

Undergraduate Education As Preparation For Employment: A Survey of 2005 Graduates

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Abstract

The University of Arizona is a research-1 institute; therefore, it is a priority to assess the changing trends and perspectives of its students on an annual basis. This research is essential to University improvement with regards to graduate achievement and success. "Assessment in higher education can provide accountability for public funds, ensure a well-prepared work force, and improve effectiveness of programs" (Miller et al., 1998). More specifically, the College of Agriculture and Life Sciences (CALs) is dedicated to improving its practices and philosophies to better serve students. The College of Agriculture and Life Sciences is currently studying graduates each year by assessing overall attitudes toward the quality of the educational experience within CALs. This annual study examines CALs graduates and their overall satisfaction with the college based on five categories. These categories are: Individual and Instructional Influences, Personal and Professional Development, Family Influence, Personal or Professional Connections, and Job Satisfaction. This study will discuss the findings of the 2005 College of Agriculture and Life Sciences graduates and will also compare trends of satisfaction and dissatisfaction with the 2004 graduates.

Introduction

It is the aim of the College of Agriculture and Life Sciences at the University of Arizona to provide an educational experience, which will best prepare graduates for employment in their determined field. Colleges of agriculture have historically had a significant role in preparing their graduates for entry and advancement in agricultural professions and careers. In order to continue to improve the focus and direction of the courses offered in CALs, continuous reviewing by graduates becomes necessary. As a result of the CALs undergraduate experience, it is desired that graduates have a sense of readiness as they enter the job market. In an effort to continually meet the needs of their respective clientele, departments must make decisions regarding the curriculum of their respective programs, such as the format in which to deliver courses (Roberts and Dyers, 2005). Graduates are in a unique position to judge the strengths and weaknesses of programs in which they have participated. Student contentment with their undergraduate experience is essential to an institution's vitality. It is widely believed that higher education could and should be more responsive to the needs of the industries that employ graduates. An outcomes assessment of undergraduate programs was desired to determine (but not limited to) student perceptions of the CALs undergraduate experience. The idea was to put a system in place, which could be operated by staff in CALs on a continuing basis. It was hoped that information could be then used for analysis of trends over time.

Follow-Up Studies

The American Heritage Dictionary of the English Language defines follow-up as “One that follows so as to further an end or increase effectiveness”. A follow-up study of graduates will allow stakeholders to determine how CALS is doing in terms of decisions, adjustments, and changes. Carefully planned and conducted follow-up surveys can contribute to student outcomes assessments on many campuses (Foster and Hartney, 1998). Data gathered through such a study can provide real information that will have long-term effects on the improvement of the various programs in the College. Follow-up studies of students often seek to measure the relationship between the training the students received at the institution and the expertise needed for their occupational placement (Randavay, 1990). Conducting a study of graduates on an annual basis will also provide a longitudinal framework to determine how well prepared CALS graduates are for entry and advancement in agricultural professions and careers.

Career Preparation

The focus on career preparation and career status of graduates has long been a major component of successful academic programs. Lack of career orientation poses a problem for faculty and advisors concerned with helping students link their undergraduate education to future employment (Lunneborg & Wilson, 1982). A well-prepared professional workforce in the agriculture and life sciences sectors is needed to further develop the [State] rural and urban economies. As the agricultural industry changes over time, the educational systems pertaining to agriculture and related subjects must not fall behind (Heyboer & Suvedi, 1999). All schools need to provide opportunities for students to prepare for agricultural careers so that the predicted shortage of trained professionals in agriculture may be alleviated (Phipps & Osborne, 1988).

Program Evaluation

Securing information on the placement and occupational success of graduates can illustrate the effectiveness of educational programs (Osmond & Hoover, 1995). Assessment of these programs allows institutions like the University of Arizona to remain relevant and predict changes in the job market. The entire state should benefit from the enhancement of programs which are designed to influence preparation of students for their life roles. A need for accurate and complete data covering all agriculturally related occupations is essential for sound planning of agricultural education programs (Pepple & Valdes, 1992). Identifying the areas where some deficiencies may exist will greatly enhance the probability of succeeding in future years (Peterson, 1971).

Purpose and Objectives

The purpose of this study was to determine the quality of the undergraduate educational experience of the graduates of the College of Agriculture and Life Sciences at The University of Arizona with the following outcomes:

- ✓ Knowledge of the attitudes of graduates relating to their undergraduate experience.

- ✓ Information about how the undergraduate experience assisted students in areas of personal and professional growth and development.
- ✓ Suggestions concerning areas of needed additional emphasis in the academic experience.
- ✓ Value of the undergraduate experience as preparation for graduate or professional education.
- ✓ Employment experience of graduates.

Methods and Procedures

The study used descriptive survey research design. It was designed to assess the undergraduate experience of CALS alumni from the University of Arizona as related to career preparation. The target population for this study was all domestic CALS graduates for the calendar year of 2005 (N=466). All foreign students were excluded. The population was comprised of 10 academic departments, with 19 respective majors. The survey frame was obtained from the office of Enrollment Management at the University of Arizona.

A researcher-developed instrument was created following a review of the literature, development of objectives, and the pilot test of the original study. There were a total of five sections to the questionnaire. Section I (questions 1-4) was designed to determine the respondents' perceptions of their undergraduate experience by using a Likert-type scale ranging from "Strongly Agree" (5) to "Strongly Disagree" (1). Section II (questions 5-7) was designed to determine the current activities of the respondents. This section utilized two selective response questions, one open-ended question, and one Likert-type scale construct ranging from "Strongly Agree" (5) to "Strongly Disagree" (1). Section III of the instrument (questions 8-10) was designed to obtain information from those respondents who were currently attending graduate or professional school. Section III consisted of two open-ended questions and one Likert-type scale construct ranging from "Strongly Agree" (5) to "Strongly Disagree" (1). Section IV of the instrument (questions 11-23) was designed to obtain information from those respondents who are currently employed outside the home. Section IV consisted of open-ended questions, selective response questions, and a Likert-type scale construct ranging from "Strongly Agree" (5) to "Strongly Disagree" (1). Section V consisted of three open-ended questions (questions 24a-24c) which were designed to obtain information regarding various aspects of the University of Arizona experience.

Data Collection

The 2005 study used a bimodal method of data collection and was similar to a study done of the 2004 graduates. A total of four letters were developed to be mailed to the population. Each letter encouraged the population to respond electronically. The population sample was directed to www.surveymonkey.com, an online questionnaire host. The cover letter indicated that participants would need to access the questionnaire host, and enter the password "cals05" and the provided 5-digit code number. The 5-digit code number was an indicator of the participant's unique response, department, and major. If the population had not responded by February 27, 2007, they were not only directed to the online questionnaire, but sent a hard-copy of the instrument with a return addressed stamped envelope.

To increase participation, it was recommended that individual department heads sign the letters to their respective graduates. This would serve to promote a sense of familiarity and authenticity to the instrument and its purpose. The first letter was sent out on January 9, 2007. The letter notified the population of the questionnaires purpose, and how it would be beneficial to the college by making it a more effective place for students to prepare for their life roles. The second letter was sent on January 30, 2007. The same directions regarding responses were included in the second mailing. The letter reminded the population of the purpose and usefulness of the questionnaire. On March 6, 2007, the third letter was sent to the population. The third letter encouraged internet response, and also included the option of responding to the questionnaire by a paper version, which was included in the mailing. The third letter reassured complete confidentiality of the respondents and offered to answer any questions respondents might have regarding the questionnaire. The fourth and final letter was sent on March 27, 2007 with similar directions as that of the third letter. The cut-off date for responses was April 24, 2007. Usable responses were received from 178 of the 466 subjects, for a 38% response rate.

Data Analysis

Quantitative data collected in the process of the study were coded and analyzed using the Statistical Package for the Social Sciences v. 14 (SPSS). Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to describe the population. Lindner, Murphy, and Briers (2001) reported that non-response error exists to the extent that people included in the sample fail to provide usable responses and are different than those who do provide usable responses on the characteristics of interest study. In evaluation of non-response error for this study, (1) grade-point averages, and (2) major for the entire population were obtained. Responses from early and late respondents were also compared and the findings for both respondents and non-respondents and early and late respondents showed no significant difference in both G.P.A. and major of study, which allows the follow-up study to be reasonably reflective of the 2005 CALS graduating class.

Results/Findings

Results were obtained from 178 of the 466 graduates in the year 2005 for a 38% response rate. Graduates were surveyed on the level of their satisfaction with the CALS program overall, their preparation for the workforce or Graduate/Professional school, and their current employment status.

Responses Concerning Undergraduate Experience

Two items related to satisfaction with choice of university and major were received by respondents ($N=163$). There was a general accord regarding choice of university with 93% of respondents indicating agreement with the statement "If I could start all over I would still choose to attend the University of Arizona" ($M=4.56$, $SD=.694$). Approximately 66% of the respondents indicated they would "still choose to graduate with the same major" ($M=3.91$, $SD=1.117$). More variance is observed in responses relating to satisfaction with major than satisfaction with university.

Four items related to academic advising were rated by respondents ($N=163$). Participants rated “Appropriate access to academic advising” the highest of the four items ($M=4.22$, $SD=.882$), and rated “Sufficient information about graduate programs” the lowest ($M=3.07$, $SD=1.12$). The item concerning “high-quality academic advising” showed an 80% agreement in respondents ($M=4.01$, $SD=1.077$). Only a little more than half (57%) of respondents felt they had “sufficient information about career opportunities” ($M=3.41$, $SD=1.159$).

Eight items related to the extent the respondents’ University of [State] experience helped them grow personally and professionally were rated ($N=163$). The greatest percentage of respondents, at 92% agreed or strongly agreed that the University of Arizona helped them grow in knowledge and understanding of their academic field ($M=4.26$, $SD=.74$). The item rated lowest in satisfaction by respondents was “Gaining professional direction” ($M=3.74$, $SD=1.132$).

Respondents were also asked to rate six areas as to whether they needed more emphasis ($N=163$). “Application of knowledge relating to my major” was the greatest item needing more emphasis agreed upon by 52% of respondents ($M=3.32$, $SD=1.280$). “Oral communication skills” were also indicated by 52% of respondents to be in need of more emphasis. The area least in need of emphasis was “Written communication skills” ($M=2.90$, $SD=1.081$).

Preparation for Graduate or Professional Education

Graduates were asked the degree they are currently pursuing ($N=53$). Each major was individualized with no one major drawing a majority of CALS graduates. Approximately 1/3 (33%) of respondents were enrolled in graduate or professional school at the time of the survey. 72% of respondents ($N=53$) also indicated that their “graduate or professional major is closely related to my undergraduate program” ($M=3.91$, $SD=1.319$). When asked to rate their level of preparation for graduate or professional education, 76.3% of respondents ($N=55$) agreed or strongly agreed with the following statement: “I am pleased with the quality of my [University of Arizona] College of Agriculture and Life Sciences undergraduate preparation for my graduate or professional education” ($M=3.93$, $SD=1.069$).

Preparation for Employment

There was also a high level of agreement (72%) regarding effective preparation for employment in respondents ($N=125$, $M=3.67$, $SD=1.098$). Approximately 60% of respondents stated that a B.S./B.A. is required for their position ($M=3.38$, $SD=1.625$). 43% of respondents agreed or strongly agreed with the following statement: “My [University of Arizona] academic preparation gave me an advantage over new employees from other universities” ($M=3.19$, $SD=1.148$).

Employment of Respondents

Of those graduates who responded ($N=124$), approximately 58% of those employed were in a field closely related to their undergraduate program of study ($M=3.29$, $SD=1.561$). Respondents were asked to indicate whether or not this was their first job after graduation

(N=124). Sixty-nine respondents (55.6%) were currently employed in their first job after graduating. Fifty-five respondents (44.4%) reported that they have been employed in more than one job since graduating. Respondents reported what state/country their current job is located (N=126). Seventy-eight respondents (61.9%) stated their current job was located in Arizona. Twenty-four respondents (19%) were working in a state that borders Arizona. Four respondents (3.1%) reported their job was located in the Western U.S. not bordering Arizona. Twenty respondents (15.8%) indicated their jobs were spread across the nation outside of the Western U.S. Finally, only one respondent (.7%) was working outside of the United States.

Respondents were asked to indicate their approximate salary before taxes (N=122). The responses were coded in \$10,000 increments. The range for responses was from “1” to “8”. “1” indicated \$0-\$10,000 and “8” indicated \$70,001-\$80,000. Forty-one respondents (33.6%) indicated they were making between \$30,001-\$40,000 a year. There were eight respondents (6.5%) who reported making \$70,001-\$80,000 and above per year.

Conclusions/Recommendations

Overall, CALS graduates had a favorable perception of their undergraduate education at the University of Arizona. Students felt they had sufficient growth both personally and professionally during their time at The University of Arizona. There was a majority of positive perceptions regarding preparation for employment or graduate/professional school. In addition, nearly all respondents were employed, in a graduate program, or both.

While there was missing information, due to standard non-response error and validity of responses, there were sufficient data collected to be indicative of the overall perception of 2005 graduates. Some recommendations to make this follow-up survey more successful would be to design a database of permanent email addresses for each graduate or at least the creation of a database with related information which will make it easier for researchers to contact former students personally. Another recommendation would be to conduct three separate surveys. One survey will be conducted at the conclusion of a student’s exit interview while the other two surveys will be administered one year and five years post-graduation. Perceptions of students may change given time and a second survey gives students an opportunity to reflect upon their university experience from a different perspective. Follow-up studies such as this help to provide the College of Agriculture and Life Sciences at the University of Arizona with the tools to improve their programs to better fit the changing needs of its students. Assessment of student perceptions helps to improve teaching strategies, department resources, and course information focus.

References

- Foster, B., & Hartney, M.J. (2000). Follow-up study of graduates from the College of Agriculture, The University of [State] 1996. *NACTA Journal*, 3(3), 16-19.
- Heyboer, G., & Suvedi, M. (1999). *Perceptions of recent graduates and employers about undergraduate programs in the college of agriculture and natural resources at Michigan State University: a follow-up study*. Proceedings of the 26th Annual National Agricultural

Education Research Conference. Proceedings retrieved from
<http://aaae.okstate.edu/proceeding/1999/>

- Lindner, J.R., Murphy, T.H., & Briers, G.E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education, 42*(4), 43-53.
- Lunneborg, P.W., & Wilson, V.M. (1982). Job Satisfaction Correlates for College Graduates in Psychology. *Teaching of Psychology, 9*(4), 199-201.
- Miller, W.W., Williams, D.L., Bekkum, V.A., & Steffen, R.W. (1998). The follow-up survey as a student outcome assessment method: Some procedures and examples. *NACTA Journal, 42*, 40-46.
- Osmond, J., & Hoover, T. (1995). Follow-up study of graduates from the college of agriculture, University of Florida. *Journal of Agricultural Education, 2*(2), 41-48.
- Pepple, J.D., & Valdes, C. (1992). An occupational employment study of agricultural service industries: Standard industrial classification 07. *Journal of Agricultural Education, 33*(2), 19-27.
- Peterson, R.W. (1971). More clout for vocational education. *American Vocational Journal, 46*(2), 22-25.
- Phipps, L.J., & Osborne, E.W. (1988). *Handbook on agricultural education in public schools*. Danville, IL: The Interstate Printers Publishers, Inc.
- Randavay, S. (1990). A follow-up study of the doctoral program in agricultural and extension education. *Journal of Agricultural Education, 31*(2), 40-44.
- Roberts, T.G., & Dyer, J.E. (2005). A summary of distance education in university agricultural education departments. *Journal of Agricultural Education, 46*(2), 70-82.
- Wallace, B.S. (2006) *Undergraduate Education as Preparation for Employment: A Survey of 2004 Graduates*. Published Master's Thesis, University of [State], Tucson, [State].