

# Are Students Who Comply with Progress Toward Degree Regulations More Successful?



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## Abstract

“Progress toward degree” regulations which included the student development of an on-line “plan of study” were introduced to students to retain and speed up the rate of time toward degree completion beginning with the entering 2002 freshmen at North Carolina State University. This study found that contrary to Tinto's interactionist model (1993), the demographic characteristics of gender, race and SAT scores were not associated with whether a student complied to regulations and developed an on-line “plan of study;” however, high school class rank was found to be associated. Practical significances in high school class rank may not warrant additional advising services for this group. The regulation of developing an on-line “plan of study” has engaged students and faculty at our institution in a more formal and regulated advising process. This exploratory study also found that students who did develop an on-line “plan of study” were more likely to possess indicators of progress toward degree such as being retained after two years, taking more hours toward their degree, taking more total hours, and have a higher GPA. As the freshmen class of 2002 progresses through their degree programs, further research should be conducted to determine if these regulations also decrease time-to-degree rates.

## Introduction

Time-to-degree rates of students in higher education continue to be an issue of concern for both public and private institutions. The number of students who complete a bachelor's degree within four years is declining, according to national studies (Engle, 2004). This continuing decline hinders the ability of our higher education institutions to provide the opportunity to an ever-increasing number of qualified applicants to enter these institutions and weakens the financial power of the institution. Students who take longer to graduate also share this financial burden in the form of additional tuition and fewer years of earning potential.

ACT Newsroom (2001) reported the percentage of college students who return after their first year of study is slightly increasing but the percentage of undergraduates who complete their degree in less

than five years has continued to decrease and is now at 51%. The National Center for Educational Statistics (2003) reported that those completing their first bachelor's degree take 55 months on average to complete a four-year degree. Within the College of Agriculture and Life Sciences at North Carolina State University, the 1999 entering cohort's four, five and six year graduation rate was slightly higher than the university graduation rates with 38.6% of undergraduates completing a degree in four years, 62% in five years and 67.5% within six years of enrolling in a degree program (North Carolina State University, 2005).

NC State's four-year graduation rate is consistent with national averages and slightly higher than the national five-year graduation rate. However, according to the findings of the Task Force on Undergraduate Retention and Graduation Rates at North Carolina State University (2003), the university consistently ranked in the bottom half among its 15 peer institutions with regard to retention rates of first year students, four-year graduation rates and five-year and six-year graduation rates. In response to concerns over the retention and graduation rates, the university adopted a new regulation, Progress Toward Undergraduate Degree, REG02.05.3 in 2002. North Carolina State University stated in Academic Policies and Regulations, “Upon admission as a degree-seeking student, an undergraduate student is expected to make satisfactory progress in a planned and deliberate way toward graduation” (North Carolina State University, 2002).

The intention of these policies was to increase timely graduation rates by creating interim assessments of “progress toward degree” that track students through their degree program. In recent years, some institutions have incorporated contract-like formats that students must pledge to strive for and other institutions have created benchmarks for students related to the numbers of hours they must complete after a certain number of semesters. Several institutions have created an on-line tool that allows students and advisers to work together to lay out an individual semester by semester plan for completion of the degree.

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At North Carolina State University “progress toward degree” regulations and an on-line tool called an on-line “plan of study” were introduced to students to retain and speed up the rate of time toward degree completion beginning with the entering 2002 freshmen. Students entering the College of Agriculture and Life Sciences at North Carolina State University in the fall of 2002 were the first class to be formally held responsible for following “progress toward degree” regulations.

The “progress toward degree” regulations were as follows:

A. Development and registering of an on-line “plan of study” that serves as a planning tool for completing degree requirements for the major(s) in which the student is matriculated, or in the case of the student enrolled in the First Year College (and other undeclared or undesignated programs), expects to matriculate, or transfer. The “plan of study” can include plans for tailoring the academic experience. Therefore, a student's intent to pursue multiple majors, minors, cooperative education, study abroad, and other specialized academic opportunities should be reflected in the registered Plan of Study.

B. Enrollment in course work consistent with the student's “plan of study.”

C. Continuous full-time enrollment (a minimum of 12 credit hours) during consecutive semesters (i.e., Fall, Spring) until graduation, and successful completion of at least 24 credit hours of NC State or transferable course work each academic year, unless otherwise justified by an approved “plan of study.”

D. Matriculation into a degree program by the beginning of classes in the first semester that the student has junior status (i.e. 60 credit hours earned - criteria established in Classification of Undergraduate Degree Students regulation).

“Progress toward degree regulations” and the on-line “plan of study” were created by our university for many reasons. University administrators envisioned that the “progress toward degree regulations” would promote more interaction between students and their advisers. Students would no longer be able to meet with an advisor and walk out with a pin number that allowed them to schedule classes at their own will. Students were now required to follow an on-line “plan of study” tool that requires an advisor to approve the student's plan each semester. The records of students not meeting minimum university requirements for satisfactory progress will be flagged and notification will be sent to the student and to relevant academic college(s)/department(s) where a final determination of satisfactory or unsatisfactory academic progress is made.

If it is determined in the academic college/department progress review that a student has failed to make satisfactory progress toward undergraduate degree completion, the student will be placed on “Progress Warning” status. The student will then

have one semester to work with an adviser to develop and implement a specific plan of action that restores “satisfactory progress” status in the current major or matriculate or transfer into an alternative major that has capacity and for which the student meets matriculation or intra-campus transfer requirements. Failure to return to satisfactory progress status by the beginning of the next semester will result in change in the student's enrollment status (North Carolina State University, 2002). Progressing toward an undergraduate degree on the plan does not guarantee graduation. To date the regulation does not clearly define exceptions due to extenuating circumstances.

Provost James L. Oblinger (2004) stated in his speech titled “Progress Toward Degree Policy Designed To Help Students Reach Academic Goals” that “while the progress toward degree regulation is designed to improve graduation rates and to help students complete their degrees in a timely manner, its emphasis on faculty and student interaction in planning should have other long-term benefits.” Regulations at the university articulate to students that they must work with their advisor to create and update an on-line “plan of study,” enroll as full-time students each semester, and have their academic progress reviewed on a regular basis by colleges and academic departments.

Universities are beginning to place more value on the role of advising in assisting students to graduate on a timely basis. Glennen et al., (1996) found that quality academic advising improves the fiscal stability of universities by increasing graduation rates. The more resources an institution spends on instructional and academic support the higher the retention and graduation rates according to a study conducted by Gansemer-Topf and Schuh (2003) at Iowa State University. But universities often fail to recognize the value of advising in their instructional mission and often consider cutting allocations that enhance advising opportunities. As faculty, advisers and administrators in the field of agriculture we need to understand factors related to a student's desire and ability to graduate in a timely manner and value the importance of advising and facilitating “progress toward degree” regulations.

## Literature Review/Theoretical Framework

### Factors Associated with Students Completing an On-Line “Plan of Study”

Theoretically if a student is committed toward a degree they will have a plan to complete the degree, make timely progress toward the degree and stay in the degree. Tinto's (1993) interactionist model provides the theoretical framework for part of this study and postulates that each student possesses an individual set of traits such as gender, race, high school class rank, and ACT or SAT scores that influences their initial desire and commitment to obtain a degree. This commitment influences their

level of academic and social interaction at the educational institution that influences their persistence to obtain a degree. Tinto also hypothesizes that an initial commitment to the institution will have an affect on the successful integration of the student into the academic and social systems (Blecher et al., 2002).

Institutions utilize formulas to admit those students who will most likely succeed at the post secondary level based on Tinto's theory. These formulas include factors that have been thoroughly addressed by previous research. Payne et al. (1996) and Schurr et al. (1997) found that research conducted to study student retention has focused on factors such as GPA, socio-economic status, socialization, age, high school performance and gender. Examples of a few of these studies include Blecher et al., (2002) who found that age, socioeconomic status, ability, educational aspirations, full time attendance, hours worked on a job, scholastic achievement and student involvement all help explain student persistence in a four-year degree attainment. The National Center for Education Statistics (2004) found that income, gender, and race made no measurable difference in a student completing a four-year degree. At the University of Iowa, Desjardins et al., (2002-2003) found that graduation rates of four years or less were influenced by previous academic success, current academic success at the institution, and college major. Garton, et al. (2004) found that high school core grade point average and ACT scores were the best predictors of academic performance in a college of agriculture. They did not find that learning style was a variable that could be used to predict academic success.

As institutions begin to enforce “progress toward degree regulations,” factors identified in research and used in admission formulas to predict success could also be used to predict the likelihood that the students will comply with regulations such as completing an on-line “plan of study.” Advisers and institutions in general could provide more advising time and help to students who possess “at risk” factors as soon as they are enrolled in the institution. This study examined the association of several known student characteristics of the freshmen class of 2002; student gender, student race, high school GPA and high school class rank, to completing an on-line “plan of study.” These characteristics were specifically addressed because these factors were identified in the application process and were known for the entire class of 2002 freshmen (n=604).

### **Progress toward Degree Policies**

The implementation of time-toward-degree and retention policies by institutions is supported in much of the advising literature. Gordan and Habley state: “policy and procedures are linked to commitment” (p.139) and suggest that policies and

procedures be created to encourage student commitment. Retention has consistently been found to be dependent on the student's academic and personal needs which require collaborative efforts from advisers, students, faculty, and administrators to integrate the student both socially and academically into the University (Bedford and Durkee, 1989). The National Center for Education Statistics (1999) found that students who have planned a sequence of courses are more likely to be retained in their first two years, take more hours toward their degree, take more total hours, and have a higher GPA.

Much research has been conducted in the advising community to explain the association of credit production to completing a degree. The National Center for Education Statistics (1999) also found that the percentage of students who completed 30 credits their freshmen year (43%) were much more likely to maintain stable credit production throughout their degree. Those who took two years to reach the 30-credit threshold were four times more likely to drop out. The number of credits produced the first year was positively related to total credit production, reaching credit thresholds, time to degree, degree attainment, and overall credit production. They also found students at public institutions were more likely than students at private institutions to take longer than four years to graduate. The National Center for Education Statistics (1999) also found that first-year credit production, higher socioeconomic background, first-year grades, test scores, and summer term enrollment are all positively related to credit production while enrollment interruptions and initial part-time enrollment are negatively related.

In 2003, The National Center for Education Statistics found that higher grade point averages of students at public universities were associated with shorter time toward degree completion and that the higher a parent's education the longer the child took to complete a degree. According to the Task Force Report on Undergraduate Retention and Graduation Rates at NC State University (2003), academic performance is linked to retention and ultimately graduation rates. The percentage of graduates increased as grade point averages increased.

North Carolina State University adopted “progress toward degree” policies and procedures in 2002 as suggested by the advising community and this study was conducted at the end of the first two years of its implementation. Since long term data regarding degree completion was not available yet, the researchers chose to examine whether the student development of the on-line “plan of study” was associated with two year retention, total hours completed in the degree total hours completed and total GPA. All of which had been identified in previous research as positive indicators toward progress toward degree.



**Materials and Methods**

The purpose of this study was to assess the preliminary results of the progress toward degree regulations for students who entered the College of Agriculture and Life Sciences as freshmen in the 2002 fall semester that had completed two years of study in the spring of 2004. More specifically the purpose of this study was to explore characteristics of the students that might be related to student compliance in developing an approved on-line “plan of study” and to determine if progress toward degree regulations increased retention rates of undergraduate students in a college of agriculture.

The following questions were asked:

1. What demographic factors are associated with students completing an approved on-line “plan of study?”

2. Does having an on-line “plan of study” encourage students' progress toward degree as measured by retention of students, total GPA, total hours completed and total hours completed toward their degree?

The target population in this study included students who entered the College of Agriculture and Life Sciences as freshmen in the 2002 fall semester and had completed 2 years of study in the spring of 2004 (N=604). For the purpose of the study, the students were divided into two groups—those who had an approved on-line “plan of study” (n=160) and those who had not developed an on-line “plan of study” (n=444). All students in the population were included in this census study. Those students having an on-line “plan of study” were identified as students who had created an on-line plan of study for the spring of 2004 which had been approved by their advisor.

The dependent variable dealing with the first question of the study was the use of the on-line “plan of study” advising tool. The independent variables were gender, race, high school class percentile rank, and SAT scores.

The dependent variables dealing with the second question of the study were retention, total grade point average, total credit hours completed, and credit hours completed toward the degree after two years of study. The independent variable was the use of the on-line “plan of study” advising tool.

Data sets compiled by the Office of Registration and Records were utilized in the study. Descriptive statistics were used to describe the study population. Data were analyzed using appropriate inferential statistics because the population in this study was assumed to

be representative of other entering freshmen students in the College of Agriculture and Life Sciences. Both statistical significance and practical importance were considered in analyzing the findings.

**Results and Discussion**

**Demographics**

A majority of College of Agriculture and Life Sciences entering freshmen of fall 2002 students were female and white. In all, there were 226 males (37.4%) and 378 (62.6%) females. The racial composition of the class consisted of 498 white (82.5%), 62 African American (10.3%), 27 Asian (4.5%), 9 Native American (1.5%), and 8 Hispanic (1.3%) students. The mean high school class percentile for this group was in the top 13 % of their class and their mean SAT score as entering freshmen was 1169. This class as a whole was successful in the university setting, as they had a mean total grade point average of 3.04 after completing two years of study at the university.

Out of 604 students in this class, 160 students had developed an approved on-line “plan of study” and 444 students had not developed an approved on-line “plan of study.” Less than half of the students in this group had completed an approved on-line “plan of study” after only two years of implementation of the policies. This was not surprising due to the fact that administratively the regulations were in place but not all advisers and students understood how to operationally carry out the tasks associated with completing an on-line “plan of study.” The number of students completing an on-line “plan of study” is expected to increase as college/departments identify students that are not making satisfactory progress and official warnings and consequences are communicated to the students.

**Factors Associated with Students Completing an Approved On-line “Plan of Study”**

Differences between gender, race, SAT scores and high school class percentile rank of those who had an approved on-line “plan of study” (n=160) and those who had not developed a on-line “plan of study”

**Table 1. Differences between CALS 2002 Freshmen Cohort on Selected Characteristics Grouped by the Use of an On-line “Plan of Study” Advising Tool**

	M <sup>1</sup>	Mean Difference	SD	t-value
SAT				
Plan of Study	1172.06	6.98	120.43	-.623
No Plan	1165.08		121.61	
High School Class Percentile				
Plan of Study	12.25	2.20	10.611	2.055*
No Plan	14.45		11.524	

\* P < .05

(n=444) were examined using inferential statistics. A Chi-Square test was used to examine whether the gender and race of the student and the development of a plan are associated. The analysis of the association between developing an on-line “plan of study” and gender yielded  $X^2 = 2.9905$ ,  $df = 1$  ( $P > .05$ ) and suggested that gender was not associated with a student developing an on-line “plan of study.” The analysis of association between developing an on-line “plan of study” and race yielded  $X^2 = 2.650$ ,  $df = 4$  ( $P > .05$ ) and suggested that race is not associated with a student developing an on-line “plan of study.” As seen in Table 1, SAT scores were also not found to be associated with a student developing an on-line “plan of study”  $P < .05$ . High school class percentile was found to be significantly associated with whether a student completes an on-line “plan of study.”

Tinto's (1993) interactionist model provides the theoretical framework for this study and postulates that each student possesses an individual set of traits such as gender, race, class rank, and ACT or SAT scores that influences their initial commitment to obtaining a degree and their desire to obtain a degree. The results of this study suggest that the demographic characteristics of the entering freshmen from the class of 2002 do not explain a student's decision to develop an on-line “plan of study.” Contrary to Tinto's findings in 1993, the demographic characteristics of gender, race and SAT scores were not associated with whether a student will complete an on-line “plan of study,” however, high school class percentile was found to be associated with a student developing an on-line “plan of study.” This may be explained by previous research that confirms students who are academically successful are often more committed to a degree program. Students who ranked in the upper

percentile of students in their high school programs could possibly be more motivated because they have already decided on a career goal which requires a commitment to the degree.

**Progress toward Degree of Those Who Developed an On-Line “Plan of Study” and Those Who Did Not Develop an On-Line “Plan of Study”**

Inferential statistics were also employed to determine if having an on-line “plan of study” encourages student progress toward degree. Progress was identified as retention of the student at the university, total grade point average, hours toward degree and total hours passed after two years of study. A Chi-Square test was used to examine whether the retention of the student at the university after two years and the development of a plan were associated. In this study, retention was identified as staying or not staying at the University the entire four semesters. The analysis of retention yielded  $X^2 = 26.01$ ,  $df = 1$  ( $P = .001$ ) suggested that developing an on-line “plan of study” and the retention of the student at the university were associated. This finding suggests that having an on-line “plan of study” may increase the confidence and adaptation of the student into his or her academic setting through more defined advising and academic planning. This finding is also supported by the total class retention rate. At the end of their second year, the freshmen class of 2002 had a retention rate of 89.4% which was a 2.5% increase over the second year retention rate of the freshmen class of 2001 ( $\% = 86.9$ ).

This data and research only explains the retention of the student at the University and does not explain the movement of students from one major to another. However, this research does identify an association

between completing an on-line “plan of study” tool and retention at the University which may indicate that students who are asked to commit to a degree are encouraged to do so more quickly by developing a “plan of study.” Further research needs to be conducted to determine if the on-line “plan of study” tool assists the student in making a decision to pursue or not to pursue a commitment to complete the major in which they have been admitted. The retention of a student in a university degree program has consistently been found to be dependent on the

**Table 2. Comparison of Progress Toward Degree of 2002 CALS Freshmen Cohort Who Used an On-line “Plan of Study” vs. Those Who Did Not Develop an On-line “Plan of Study”**

	M <sup>1</sup>	SD	Mean Difference	t-value
Hours Toward Degree				
Plan of Study	66.36	13.20	4.56	3.42*
No Plan	61.80	14.86		
Total Hours Passed				
Plan of Study	70.21	12.99	4.40	3.42*
No Plan	65.81	14.30		
Total Grade Point Average				
Plan of Study	3.19	.56870	.20	-3.365*
No Plan	2.99	.68640		

\*  $P < .05$

<sup>1</sup>Students in this cohort should be juniors at the time of the data collection with a minimum of 60 semester hours completed. Most degree programs in CALS require more than 120 semester hours

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student academic and personal needs which require collaborative efforts from advisers, students, faculty, and administrators to integrate the student both socially and academically into the University (Bedford and Durkee, 1989).

As seen in Table 2, a significant difference was found in the credits earned during the first two years of those students who had an on-line “plan of study” and those that did not have an on-line “plan of study.” Students who completed an on-line “plan of study” completed 4.56 more hours during their first two years of study “toward their degree” than students who did not have an on-line “plan of study.” Students who had an on-line “plan of study” also passed 4.40 more “total” hours their first two years of study than those who did not have an on-line “plan of study.” While 4.40 semester credit hours do not seem great, this four credit hour course could be a challenging science course in the major, taken in the correct sequence with an appropriate balance of courses instead of a randomly selected elective.

Total grade point average after two years at the university setting was also associated with whether a student completed a plan of work. As seen in Table 2, those who completed an on-line “plan of study” had a total grade point average .20 points higher than those students who did not have a plan of work. While this difference may seem small, a difference of .20 in the total GPA could be a significant difference in a grade in two or more courses in the student's major field of study.

These findings supports the findings of The National Center for Education Statistics (1999) in that students who develop an on-line “plan of study” are more likely to be retained in their first two years, take more hours toward their degree, take more total hours, and have a higher GPA. As Gordan and Habley (2000) stated: “Policy and procedures are linked to commitment” (p.139) and suggest that policies and procedures be created to encourage student participation. The “progress toward degree” regulation of developing an on-line “plan of study” has engaged students and faculty at our institution in a more formal and regulated advising process.

## Summary

Tinto's (1993) interactionist model provides the theoretical framework for this study and postulates that each student possesses an individual set of traits such as gender, race, class rank, and ACT or SAT scores that influences their initial commitment to obtaining a degree and their desire to obtain a degree. Only class percentile was found to be associated with student development of an on-line “plan of study” and past research confirms that students who are academically successful are often more committed to a degree program. Other research needs to be conducted to determine if other factors such as socio-economic status, socialization, educational aspirations, hours worked on the job, student involvement and parent education are predictors of

which students will complete an on-line “plan of study.” In the interim, this research does not support the need to conduct additional support services for groups of students based on their gender, race, or high school SAT scores in completing an on-line “plan of study.” Administrators may want to consider providing supplemental services for those students with a low high school class rank; however, a 2.20 difference in high school rank may not be of enough practical significance to determine parameters for those who need additional help and those that do not. If provided, these services could focus on helping students develop an on-line “plan of study” and developing a commitment to a degree program.

The results of this study do indicate that an on-line “plan of study” shows promise as an advising tool to encourage student progress toward a degree. The process of completing an on-line “plan of study” requires the student to choose the exact courses they will take and when they will take them which may increase the efficiency of a student's plan to complete a degree. Electronic tools such as the on line “plan of study” show promise in assisting students in planning their course semester loads and sequence.

The future of the agriculture industry depends upon the supply of quality graduates from Colleges of Agriculture and Life Sciences. These colleges have the responsibility of assisting students in committing to a degree and completing that degree in a timely manner. In this preliminary study, students with an on-line “plan of study” demonstrate higher persistence and retention rates. As advisor and students increase their operational knowledge of the on-line “plan of study” tool and more students begin using the tool, this research should be replicated. Longitudinal studies should also be conducted to determine if an advising tool such as the on-line “plan of study” decreases time to degree.

Advisers should assist students in learning how to use the on-line “plan of study” to set academic, leadership, and personal goals as they plan their four-year program. Munsell and Cornwell (1994) stated that the more support a student receives the more successful they are in meeting their goal. Advisers and university administrators must support and encourage students in this process. Likely the success of the Progress Toward Degree regulation is most dependent upon the interactions of adviser and student and the on-line “plan of study” is only a tool in the greater scheme of guiding students toward degree completion.

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