

Follow-Up Study of Graduates of the College of Agricultural Sciences and Natural Resources at Texas Tech University: 1995 to 1999

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ABSTRACT

This study was conducted: 1) to determine the occupational status of alumni from the College of Agricultural Sciences and Natural Resources (CASNR) at Texas Tech University who graduated between May 1995 and August 1999; and 2) to evaluate their opinions concerning recruitment, retention and placement efforts and programs offered by the University and the College. The target population was all graduates (CASNR) at Texas Tech University from May 1995 through August 1999. The results indicated that 45% of the respondents were employed as Scientists, Engineers or Related Specialists (23.9%) and as Education, Communication or Information Specialists (21.1%). A large portion (33%) of the graduates had annual incomes ranging between \$25,000 and \$34,999, and a significant portion (14.5%) made \$50,000 and above. Recruitment efforts used by the college found to be effective were University Day and campus tours. Degrees offered and reputation of school were the most important factors in the respondent's decision to attend Texas Tech. Parents were rated as the most influential individuals in the respondent's decision to attend Texas Tech. The most challenging factor for respondents in making the adjustment to university life as a first-year student was developing proper study habits, and the most helpful factor were faculty advisors. Respondents rated concerns about what happens after graduation and concerns about grades as the most stressful factors for students in their academic program. Respondents indicated that participation in student clubs, organizations and judging teams was highly beneficial to them in preparing for future employment and in making the most of their collegiate experience. Self-initiated services were rated the most beneficial service used by graduates in their initial career job search. Almost 95% of the respondents projected employment opportunities as excellent, good, or average for their chosen field.

KEY WORDS: follow-up of graduates, occupational status, student recruitment, retention, placement, careers

In order to attract students to universities, it is imperative to find ways of improving and implementing programs which serve the needs of all students. Cheek and McGhee (1990) contend that follow-up studies are one of the most commonly used measures in evaluating programs. The follow-up study is often used in an effort to evaluate the success of a particular program or various aspects of a program. They provide the opportunity to learn from the graduates what they liked or disliked during their collegiate experience.

Recruitment, retention, and placement efforts are also areas which may be evaluated through the use of a follow-up study. Follow-up studies allow the graduates an opportunity to comment on these areas, as well as provide the college some insight as to what they may need to change to improve their methods.

The answers to the following questions were sought as means of accomplishing this objective of this study:

1. What are the demographic characteristics of the graduates from CASNR at Texas Tech University based on year degree was obtained, income and gender?
2. What is the occupational status of graduates from CASNR at Texas Tech University based upon the six occupational clusters as classified by the United States Department of Agriculture?
3. How does the occupational status of the graduates from CASNR at Texas Tech University compare to the results of the United States Department of Agriculture, Office of Higher Education, projections regarding employment opportunities for agricultural and allied graduates?
4. What are the most effective recruitment efforts used by CASNR at Texas Tech University?
5. What are the most important factors in a student's decision to attend Texas Tech University?
6. Who are the most influential individuals in a student's decision to attend Texas Tech University?
7. What are the most important items a prospective student would want delivered in a school presentation given by representatives from CASNR at Texas Tech University?
8. What are the most important factors to students in making the adjustment to university life as a first-year student?
9. What services, if any, did the students use to assist in performing well academically?
10. What are the most challenging academic areas for students, as well as the factors that caused them the most stress in their academic program?
11. What advice would alumni give to incoming freshmen in adjusting to university life and succeeding academically?
12. What role do student clubs, organizations and judging teams play in helping students better prepare for future employment, as well as in making the most of their collegiate experience?
13. What are the most beneficial services used by graduates in their initial career job search?
14. What are the most important attributes for selecting a career?
15. What are the projected future employment opportunities for graduates?
16. Would graduates enroll again in CASNR if given the opportunity?

In designing the questionnaire, the author reviewed instruments used by other researchers (Cantrell, 1996; Wrye, 1992; Major, 1988). Suggestions from the senior author's advisory committee and selected professionals in the areas of recruitment, retention, and placement were also taken into consideration for content validity. The questionnaire was pilot tested by graduate students in the Department of Agricultural Education and Communications. The instrument consisted of four parts: (1) demographics; (2) placement; (3) recruitment; and (4) retention.

METHODS

Data were collected using the researcher-designed questionnaire. An introduction letter, along with the survey and a self-addressed postage-paid envelope, was mailed on December 2, 1999. Fifty-nine respondents returned their survey after this initial mailing. A follow-up postcard was sent on December 16, 1999 as a reminder to the graduates of the importance of completing the survey and participating in the study. Eighty surveys were returned after this second mailing. A third mailing consisting of a letter, survey and postage-paid envelope, was mailed on January 24, 2000, also resulting in eighty responses. A second follow-up postcard was sent on February 15, 2000, again encouraging graduates to respond. Forty-four respondents returned their survey after this last mailing. Completion of the survey was also available to the graduates online through the website address of www.casnr.ttu.edu/survey.htm.

The data collection period ended on March 28, 2000. Two hundred-sixty-three responses were collected from the 500 mailed. Of the population sampled, 19 of the questionnaires were returned for incorrect address – therefore reducing the sample size to 481. Thus, the response rate was 54.7%.

Data were collected in four waves. A correlation matrix was established to determine if there was a relationship between date of return and the response variables included in the study. Only one variable, level of difficulty with foreign language, was found to be significantly related to date of return. People who responded later tended to have a higher level of difficulty than those who responded earlier. This general lack of significance would suggest that no differences would be found between the respondents and those who did not respond.

SUMMARY OF FINDINGS

Characteristics of Respondents

The majority of the respondents were male (74.1%) and graduated in 1998 (27.8%). Most of the respondents chose to return the survey by mail (72.6%) instead of via the website. Six occupational clusters categorized by the United States Department of Agriculture (Gilmore, Goecker and Whatley, 2000) were used to determine employment area. These are illustrated in Table 1 below.

Table 1. Characterization of graduates by current occupational category.

Employment Cluster	Number of Respondents	
Scientist, Engineer or Related Specialist	59	23.9%
Manager or Financial Specialist	36	14.6%
Marketing, Merchandising or Sales Representative	48	19.4%
Education, Communication or Information Specialist	52	21.1%
Social Service Professional	13	5.3%
Agricultural Production Specialist	39	15.7%
Total	247 ^a	100.0%

^a16 missing responses

Almost fifty percent of the respondents were employed as Scientists, Engineers or Related Specialists (23.9%) or as Education, Communication or Information Specialists (21.1%). A large portion (33%) of the graduates had annual incomes ranging between \$25,000 and \$34,999, and a significant portion (14.5%) made \$50,000 and above.

Most Effective Recruitment Efforts Used by the College of Agricultural Sciences and Natural Resources

Respondents were asked to rate various recruitment efforts in terms of effectiveness (based on a scale of 5=Very Effective to 1=Not Effective). Various recruitment efforts and their ratings are detailed in Table 2.

Table 2. Various recruitment efforts used by college.

Recruitment Efforts	% Affected	Mean Rating
University Day	38.1	3.6
Campus Tours	46.4	3.5
Postcards and Letters	45.6	3.3
Presence at State FFA Convention	25.8	3.2
Presence at National FFA Convention	22.4	3.1
Presence at Houston Livestock Show and Rodeo	30.4	3.0
Visit by Students	23.9	3.0
Visit by Faculty	20.0	3.0
Presence at State Roundup	21.0	2.9
Phone Calls	29.2	2.8

Most Important Factors in a Student's Decision to Attend Texas Tech University

Respondents were asked to rate various factors by level of importance (based on a scale of 5=Very Important to 1=Not Important). Degrees offered (4.2) and reputation of school (4.0) were the most important factors in the respondents' decision to attend Texas Tech. Factors receiving a level of somewhat important were friendliness of people (3.8), location (3.5), reputation of faculty (3.5), size of school (3.3), other factors listed by respondents (3.2), and scholarships (3.1). Other factors listed by respondents included quality of degree, family, recommendation of professionals in chosen field, jobs available in Lubbock, visits to campus, interest advisor showed, and Lubbock as a permanent residence. Rated not as important were judging teams (1.7) and Greek life (1.6).

Most Influential Individuals in Student's Decision to Attend Texas Tech University

Respondents were asked to rate various individuals by level of influence (based on a scale of 5=Very Influential to 1=Not Influential). Parents were rated as the most influential individuals with a mean score of 3.5. Friends were rated as somewhat influential with a mean score of 3.2. Rated as only slightly influential included teachers, other relatives and siblings (2.4).

Most Important Items to Cover in a High School Presentation

Respondents were asked to rate various items a prospective student would want delivered in a school presentation given by representatives from the College of Agricultural Sciences and Natural Resources (based on a scale of 5=Very Important to 1=Not Important). The most important items to cover included careers in agricultural sciences and nat-

ural resources (4.7), departmental and degree information and scholarship opportunities (4.5), costs (4.4), and university information (4.3). Items rated as only somewhat important were information on university extracurricular activities (3.8), housing information and other items listed by respondents (3.7), and Lubbock information (3.5). Other items respondents listed as important included information on faculty, job placement, number of students in classes, loans and grants, who to contact for additional information, and student:faculty ratio.

Most Challenging Factors for Students in Making the Adjustment to University Life as a First-Year Student

The most challenging factor as determined by respondents (based on a scale of 5=Very Challenging to 1=Not Challenging) was development of appropriate study habits (3.3). Choosing a career (3.2), time management (3.1) and improving academic skills (3.0) were rated as somewhat challenging. Rated as only slightly challenging were developing close friendships and attending class regularly (2.0)

The most helpful factor for respondents in making the adjustment to university life was faculty advisors (3.6) based on a scale of 5=Very Helpful to 1=Not Helpful. Summer orientation was ranked somewhat highly with a mean score of 2.9. The least utilized factors were personnel in the Dean's Office and a freshman orientation course AGSC 1111 (2.5).

Most Used Services by Students to Assist in Performing Well Academically

The library was found to be the most used service available to students in assisting them to perform well academically with a mean score of 2.4 (based on a scale of 3=Used Often, 2=Used Occasionally, and 1=Never Used). Faculty advisors were used occasionally with a mean score of 2.3. A low percentage of students used paid tutors (1.3), the PASS Center (1.2), unpaid tutors (1.2), the Writing Center (1.2), and the Counseling Center (1.1).

Most Challenging Academic Areas for Students

Respondents were asked to rate the level of difficulty (based on a scale of 5=Very Difficult to 1=Not Difficult) various subject areas caused them in their academic career. The most challenging academic areas were science classes and other subject areas listed by respondents (3.4). Other subject areas listed by respondents included chemistry, genetics, mass communication courses, finance and accounting, and statistics. Agricultural classes within their major (2.6) and agricultural classes outside their major (2.5) were rated as only slightly difficult. Least difficult as indicated by respondents were the humanities (1.6).

Most Stressful Factors for Students in their Academic Program

Based on a scale of 5=Very Stressful to 1=Not Stressful, respondents rated concerns about what happens after graduation and concerns about grades (3.4) as the most stressful factors. Rated as only somewhat stressful were pressures from self (3.1), other factors listed by respondents (3.0), and financial pressures (3.0). Other factors listed by respondents include parking, roommates, attending school with a child, degree plan, on-campus housing and a job. Factors which turned out to be least stressful for respondents were pressures from family, adjustments to college life, and communicating with teachers (2.1).

Advice Alumni Would Give to Incoming Freshmen in Adjusting to University Life and Succeeding Academically

Through an open-ended format, respondents were asked to write advice they would give to incoming freshmen in adjusting to university life and succeeding academically. The most frequent advice was to get involved, go to class, improve study habits, time management, communicating with professors, have fun and work hard.

Role Student Clubs, Organizations and Judging Teams Play in Helping Students Better Prepare for Future Employment, as well as in Making the Most of their Collegiate Experience

Respondents indicated that participation in student clubs, organizations and judging teams was highly beneficial to them in preparing for future employment as well as in making the most of their collegiate experience. The majority of the respondents were actively involved in a wide variety of clubs, organizations and judging teams. The activities with the most participation were clubs, organizations and judging teams within the College of Agricultural Sciences and Natural Resources.

Most Beneficial Services Used by Graduates in their Initial Career Job Search

Respondents were asked to rate various services based on a scale of 5=Very Beneficial to 1=Not Beneficial. Self-initiated services were rated the most beneficial service by respondents with a rating of 4.3. These services include Internet, networking, newspapers, found jobs on their own, knew individuals beforehand, and job seeker and other employment publications. Faculty advisors were rated with a mean score of 3.6. Least beneficial to respondents was the University Career Planning and Placement Office (1.9).

Most Important Attributes to Graduates for Selecting a Career

Through an open-ended format, respondents were asked to list the most important attributes to them in selecting a career. The attributes mentioned the most were salary, enjoying what you are doing, location, advancement opportunities, and benefits.

Projected Future Employment Opportunities for Graduates

Respondents were asked to project future employment opportunities for graduates in their chosen field. Almost 95 % of the respondents projected employment opportunities as excellent, good or average for their chosen field.

Would Graduates Enroll Again in the College of Agricultural Sciences and Natural Resources if Given that Opportunity?

Over 80% of the respondents indicated they would again enroll in the College of Agricultural Sciences and Natural Resources if given that opportunity (83.3%).

CONCLUSIONS

The following conclusions are based on interpretations of data presented in the study and are restricted to the populations surveyed. The conclusions are as follows:

1. Although a large percentage of graduates were making \$19,999 and below, the majority of these graduates were continuing their education in graduate school, law school and school of veterinary medicine. They generally did not hold full-time jobs. A large portion of graduates' annual gross incomes ranged from \$25,000 to \$34,999,

- and a number made \$50,000 and above. Graduates who graduated earlier tended to have higher incomes than those who graduated later.
2. Most of the respondents are employed as Scientists, Engineers or Related Specialists; Education, Communication or Information Specialists; or Marketing, Merchandising or Sales Representatives. In comparison with projections from the USDA for future employment opportunities in the next five years, CASNR produced more graduates in the previous five years in the fields of Education, Communication or Information Specialists and Agricultural Production Specialists. The larger numbers of Agricultural Production Specialists produced from the College may be because Texas Tech is located in an extensive farming region with a significant portion of the students coming from this region.
 3. Recruitment efforts conducted by the college were rated as effective. Factors listed by the respondents as effective in recruiting them to the university were faculty, reputation of school and students at Tech. Of the recruitment efforts used by the college, University Day and campus tours were the most effective.
 4. The degrees offered by CASNR and the reputation of the school were the most important factors in a student's decision to attend Texas Tech University.
 5. Parents were the most influential individuals in a student's decision to attend Texas Tech University.
 6. When making a presentation to prospective high school students, the most important items to discuss are the careers available in agricultural sciences and natural resources, departmental and degree information, as well as scholarship opportunities.
 7. Study habits, choosing a career, time management and improving academic skills were most challenging for students. Developing close friendships and attending class regularly were least challenging for students. Faculty advisors were instrumental in helping students adjust to university life.
 8. The library was the most used service by students in assisting them to perform well academically. Services such as tutors, the PASS Center, the Writing Center, and the Counseling Center were not used often by students.
 9. Science and math classes provide a high level of difficulty for most students. In terms of difficulty, most students tended to struggle less in their agricultural classes. Least difficult for students were social sciences, foreign languages, English and humanities.
 10. The most stressful factors for students were their concerns with what happens after graduation and concerns about their grades. Least stressful for students in CASNR was adjusting to college life and communicating with teachers. Though research indicates that the most critical time for first-year students is the first six weeks of the semester as they struggle to adapt to the college life, these respondents indicated this wasn't an important factor for them in comparison to other factors listed on the survey.
 11. According to alumni, students need to get involved quickly, go to class, communicate with professors, improve study habits, manage time wisely, work hard and yet have fun in order to adjust to university life and succeed academically.
 12. Involvement in student clubs, organizations and judging teams will benefit students in preparing for future employment and in making the most of their collegiate experience.
 13. Self-initiated services, such as Internet, newspaper, networking, and job seeker and other employment publications are very beneficial to students in their initial career job search. Faculty advisors are also beneficial to students in their initial career job search.

14. The most important attributes to graduates for selecting a career are salary, enjoying what they are doing, location, advancement opportunities, and benefits.
15. The majority of the graduates from CASNR project future employment opportunities in their chosen fields as good.
16. The vast majority of graduates were pleased with their educational experience and would again enroll in the CASNR.

RECOMMENDATIONS

The following recommendations are made by the investigator as a result of having conducted this study:

1. CASNR should utilize the faculty and the reputation of the school in recruiting students to the University.
2. Recruitment efforts such as University Day and providing campus tours should be continued.
3. Based on comments received from respondents, recruiters, staff, faculty and current students should continue to emphasize the friendliness and small, family-like atmosphere found in the CASNR to prospective students as well as to current students.
4. Recruiters need to concentrate on promoting degrees offered, reputation of school, friendliness of people, location of Texas Tech, reputation of faculty, and size of Texas Tech to prospective students.
5. Recruiters need to have more contact with parents of prospective students.
6. When presenting information to high school students, material that emphasizes the opportunities and availability of careers in the agricultural industry, as well as the number of scholarships available in CASNR, should be presented to students.
7. CASNR should increase their efforts in assisting students in dealing with their concerns with what happens after graduation. Possible concerns might be: finding a job, being financially independent, the uncertainty of what will be expected of them in a full-time job, the fear of not fulfilling the employers' expectations, and the uncertainty of their abilities to deal with new situations and changes.
8. CASNR needs to make certain that students are aware of the wide variety of activities for students to get involved in within the College and throughout the University.
9. The Ag Recruitment and Career Center within CASNR should utilize and promote the Internet more in helping students with their initial career job search. The Center should teach students effective means of searching for job opportunities via the World Wide Web.
10. Further, in-depth studies should be done to evaluate individual programs and techniques used by CASNR in the areas of recruitment, retention and placement. The use of focus groups is suggested.
11. CASNR should survey students who chose not to return to Texas Tech University to determine why they left.

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