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A Follow-up Survey of 1996 Graduates from the College of Agriculture, The University of Arizona

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Abstract

The purpose of this study was to design and pilot a graduate follow-up survey to be utilized in an ongoing effort to determine the quality of the educational experience of the graduates of the College of Agriculture at the University of Arizona. This medium provides a route for institutions to ratify the quality of their programs. Realizing that graduates are in a unique position to judge the strengths and weaknesses of any given program, surveys are designed to evaluate the graduate and the product of a program. Of the respondents, 75 percent were employed and among those employed, 81 percent worked full-time. Eighty-six percent of

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those surveyed had found employment relating to their major in less than four months after graduation, some having positions before graduation. Nearly one-third of current positions held by 1996 graduates were related to their major. Fifty-six percent of the respondents rated their overall College of Agriculture educational experience as "Good", while 26 percent rated their experience as "Excellent."

Introduction

Without positive outcomes for the student, the perceived quality of the educational experience in any field looses credence. Assessment is needed in higher education to provide accountability for public funds, to ensure a well-prepared work force, and to improve effectiveness of programs (Miller et al., 1998). The College of Agriculture (COA) at the University of Arizona maintains a tradition of developing and supporting excellent programs in agriculture and life sciences. In order to continue to improve the focus and direction of the course offerings in the College of Agriculture, continuous critiquing by graduates becomes necessary.

Assessing the outcomes of graduates allows institutions to document students' progress after their exposure to higher education (Erwin, 1991). In addition, this medium provides a route for institutions to ratify the quality of their programs and educational experiences. As the quality of education improves, so does the price tag. The prudent shoppers, in this case tax payers, parents, students and legislators, want to know that the best product is available for their perusal.

When implementing a graduate follow-up survey to assess student outcomes, some of the recommendations from previous studies include establishing clear objectives, collecting data at regular intervals and maintaining a consistent use of variables studied and time frames in which they are collected (Miller et al., 1998). Carefully planned and conducted follow-up surveys can contribute to student outcomes assessments on many campuses. Realizing that graduates are in a unique position to judge the strengths and weaknesses of any given program, surveys are designed to evaluate the graduate and the product of a program (Wentlig, 1980).

In addition to the assessment value of this study, it is important to note that the information gleaned from former students in the College of Agriculture can provide a direct link to future students in the College of Agriculture. In their follow-up study of graduates of the College of Agriculture and the School of Forest Resources and Conservation, researchers discovered that one of the benefits for the University of Florida was the use of the data to dispel negative perceptions of high school students regarding careers in food, agriculture and natural resources (Osmond et al., 1998).

Conceptual Framework

Figure 1 represents a model developed to pilot test the survey following the graduates of 1996. The arrows represent the graduates in each survey, realizing these subjects will vary. The vertical lines on the horizontal bar represent the timeline and actual data collection points.

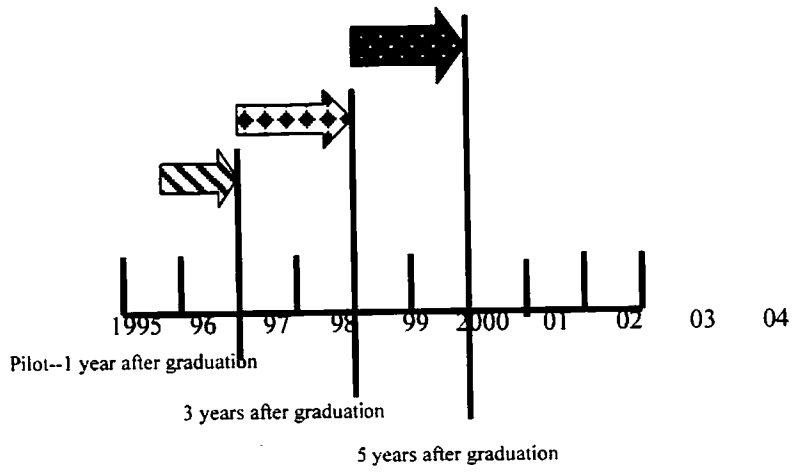

Figure 1. Model for assessment of follow-up of graduates

Purpose and Objective

The purpose of this study was to design and pilot test a follow-up survey of graduates to be utilized in an ongoing effort to determine the quality of the educational experience of the graduates of the College of Agriculture.

Specific objectives included: 1) developing a survey instrument which yields data on career placement, salary range, position title, location of current position, and assessment of preparation for employment; 2) developing a procedure to insure an accurate data base of mailing addresses for College of Agriculture students who graduated in May, Summer or December terms of 1996; 3) establishing validity and reliability of the instrument; 4) describing the 1996 graduates' degree of satisfaction of the educational experience provided by the College of Agriculture; and determining post-graduation employment patterns of 1996 graduates.

Methods and Procedures

The College of Agriculture envisions contacting graduates one year, three years, and five years post graduation. The first round enabled the pilot testing of the instrument and the establishment of the validity and reliability of the core questions. To achieve the objectives of this study, a descriptive research design was selected.

The target population identified for this study included all graduates of the College of Agriculture who earned a Bachelor, Master, or Doctoral degree in May 1996, summer 1996, or December 1996. Graduates with foreign addresses were excluded. These graduates were excluded because of the time constraints that international mail would cause.

The Development and Alumni Office of the College of Agriculture provided a list of 1996 graduates that met the criteria for this study. It was assumed that the list provided was accurate and that all listed graduates could be contacted through the United States Postal System. The target population consisted of 446 alumni. A random sample of the accessible population yielded a sample of 210 graduates. These sampling units were used to pilot test the instrument and report the findings

A survey instrument was created to collect the data. The items in the instrument were based on a follow-up survey designed by Gonzales (1976) for the College of Agriculture. Surveys conducted by the Division of Retailing and Consumer Studies, and the Department of Agricultural Education were also consulted for items to include. Faculty from the Department of Agricultural Education and the Associate Dean for Academic Programs comprised a panel of experts to check the face validity and content of the instrument.

In early December 1997 the selected graduates were mailed a survey packet. The packet contained a cover letter explaining the survey and a questionnaire. The questionnaire was constructed as a booklet that also doubled as a self-mailer. Return postage was provided to facilitate return and increase response rates. Alumni were requested to return completed questionnaires by December 24, 1997. A follow-up questionnaire was mailed to all non-respondents the beginning of February 1998. Non-respondents who received a second survey packet were requested to return completed questionnaires by March 2, 1998.

From the original 210 graduates contacted, 18 survey packets were returned as undeliverable and seven completed questionnaires were excluded because the responding graduates indicated that they did not graduate during 1996. Responses from 99 of 185 subjects resulted in a response rate of 54 percent.

According to Miller and Smith (1983) when all sampling units do not respond a threat to survey research exists. To minimize the influences of non-respondents, Miller and Smith (1983) suggest one viable alternative is to compare early to late respondents. This approach is possible because research has shown that non-respondents are often similar to late respondents.

Early respondents accounted for 53 percent of returned questionnaires. A comparison of early and late respondents on the core items that measured the degree of satisfaction with their educational experience in the College of Agriculture revealed no significant differences (= 0.05). Cronbach's alpha was calculated to establish the reliability of the 16 core questions. The reliability coefficient for the 16 core questions yielded a coefficient of .89. Elliot (personal communication, 1995), and other researchers (Waters and Haskell, 1989) have suggested that a question with an alpha coefficient of .80 or better can be considered reliable. The core questions for this survey were therefore considered reliable.

Results and Discussion

A year after graduation the mean age for respondents was 28 years. It should be noted that the youngest graduate was 22 years old and the oldest graduate responding was 59 years old. The most frequent response revealed 26 percent of 1996 alumni were 23 years old. Three quarters of the 99 responding graduates were female.

Eighty-five percent were White, not of Hispanic origin. Hispanics were the second largest ethnic group (10 percent) to return questionnaires. The remaining five percent of graduates represented Native Americans, African-Americans, Asians, and Portuguese.

The University of Arizona awards degrees in May,

summer, and December. As Figure 2 shows, 49 percent of College of Agriculture graduates received their degrees in May. Another 40 percent of responding alumni had their degrees conferred in December. The remaining 11.1 percent graduated in the summer.

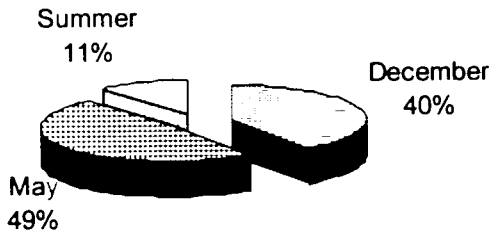

Figure 2. 1996 College of Agriculture Alumni Graduates by Term

Eighty-four percent of responding alumni received a bachelor's degree, 11 percent a Master's degree, and the remaining 5 percent doctoral degrees.

Graduates representing 20 majors responded. Majors with more than five respondents are listed in Table 1.

The largest groups represented in this study were Family Studies graduates (30 percent) and Nutritional Science graduates (12 percent).

Post Graduation Employment Patterns

Graduates were employed in all regions of the United States. There was a tendency for graduates to remain in the Southwest (Table 2). The majority, 43 percent, identified Arizona as the current geographic location of their present job. The second largest percentage of graduates (22 percent) reported they were employed in the remaining southwestern states identified.

Seventy-five percent were currently employed and 81 percent of currently employed 1996 graduates were employed full-time. Fifty-four percent reported that they received a salary. Five percent of College of Agriculture graduates classified themselves as self-employed. The remaining graduates were hourly employees.

The majority of graduates reported that their income for the past year ranged from $20,000 to $29,000. A small portion (9 percent) earned less than $10,000 and a smaller percentage (4 percent) earned $50,000 or more (Table 3).

Graduates consulted diverse sources to find their current position. One-third (32 percent), found their current position through a friend (Table 4). Newspapers and trade journals assisted 19 percent of graduates to find their current position. The COA Career Placement service placed 3 percent of the graduates and another 7 percent of those employed found their position with the help of COA faculty and staff. The remaining 39 percent of the 1996 graduates found their employment through sources other than those options provided in the questionnaire. Other sources by which graduates reported finding employment were: Internet, Internships, Self-taught, Career fair, and Private or governmental employment service.

Table 1. Summary of Majors Identified by College of Agriculture Alumni in Which More Than Five Responded

Major	n	%
Agricultural Education	5	5
Animal Science	5	5
Family Studies	29	30
Nutritional Science	12	12
Retailing & Consumer Studies	11	11
Wildlife & Fisheries	10	10

Table 2. Current Geographic Region Where 1996 College of Agriculture Graduates Place of Employment

Region	n	%
Arizona	43	58
Southwest (CA, CO, HI, NM, NV, UT, WY)	16	22
Northwest (AK, ID, MT, OR, WA)	2	3
Northeast (ME, NH, VT, NY, CT, RI, MA, NJ, DE, PA)	2	3
South (AL, AR, LA, FL, GA, MO, MS, TX)	6	8
Lake States (IL, IN, MI, MN, OH, WI)	3	4
Plains States (IA, KS, NE, ND, OK, SD)	1	1
Other (District of Columbia)	1	1
TOTAL	74	100

Table 3. Income Earned During the Past 12 Months by 1996 College of Agriculture Alumni

Income	n	%
Less than $10,000	7	9.3
$10,000 - $19,999	24	32.0
$20,000 - $29,999	25	33.3
$30,000 - $39,999	12	16.0
$40,000 - $49,999	4	5.3
$50,000 or Greater	3	4.0
Total	75	100

Table 4. How 1996 College of Agriculture Graduates Obtained Their Current Position

How obtained	n	%
Newspaper or trade journal	14	19
Friend	23	32
College of Agriculture Career Placement	2	3
Faculty/Staff from College of Agriculture	5	7
Other	28	39
Total	72	100

Within one month after graduation, 30 percent of graduates had found their first employment related to their major. Twenty-four percent of the graduates found related employment before graduation. Another 31 percent found employment in two to four months following graduation, with 10 percent locating employment in four to eight months. The remaining five percent of the employed graduates found their work in eight months to one year.

In 1997 graduates listed over 40 different job titles (Table 5). Graduates who listed teacher as their job title represented the largest group (n=17). Graduates also listed a wide range of types of businesses where they currently work.

Table 5. Current Job Title of 1996 College of Agriculture Graduates

Title	n	Title	n
Research Technician	4	Account Manager	3
Wildlife Technician	3	Farm Attendant	2
Case Manager	2	Medicare Analyst	1
Teacher	17	State Page	1
Environmental Analyst	1	Producer-online	1
Finance Administration	1	Human Resources	1
Postdoctoral Researcher	1	Sales Manager	2
Technical Recruiter	2	Telemarketing	1
Management	1	Interior Designer	1
Aerobics Instructor	1	Project Leader	2
Field Representative	1	Child Protective Service	1
Health Worker	1	Family Facilitator	1
Sales Person	2	Coordinating Assistant	1
Consultant	1	Dietitian	2
Biologist	1	Horticulturist	1
Veterinary Technician	1	Property Manager	1
Self-Employed	1	Associate Buyer	1
Nanny	1	Executive Assistant	1
Director	1	Orthodontic Resident	1
Gorilla Caretaker	1	Portfolio Manager	1
Store Manager	1	Teaching Assistant	1
Golf Professional	1		

Responding to a Likert-type scale, nearly one-third (31 percent) reported that their current employment *was related* to their major. An additional 22 percent of respondents reported their positions were *closely related* to their major. Twenty-five percent regarded their employment as *somewhat related* to their major, while 22 percent saw no relation to their major at all to their current position.

Public sector agencies employed half (52 percent) of the 1996 College of Agriculture graduates. The private for profit sector employed an additional 36 percent of those graduates.

Of the respondents who indicated that they were not currently employed (25 percent), only 15 percent, of the unemployed 25 percent, were actively seeking employment. The 84 percent who were not seeking employment listed that they were attending school full time (47 percent), attending school part-time (19 percent), and 34 percent indicated other reasons such as: homemaker, not working by choice, internship, seasonal position, looking for a better paying position, or just got married.

Educational Experience

Using a five point Likert scale, 16 educational experience factors were evaluated (Table 6). The majority of responding graduates fell into the satisfied or above column for 12 of the 16 educational experiences provided. Quality of faculty advising was the only educational experience factor in which more that one third (34 percent) of alumni rated as highly satisfied. Three educational experiences, quality of instruction, quality of course work and small class size, were very satisfying for graduates.

Table 6. Summary of Graduates Degree of Satisfaction with Educational Experience Provided by The College of Agriculture

Educational Experience Highly Satisfied	N	Not Satisfied		Not Very Satisfied				Satisfied		Very Satisfied	
		n	%	n	%	n	%	n	%	n	%
Quality of instruction	97	0	0	3	3	27	28	48	50	19	20
Quality of course work	98	0	0	1	1	35	36	44	50	18	18
Small class size	98	6	6	12	12	20	20	37	38	23	24
Quality of faculty advising	98	6	6	5	5	32	33	22	22	33	34
Career opportunities	93	5	5	26	28	40	43	13	14	9	10
Degree requirements fit job	91	3	3	11	12	51	56	20	22	6	7
General UA requirements	98	3	3	10	10	56	57	22	22	7	7
Individual attention	98	2	2	10	10	43	44	24	25	19	19
Internship opportunities	87	4	5	10	12	31	36	21	24	21	24
Availability of scholarships	85	5	6	23	27	42	49	7	8	8	9
Use of guest speakers	93	1	1	19	20	43	46	22	24	8	9
Student clubs	85	3	4	8	9	49	58	16	19	9	11
Learning to use computer	92	8	9	15	16	31	34	25	27	13	14
Classroom facilities	97	3	3	13	13	47	48	28	29	6	6
COA career day	76	4	5	18	24	41	54	9	12	4	5
Student recognition	90	3	3	17	19	48	53	14	16	8	9
Other	6	1	17	0	0	1	17	1	17	3	50

When responding graduates evaluated their overall College of Agriculture experience, 56 percent rated that experience as *Good*. Twenty six percent rated their overall experience as *Excellent*, while another 15 percent rated their experience as *Average*. Only three percent of the 1996 graduate respondents' rate their overall College of Agriculture experience as *Below Average* or *Poor*.

Summary

One year after graduation approximately seventy-five percent of the responding 1996 College of Agriculture graduates were female and almost eighty-four percent were White, not of Hispanic origin. Graduates' mean age was 28 years and eighty-three percent earned a bachelor degree. Forty-eight percent of the graduates surveyed received their degrees in May.

Seventy-five percent of the respondents were employed and among those employed, 81 percent worked

full-time. During 1997 thirty-nine percent of employed graduates were paid hourly, and more than 52 percent worked in the public sector. The private for-profit section employed 36 percent of the respondents. Salaries reported ranged from less than $10,000 to over $50,000. For one-third, an annual salary in the range of $20,000 to $29,999 was the norm. A quarter of the graduates surveyed indicated they were not currently employed. However, of that number one-fifth were attending school part-time and half (47 percent) were full-time students. Eighty-six percent of those surveyed had found employment relating to their major within four months of graduation. Nearly one-third of current positions held by 1996 graduates were related to their major.

When asked about sources for finding employment, graduates reported *a friend* was the number one source used to find their current position. Friends were followed by a *newspaper or trade journal.* The *College of Agriculture Career Placement* program was the least used avenue that assisted with obtaining current position.

Over half of the respondents rated their overall College of Agriculture educational experience as *Good*, and a fourth rated their experience as *Excellent.* This overall rating corresponds with the ratings that graduates gave the 16 core educational experience areas. Over all graduates were satisfied, very satisfied, or highly satisfied in all 16-core educational experience areas. Areas reported as providing the least satisfaction included career opportunities, availability of scholarships, use of guest speakers, College of Agriculture Career Day, and student recognition.

Recommendations

During this study the preponderance (43 percent) of respondents were from the School of Family and Consumer Resources and female (75 percent). Alumni from the School of Family and Consumer Resources represent only three of the 20 majors identified. A Chi-Square analysis that compared the School of Family and Consumer Resources to the rest of the College, revealed no significant differences (= 0.05). Considering the variation of majors under the College of Agriculture umbrella, the researchers suggest future studies consider one of the following scenarios.

1. Select sample using a stratified random sample method. Major and degree would stratify the target population.
2. Census of target population.

Finally the College might consider further investigating why a high percentage of alumni rated the educational experience factors of career opportunities, availability of scholarships, use of guest speakers, College of Agriculture Career Day, and student recognition the lowest. This additional information gleaned from alumni might provide insight on what changes the College of Agriculture could possibly implement. That could possibly result in an overall increase in student satisfaction.

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