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Student Retention: Impacts of an Agricultural Economics First Year Seminar Course

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Abstract

As universities seek to enhance student retention, a positive first year experience is critical for student success. The objective of this research is to determine whether an agricultural economics first-year seminar course improves retention rates of its undergraduate students. This course provides a unique opportunity for students to learn about the agricultural economics discipline, and also gain insights into what it takes to be a successful college student. Analysis examines whether departmental retention and graduation rates improve after course implementation in 1998, and compares departmental retention and graduation rates to those of the college and university. Qualitative analysis using student evaluations, senior exit interviews and student surveys also assess the impact of this course on student success. Results show that retention and graduation rates improve following course implementation. Retention, four-year graduation rates and five-year graduation rates for the Department exceed those for the College of Agriculture and Life Sciences and exceed the four-year graduation rates for the university.

Introduction

Research indicates that students are more likely to succeed academically and to have a positive educational experience if they feel a sense of connectedness with their university academically and socially (Tinto, 1993). In 1998, the Department of Agricultural and Applied Economics (AAEC) created a First Year Seminar course with three primary goals:

- to assist students in the transition to a four-year institution while creating a sense of community among AAEC students;
- to introduce students to the breadth and depth of the discipline and various career opportunities in the field; and
- to provide a forum for meeting Departmental faculty and learning of their teaching/research/outreach interests.

The Department created this course to fill a need: no similar course existed at the college or university level. Since 1998, all entering freshmen and external transfer students enroll in this course during their first fall semester on campus. As they start their academic program, while many courses may have hundreds of students per section, this AAEC First Year Seminar provides an opportunity to become engaged with professors and student colleagues in a small class setting. This student-centered classroom environment empowers students to take control of

their own learning and to take responsibility for the decisions they make regarding time management, study skills, future course selection, and ultimately their successful graduation. Students learn about the broad array of available careers within their discipline, meet the faculty with whom they will take classes or potentially conduct undergraduate research, and begin to create a sense of community with their student colleagues.

In a study of graduation attainment for undergraduates, Bowen, et al. utilized data from the 1999 entering cohort from 21 “flagship” public universities and four state systems, including Virginia. They determined that, since the mid-1970s, the rate of increase in educational attainment has been declining (p.1). Between 1968 and 2007, only small changes occurred in the completion rate (the fraction of students who started college and eventually earned a B.S. degree), while time-to-degree increased (p. 3). Data showed the following differences in student graduation rates during this time period: at flagship universities, 49% of undergraduate students graduated in four years, an additional 24% in five years, and 4% more in six years. In the state systems, which included Virginia and therefore Virginia Tech, the percentages were 38%, 38%, and 4%, respectively (p. 32). The authors pointed out the financial value of obtaining a four year degree: young adults with a bachelor’s degree earned 28% more in 2006 than those with an associate’s degree and 50% more than those with a high school diploma (p. 9).

In determining factors that positively impact student success and, ultimately, graduation rates, Bowen, et al. found “lack of attention” on the part of university faculty and staff as a source of the problem of “too low” graduation rates (p. 221). Factors that increase graduation rates at the more selective schools included peer effects, expectations, access to excellent educational resources, financial aid and student work opportunities, and unobservable selection effects such as ambition and motivation (pp. 233-234). The key is to determine how to mimic

these positive factors. Bowen, et al. conclude: "...the goal of helping more Americans from all backgrounds complete college, in a timely way, is well worth the effort that will be required" (p. 19).

At Virginia Tech, the AAEC Department's First Year Seminar is an attempt to mimic some of these key factors. Bowen, et al. note that "just paying attention" can make a big difference (p. 237), and Virginia Tech's First Year Seminar pays a great deal of attention to the students. Beyond the First Year Seminar, the Department mimics other factors listed above by writing personalized letters to students at the end of each semester (by some advisors), and offering hands-on and applied courses, educational and advisor-intensive extracurricular activities, and opportunities for undergraduate research. Virginia Tech's AAEC Department agrees that the investment of time and resources to help students complete college is well worth the effort required.

Data and Methods

Retention and graduation rate research conducted in Virginia Tech's AAEC Department includes both quantitative and qualitative assessments. Quantitative analysis uses data from the University's Institutional Research division, beginning 10 years prior to course implementation (1988) through 2007. Retention and graduation rates are compared, pre- and post-implementation of the First Year Seminar course in 1998. Further, average retention and graduation rates are compared, post-seminar, for the Department, college, and university. Qualitatively, annual end-of-semester course evaluations and senior exit interviews are evaluated for course impacts on student success. Additionally, a student survey of AAEC graduates assesses perceived benefits of this First Year Seminar course as viewed by the alumni in retrospect.

Working with the Virginia Tech Alumni Association, the survey was conducted electronically. The Association emailed a cover letter and survey link to AAEC alumni who graduated in 2002 (which included students who entered as freshmen in 1998, when the First Year Seminar was implemented) through 2009. Alumni were given a three week period to reply and received one e-mail reminder from the Alumni Association one week before the final deadline. The survey included Likert-scale questions on the degree of usefulness of the First Year Seminar course in meeting course objectives, as well as open-ended questions on retention and academic success, decision making, and career preparation. Alumni were also asked to report on their initial and subsequent jobs. The electronic survey response rate was approximately 20%. See the appendix for a copy of the cover letter and survey.

Results and Discussion

Qualitative analysis indicates that this First Year Seminar course has been successful in meeting its stated course goals. Course evaluations indicate the value of the course both as a community-building opportunity and an information gathering course. The evaluations highlight the following specific benefits:

- meeting fellow students,
- meeting Departmental faculty and learning about their teaching/research/extension activities, and
- learning about the breadth and depth of the agricultural economics discipline.

Students also mention the benefits for transitioning to college life.

Students often indicate during senior exit interviews, conducted annually by the Department Head and selected faculty, that the First Year Seminar course provided an opportunity to make lifelong friends, thereby achieving social integration into college. Social integration is a retention success strategy described by Tinto (1993).

Quantitative analysis of Institutional Research data shows improvement in retention and graduation rates following implementation of the course (Table 1). Student retention (from freshman year to sophomore year) improved following implementation of the First Year Seminar course, from an average of 77.6% between 1989 and 1997, prior to implementation, to an average of **82.9%** between 1998 and 2007, following implementation. Four-year graduation rates also improved post-implementation (44.9% versus **61.8%**), as did five-year graduation rates (58.2% versus **70.1%**).

Table 1: Department Retention and Graduation Rates, Pre- and Post-seminar Course

	Continued to 2 nd Year	Graduated in 4 years	Graduated in 5 years
Pre-seminar ¹	77.6	44.9	58.2
Post-seminar ²	82.9	61.8	70.1

¹From 1989 to 1997; ² From 1998 to 2007.

Source: Institutional Research, Virginia Tech

Table 2 compares the Departmental retention and graduation rates to the college and university rates, post-implementation of the First Year Seminar course. Note that the post-seminar data in Table 2 spanned 1999 to 2007, since 1998 data (used in Table 1) were not available for the college. Results indicate that the Departmental rates exceed those of the college (see Dept. 1 versus CALS in Table 2: 83.2% versus 77.4% for retention rates; 62.1% versus 49.0% for four-year graduation rates; and 69.4% versus 58.0% for five-year graduation rates). The Departmental four-year graduation rate exceeds that of the university overall (see Dept. 1 versus VT in Table 2: 62.1% versus 52.0%).

Table 2 also disaggregates Departmental data, accounting for students who start in AAEC and change majors to other departments within the college or university. Results show that students who start in AAEC and transfer to other departments have higher retention and graduation rates than the college and university on average. For example, the five-year

graduation rate for students who enter AAEC and graduate from some department within CALS (Dept. 2 row in Table 2) is 72.9%, compared to the 58.0% average for the college. At the university level, 84.3% of students who enter AAEC graduate from some Virginia Tech department within five years (Dept. 3 row in Table 2), compared to the university average of 75.0%. Thus, the First Year Seminar course appears to help students find the “right” home on campus, and it seems to help create a connection to the university overall, even if the students do not remain in AAEC.

Table 2: College, University and Department Retention and Graduation Rates, Post-seminar course¹

	Continued to 2 nd Year	Graduated in 4 years	Graduated in 5 years
Dept. 1 ²	83.2	62.1	69.4
Dept. 2 ³	88.5	65.0	72.9
Dept. 3 ⁴	94.5	70.1	84.3
CALS ⁵	77.4	49.0	58.0
VT ⁶	88.9	52.0	75.0

¹From 1999-2007, College data not available for 1998

²Dept. 1: start AAEC, finish AAEC

³Dept. 2: start AAEC, finish CALS

⁴Dept. 3: start AAEC, finish VT

⁵College of Agricultural and Life Sciences

⁶University

Source: Institutional Research, Virginia Tech

It should also be noted that a number of AAEC students choose to double major with another department on campus. Many of those departments require that students be considered their “first major,” meaning AAEC must be declared the “second major.” In these instances, the AAEC Department is not allowed to count these students among their majors, so the numbers indicating students who start in AAEC and finish in AAEC are somewhat understated.

Historically, about one-third of AAEC students enter as freshmen, about one-third enter as transfers from other universities/colleges, and about one-third transfer internally from another

department on campus. Future research will assess retention and graduation rates for internal and external transfer students.

In addition to lessons learned from examining Institutional Research data, additional insights emerged from answers to the recent AAEC alumni survey's questions about the helpfulness of the First Year Seminar course in meeting certain objectives. Alumni ranked the course using a Likert scale ranging from not at all helpful (a score of 1) to very helpful (a score of 5). Eighty-three percent of respondents indicated that the course was somewhat to very helpful in assisting with the adjustment to college life at Virginia Tech. Ninety-one percent gave similarly positive responses (somewhat to very helpful) for helpfulness in learning more about the AAEC discipline, 87% for learning about the teaching/extension/research programs of VT AAEC faculty, 100% in helping meet VT AAEC faculty, and 100% in connecting with fellow AAEC majors.

Quantitative analyses of Institutional Research data and alumni survey results indicate the success of the AAEC Department's First Year Seminar course in improving student retention and graduation rates. Qualitative evidence indicates student satisfaction and appreciation of the course as a tool in transitioning to university life and creating a sense of community with faculty and fellow students.

Discussion/Conclusion

Student retention is an important issue for higher education. Early in 2009, President Barack Obama stated his goal for American higher education: "By 2020, America will again have the highest proportion of college graduates in the world" (Obama, 2009). In order for this goal to be achieved, increased attention must be given to student retention and graduation. While retention in the first few semesters is important, 44% of all withdrawals occur after the

second year (Bowen, et al., 2009); thus reinforcing the necessity of creating a sense of connectedness with students in the early semesters that will carry through their undergraduate career. A first-year experience course is just one way for departments to create a sense of connectedness and to show students that they are concerned about student success. This research provides valuable information on success strategies that departments can implement to enhance retention and graduation rates.

Literature Cited

Bowen, William G., Matthew M. Chingos, and Michael S. McPherson (2009). *Crossing the Finish Line: Completing College at America's Public Universities*, Princeton and Oxford: Princeton University Press.

Obama, Barack (2009). "Remarks of President Barack Obama – Address to Joint Session of Congress." Text of a speech released by the White House Press Office, February 24, 2009.

Tinto, V. (1993). *Leaving College: Rethinking the Causes and Cures of Student Attrition* (2nd ed.). Chicago: University of Chicago Press.

Appendix: Cover Letter to Alumni and Survey Instrument

October 26, 2009

Dear Alum,

We hope this message finds you doing well.

We are conducting a study to determine the effectiveness of particular aspects of our undergraduate Ag Econ program. Your input will assist us in continuing to improve our programs. Would you please take a few minutes to respond to our survey, which can be found at <https://survey.vt.edu/survey/entry.jsp?id=1255525521119> ? (Note: if the direct link does not work, please just cut and paste the address into your web browser.)

We expect the survey to take between five and fifteen minutes of your time. Could you please respond by November 16? We value your input and appreciate your time. Please keep in touch!

Sincerely,

A handwritten signature in dark ink, appearing to read "Dixie Watts Reaves".

Dixie Watts Reaves
Associate Professor

A handwritten signature in purple ink, appearing to read "Mary A. Marchant".

Mary A. Marchant
Professor

Agricultural and Applied Economics Alumni Survey

Which describes your first semester as an Agricultural and Applied Economics (Ag Econ) student?

- ☐ Entered Virginia Tech (VT) as an Ag Econ Freshman
- ☐ Entered VT as a transfer from another school
- ☐ Changed major to Ag Econ from another VT major (please specify below)
- ☐ Added Ag Econ as a second major (please specify first major below)

Please specify from above:

How did you learn about Ag Econ? (please check all that apply)

- ☐ High school teacher
- ☐ High school guidance counselor
- ☐ Family member
- ☐ Family friend
- ☐ A VT student
- ☐ A VT alumna/alumnus
- ☐ FFA
- ☐ 4-H
- ☐ Cooperative Youth Leadership Conference at Graves Mountain Lodge
- ☐ Internet search
- ☐ By taking an Ag Econ course at VT
- ☐ Other (please specify below)

Please specify:

Did you take AAEC 2984, First Year Seminar (also known as the "circle class" or "campfire class")?

- ☐ Yes --> If yes, please continue to the next question.
- ☐ No --> If no, please go to the question preceded by ***.

To what degree did the Seminar course help you in your adjustment to Virginia Tech? Use the scale from 1 to 5, with 1 being “not at all helpful” and 5 being “very helpful”.

- ☐ 1 Not at all helpful
- ☐ 2
- ☐ 3 Somewhat helpful
- ☐ 4
- ☐ 5 Very helpful

To what degree did the Seminar course help you learn more about the Ag Econ discipline?

- ☐ 1 Not at all helpful
- ☐ 2
- ☐ 3 Somewhat helpful
- ☐ 4
- ☐ 5 Very helpful





To what degree did the Seminar course help you to meet Ag Econ faculty and learn about their teaching/extension/research?

- ☐ 1 Not at all helpful
- ☐ 2
- ☐ 3 Somewhat helpful
- ☐ 4
- ☐ 5 Very helpful





To what degree did the Seminar course help you to connect with your fellow Ag Econ majors?

- ☐ 1 Not at all helpful
- ☐ 2
- ☐ 3 Somewhat helpful
- ☐ 4
- ☐ 5 Very helpful



Please comment on ways (if any) the Seminar course impacted your academic success and decision-making during your first year of college at Virginia Tech.

Please comment on ways (if any) the Seminar course impacted your academic success and decision-making beyond your first year of college at Virginia Tech.

Please comment on ways (if any) the Seminar course helped you consider your future academic and/or career paths.

Please comment on ways (if any) the Seminar course impacted your career success and decision-making after college.

*****In which year did you graduate?**

- ☐ 2002
- ☐ 2003
- ☐ 2004
- ☐ 2005
- ☐ 2006
- ☐ 2007
- ☐ 2008
- ☐ 2009

Reflecting back on your academic program and your job experience, how well did your degree in Ag Econ prepare you for being successful in your employment?

- ☐ 1 Did not prepare me well at all
- ☐ 2
- ☐ 3 Prepared me somewhat well
- ☐ 4
- ☐ 5 Prepared me very well

Please comment on the overall quality of your undergraduate education. What did the department do well? Please be as specific as possible.

Reflecting back on your academic program at VT and your job experience, what suggestions do you have for improving the Ag Econ undergraduate program?

Reflecting back on your academic program at VT and your job experience, what advice would you offer incoming or current Ag Econ students to help them be more competitive in securing employment and to help them better prepare for the work force?

Reflecting back on your academic program at VT and your job experience, what was the single most important skill you developed or refined at Virginia Tech?

How soon after graduation did you start your first job?

- ☐ Following graduate school
- ☐ Within a few weeks
- ☐ Within a month
- ☐ Within 3 months
- ☐ Within 6 months
- ☐ Within a year
- ☐ Beyond a year

What was your job title in your first position after graduation?

With what firm or organization was your first job?

For how long did you stay in your first job?

☐

Less than 1 year

☐

1 to 3 years

☐

3 to 5 years

☐

5 to 7 years

☐

More than 7 years

What is your current job title?

With what firm or organization is your current job?

For how long have you been in this current position?

☐

Less than 1 year

☐

1 to 3 years

☐

3 to 5 years

☐

5 to 7 years

☐

More than 7 years

In what ways can the Ag Econ Department better serve its alumni?

	▲
	▼

What additional comments would you like to make?

	▲
	▼