between Freshmen Seminar grades and subsequent academic success.

Study two addresses the following assumptions concerning the Freshmen Seminar courses, which were derived from the foregoing arguments.

Assumption I. Completion of the Freshmen Seminar course during the entering semester is more beneficial to academic achievement than enrolling in the course in a subsequent semester. Therefore, operationally, First-semester Freshmen Seminar students will have significantly greater persistence and graduation rates than Post-first semester Freshmen Seminar students.

Assumption II. Academic achievement is dependent on Freshmen Seminar skill-proficiencies. Thus, operationally, Freshmen Seminar final course grades will be significantly and positively correlated to persistence and graduation rates.

Assumption III. Freshmen Seminar skill-proficiencies of First-semester students are more strongly related to persistence and graduation rates than the skill proficiencies of Post-first semester students. Specifically, the correlation between Freshmen Seminar final course grades and persistence, and graduation outcomes, will be significantly greater among First-semester Freshmen Seminar students.

## Method

### Sample

The sample for the present study consisted of 3,293 Full-time students who entered a multi-campus suburban community college in the Fall 1993 semester. Approximately 70% of the students enrolled in the Freshmen Seminar during their first semester at the college. Approximately 30% of the students enrolled in the course during a subsequent semester.

### Procedures

Students were dichotomized into two groups based on course enrollment patterns. One group (First-semester Freshmen Seminar students;  $n = 2,283$ ) consisted of students who enrolled in the Freshmen Seminar during their first semester. The second Group (Post-first semester Freshmen Seminar students;  $n=1,005$ ) consisted of those students who enrolled in the Freshmen Seminar during a subsequent semester. Student grouping (first semester *v.* later Freshmen Seminar enrollment) serves as the primary independent variable in the present study. Students from either group who transferred to other institutions prior to graduation are not followed in terms of graduation from or persistence at subsequent institutions.

### Measures

To assess the impact of first semester versus later Freshmen Seminar enrollment on academic achievement, two important and relevant outcome measures were examined. These measures were graduation outcome (graduate or non-graduate), and persistence (total credits completed at the community college as of the Fall 1996 semester). Freshmen Seminar final course grades were used as an index of Freshmen Seminar skill proficiencies. High school grade point average was employed to serve as a covariate for those analyses which controlled for previous academic achievement.

## Results

### Graduation rates

Chi-square analysis reveals that the three-year graduation rate among the First-semester Freshmen Seminar students (28.8%) is significantly higher ( $X^2(1) = 54.6, p < .0001$ ) than the rate for the Post-first semester Freshmen Seminar students (14.2%). Interestingly, a comparison of high school averages reveals that the First-semester Freshmen Seminar students ( $M = 76.3$ ) had a slightly, however, significantly higher ( $t(2844) = 3.65, p < .0003$ ) high school average than the Post-first semester Freshmen Seminar students ( $M = 75.1$ ). To rule out the possibility that the higher graduation rate among the First-semester Freshmen Seminar students was attributable to greater pre-college academic aptitude (and not related to the earlier enrollment in the course) the graduation rates for the two Freshmen Seminar groups were reassessed controlling for high school average (HSAVG). The analysis was conducted using multivariate regression in which graduation outcome ("dummy" coded 0 = non-graduate, 1 = graduate) was regressed on HSAVG and Freshmen Seminar enrollment occurrence (dummy coded 0 = Post First-semester and 1 = First-semester). Results indicate that, after controlling for high school average, the graduation rate of the First-semester Freshmen Seminar students (30.4%) remained twice as high, and significantly above ( $F(2,2115) = 82.05, p < .0001$ ), the rate of the Post-first semester Freshmen Seminar students (15.8%). Thus, these findings supported Assumption I (see above), and ruled out the alternative explanation that graduation outcomes are not related to early versus late Freshmen Seminar enrollment.

### Persistence

A comparison between First-semester Freshmen Seminar students and those students who enrolled in the Freshmen Seminar course in a subsequent semester, of the mean number of credits completed, indicates that the First-semester Freshmen Seminar students ( $\bar{M} = 44.3$ ) earned significantly more ( $t(2394) = 8.52, p < .0001$ ) college credits than students who enrolled in the Freshmen Seminar course in a subsequent semester ( $\bar{M} = 35.4$ ). To eliminate a "third variable" explanation for the relationship between Freshmen Seminar enrollment and persistence, the analysis was re-executed controlling for high school average (the third variable). As in the case of graduation rates, even after removing the influence of high school average, the First-semester Freshmen Seminar students ( $\bar{M} = 46.6$ ) completed significantly more credits ( $F(2,2115) = 65.27, p < .0001$ ) than the Post-first semester Freshmen Seminar students ( $\bar{M} = 36.7$ ). These data, taken with the results reported above for graduation rates, are consistent with Assumption I, (see above).

#### Freshmen Seminar Grade Point Average

To test the assertion that academic achievement in the Freshmen Seminar has a beneficial influence on subsequent academic achievement, Freshmen Seminar grade point averages were correlated with graduation outcome (graduate or non-graduate), and credits completed. Results indicate that Freshmen Seminar performances are significantly, and positively, related to both graduation outcome ( $r = .278, p < .0001$ ) and credits completed ( $r = .452, p < .0001$ ). These relationships are illustrated in Figure 1. The left side of the graph shows graduation rates for "F" to "A" grade outcomes in the Freshmen Seminar. The graph clearly demonstrates that graduation outcome is reliably linked to Freshmen Seminar final grades. Similarly, the right side of the graph depicts a strong positive relationship between Freshmen Seminar final grades and credits completed.

It is noteworthy that an examination of the partial correlation coefficients<sup>(2)</sup> indicates that the relationships between Freshmen Seminar final grades and graduation outcome ( $r_{\text{partial}} = .230, p < .0001$ ), and Freshmen Seminar final grades and credits completed ( $r_{\text{partial}} = .130, p < .0001$ ) remain significant after controlling for high school average. These results provide support for the Assumption II (above), that academic achievement in college is associated with college adaptation skills introduced in the Freshmen Seminar course.

To assess the adequacy of Assumption III (above), that Freshmen Seminar skill proficiencies of First-semester Freshmen Seminar students are more strongly related to persistence and graduation than the skill proficiencies of Post-first semester Freshmen Seminar students, correlations between Freshmen Seminar final grades and graduation outcomes, and Freshmen Seminar final grades and credits completed were computed separately for First-semester Freshmen Seminar students, and Post-first semester Freshmen Seminar students. The results of these analyses are presented in Table 3. As seen in the table, Freshmen Seminar final grades are positively and significantly related to both graduation outcome and credits completed for both Freshmen Seminar enrollment groups. A statistical comparison, for both outcome measures reveals, however, that the correlations are significantly stronger for the First-time Freshmen Seminar students than for the Post-first semester Freshmen Seminar students. These findings are consistent with the Assumption III, that the influence of Freshmen Seminar gained skills is greater when the course is introduced early in the students college career.

#### Summary

The goal of the present study was to assess three assumptions concerning the benefits of the Freshmen Seminar course. Specifically, that 1) completion of the Freshmen Seminar course during the entering semester is significantly more beneficial to academic achievement than completing the course in a subsequent semester; 2) that academic achievement is associated with Freshmen Seminar skill proficiencies; and 3) that Freshmen Seminar skill proficiencies of First-semester Freshmen Seminar students are more strongly related to persistence and graduation than the skill proficiencies of Post-first semester Freshmen Seminar students. Results from the analyses support each of these arguments.

#### Discussion

Tinto (1993) defined social integration in terms of the social ties resulting from day to day interaction. He indicates that academic or intellectual integration results from sharing information, perspectives and values common to the college community. In this context, it makes sense that more satisfying and reinforcing interactions with the formal and informal academic and social systems of an institution should lead to greater integration and persistence. Conversely, it can be understood how unpleasant or limited interactions with these systems could inhibit integration and decrease the likelihood of persistence. The Freshman Seminar course focusses attention on both directly and indirectly enhancing

student integration. The greater persistence and better performance of students who take this course, take it early, and do well in the course, over those students who do not, provide evidence to support both Tinto's (1975) theoretical model and the practical value of the Freshman Seminar course.

Although this pair of studies furnishes support for the positive influence of the Freshmen Seminar course, certain issues somewhat limit conclusions drawn from their results. Specifically, the studies used correlational research designs, and although correlation forms a prerequisite for causal inference, it does not provide direct evidence of causation. Though the present findings are compelling and consistent with the assumptions concerning the benefits of early enrollment in the Freshmen Seminar, other factors may also be operating and producing the observed group differences (e.g., initial educational goals of students, motivation to persist and graduate, etc...). In objective evaluation efforts causal inferences can be drawn only from controlled experiments with cases randomly assigned to treatment and control conditions, and with all relevant "third variable" factors identified or eliminated. Unfortunately, the random assignment of students is rarely an option in "real world" settings, and investigators instead frequently need to draw inferences from correlational studies.

While this set of studies establishes a relationship between the Freshmen Seminar course and later academic success and perseverance, they do not distinguish which elements of the course contribute most to this achievement. Previous research also has shown that a variety of other factors influence academic and social integration (Munro, 1981; Pascarella et al., 1983a, 1983b, 1983, 1985, 1986; Napoli & Wortman, 1998) including background characteristics (age, socioeconomic status, personality needs), pre-college educational experience, previous academic achievement, and initial experiences in college. Tinto's (1975, 1987, 1993) model looks to demographic, cognitive, psychosocial, and institutional factors for a comprehensive explanation of persistence. Further research should be conducted to address and tease out the role of these influences.

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Table 1. Graduation, Persistence, and Withdrawal Rates for Fall 1992 and 1993 Cohorts as of Fall 1995.

Cohort	Student Freshmen Seminar Grades	Student Persistence Rate	Student Graduation Rate	Student Withdrawal Rate
Fall 1992 (after 3 yrs)	Below C	14.92	7.12	77.96
	C or above	16.61	30.37	53.02
Fall 1993 (after 2 yrs)	Below C	27.64	2.56	69.80

C or above	44.10	12.10	43.80
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$X^2_{\text{fall 1992}} (2) = 211.84, p < .001.$

$X^2_{\text{fall 1993}} (2) = 199.36, p < .001.$

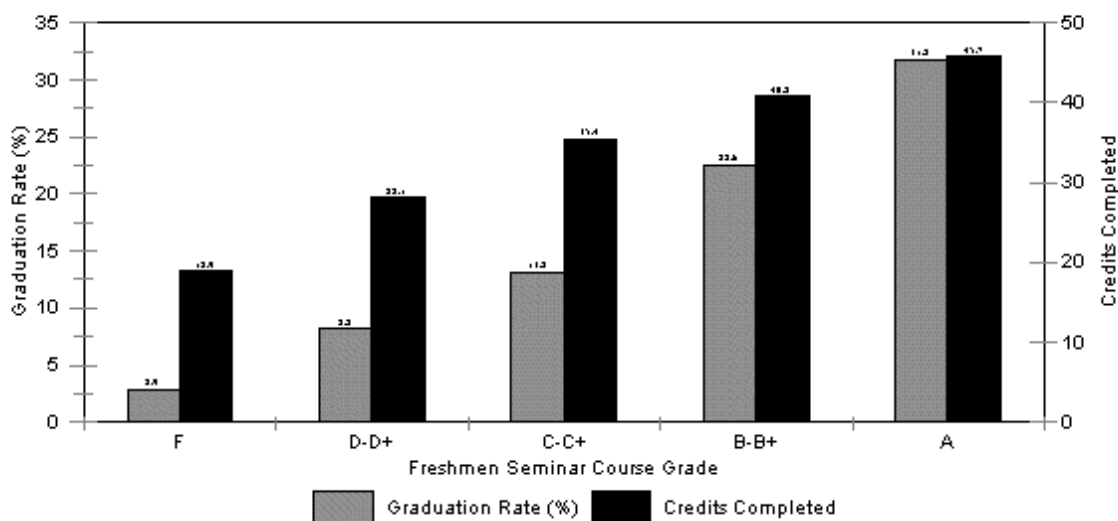
**Table 2. GPA and Credits Completed by cohort for students with a grade of C or better or below C in Freshmen Seminar, controlling for previously demonstrated academic aptitude.**

Cohort	GPA		Credits Completed	
	C or Better	Below C	C or Better	Below C
Fall 1992	2.55	1.62	45.61	23.14
Fall 1993	2.49	1.37	37.74	19.94

**Table 3. Correlations between academic outcome measures and Freshmen Seminar final grades for First-semester students and Post-first semester students.**

Academic Outcome Measure	Correlation with Freshmen Seminar grades for First-semester students. (p)	Correlation with Freshmen Seminar grades for Post-first semester students. (p)	t for difference in r (p that $r_1 = r_2$ )
Graduation Outcome	.301 (.0001)	.200 (.0001)	2.82 (p < .003)
Credits Completed	.473 (.0001)	.393 (.0001)	2.58 (p < .005)

**Figure 1. Graduation Rates and Credits Completed by Freshmen Seminar Course Grade.**



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1. Successful completion of the Freshmen Seminar is required of all full-time day students in all programs for graduation at the institutional site of this study.
2. Partial correlation remove the influence of high school average from all other measures (i.e., Freshmen Seminar final grades, graduation outcome, and credits completed).