Iran Agricultural Research 20:97-106 (2001)

NOTE

A FOLLOW-UP STUDY OF AGRICULTURAL COLLEGE GRADUATES OF SHIRAZ UNIVERSITY, I.R. IRAN

GH. H. ZAMANI AND M. AMIRI[1]

Department of Agricultural Extension and Education, College of Agriculture, Shiraz, University, Shiraz, I.R. Iran.

(Received: May 15, 2000)

ABSTRACT

Assessment is needed in higher education to provide accountability for public funds, to ensure a well-trained work force, and to improve effectiveness of programs. A popular student outcome assessment method is the graduate follow-up survey. Follow-up surveys are designed to evaluate the graduates, the product of a program. Graduates are in a position to judge the strengths and weaknesses of a program. Baccalaureate degree recipients from the College of Agriculture of Shiraz University were surveyed to determine occupational status and perceptions regarding the usefulness of agricultural courses. Results showed that 71% of the respondents were employed and 7% were unemployed, with the remaining being in military service or continuing their education. Eighty percent of employed graduates were involved to some degree in an occupation related to agriculture. The courses rated the most useful were: a) general agronomy, b) farm management, c) agricultural machinery, and d) farming practices.

Key words: Follow-up study, Agricultural graduates.

1. Associate Professor and former Graduate Student, respectively.

تحقیقات کشاورزی ایران

(۱۳۸۰) ۱۰۶-۹۷:۲۰

ارزیابی آموزشی دانش آموختگان دانشکده کشاورزی دانشگاه شیراز

غلامحسین زمانی و محمد امیری

به ترتیب دانشیارو دانشجوی سابق کارشناسی ارشد بخش آموزش و ترویج کشاورزی ، دانشکده کشاورزی دانشگاه شیراز، شیراز، جمهوری اسلامی ایران.

چکیده

ارزیابی نظام آموزش عالی برای پاسخگویی به اعتبارات ملی ، تضمین تربیت نیروی انسانی کارآ، و در نهایت زمینه‌ای برای ارتقاء کیفی برنامه‌ها ضرورت داشته و همواره مورد تأکید بوده است. یکی از روش‌های ارزیابی، پی‌گیری آموزشی است . با پی‌گیری آموزشی نقاط قوت و ضعف برنامه‌ها از دیدگاه دانش آموختگان، که در موقعیت شغلی می‌توانند قضاوت خوبی داشته باشند، مشخص می‌شود. دانش آموختگانی که مدرک کارشناسی خود را از دانشکده کشاورزی دانشگاه شیراز دریافت داشته‌اند با هدف بررسی وضعیت اشتغال و دیدگاه آنان نسبت به مفید بودن دروس دانشکده مورد مطالعه قرا رگرفتند. تعداد ۳۶۸ دانش آموخته سال های ۱۳۷۰ تا ۱۳۷۴ (پنج سال) بطور تصادفی انتخاب و نظرات آنان مورد بررسی قرار گرفت. از روش تحقیق پیمایشی و پرسشنامه‌ای که روایی و پایایی آن مورد تأیید قرار گرفت، استفاده شد. نتایج تحقیق نشان داد که ۷۱ ٪ دانش آموختگان شاغل بودند و تنها ۷ ٪ هنوز شغلی نداشتند، و بقیه به خدمت سربازی یا ادامه تحصیل مشغول شده‌اند. نزدیک به ۸۰ ٪ از دانش آموختگان شاغل در فعالیت‌هایی مرتبط با کشاورزی، مشغول بکار شده‌اند. مفیدترین دروس برای دانش آموختگان در موقعیت شغلی عبارت بودند از: زراعت عمومی، مدیریت مزرعه، ماشین‌های کشاورزی، و عملیات کارورزی کشاورزی.

INTRODUCTION

Many academic institutions are beginning to realize that much can be learned from their former students. Follow-up studies show administrators and faculty the importance of discovering the needs of students and of evaluating the curriculum. Follow-up studies are used to evaluate the effectiveness of the academic programs (3). The results of such studies can be used to avoid mistakes and improve performances in the future (6).

According to Osmond *et al.* (5), follow-up studies provide information about students' needs, expectations and perceptions of their educational experiences. Follow-up studies of students often seek to measure the relationship between training the students received at the institutions and the expertise needed for their occupational placement. This is usually done by seeking judgement from former students. The follow-up study is then concerned with what has happened to the former students, what influences the institution may have had upon them, occupational difficulties former students had in obtaining or keeping their job, strengths and weaknesses of the educational programs of institutions, and their recommendations for improvements of the institution. If the feedback indicates areas where improvements are needed, then program innovations and modifications are developed. Finding out the deficiencies will greatly enhance our chance of succeeding in future (1).

To implement the findings into the educational system so that the future students are better trained than their predecessors, is one of the objectives of the follow-up effort. It can not be denied that conducting such follow-up research and interpreting the results are a difficult task; nevertheless, the time, work, and effort become highly rewarding as new long range goals are set and new curricular changes are made where needed. The program is geared to provide educational opportunities to those students who are enrolled.

Although follow-up studies are valuable in providing information regarding student outcomes and program effectiveness, there are reasons of accountability that are also important. They provide evidence of program

effectiveness to outside audiences. McGhee and Cheek (2) stated that post-program follow-up studies have traditionally been an integral component of educational research. Recently, as a result of economic and social pressures, there has been a growing demand for accountability, and follow-up studies have received special emphasis.

The aim of the College of Agriculture at Shiraz University is to provide students with the best education for service in agricultural business, technology, and science. The College of Agriculture is composed of ten academic departments. Determining how well these departments have fostered their graduates for high-technology professions and their satisfaction with that preparation is the responsibility of the institution. Securing information on the placement and occupational success of graduates can illustrate the effectiveness of educational programs. Feedback from graduates on their career status can also be used as a public relations vehicle.

PURPOSE AND OBJECTIVES

The purpose of this study was to investigate the perception of agricultural graduates of Shiraz University towards the academic programs of agricultural college.

The specific objectives of the study were:

1. To identify the occupational status of recent graduates from the College of Agriculture- Shiraz University.
2. To assess the usefulness of general agricultural courses as perceived by the students in relation to their current job performance.

METHODS

The design of this study was descriptive survey research. The population consisted of all baccalaureate degree recipients from Shiraz University, College of Agriculture from 1991 to 1994 academic years.

Names and last known addresses of all graduates were obtained from student files at the registration office (4). The survey instrument was sent to the population of 450 graduates. A total of 368 graduates or 82% of the population responded to the survey.

A questionnaire was developed specifically for use in the study. Content validity was established by a panel of experts. The instrument was pilot tested with a group of graduates who were not included in the sample. A reliability coefficient (Cronbach's alpha) of 0.90 was calculated for the scale used to evaluate the usefulness of specific college courses in relation to current job responsibilities.

The data were analyzed using the SPSS/PC statistical software package. The researchers utilized descriptive statistics to interpret the data.

RESULTS AND DISCUSSION

The findings are presented as following:

- Demographic information of the responding graduates.
- The current employment status of the graduates.
- An evaluation of the usefulness of specific college courses.

Demographic Information

Characteristics of the 368 respondents are presented in Table (1). Ninety-three percent of the respondents were male. Of those responding to the survey, 8% were married, 83% single, 7 % engaged, and 2% were either divorced or widowed. Twenty four percent lived on farm and 76% off farm. Ninety one percent indicated they have not continued their education further, while 9% indicated having earned a master degree, or studying at master level.

Employment Status

Data collected for employment status revealed that 71% of the respondents were employed and the remaining 29% were unemployed. A chi-square test of independence was applied and the results in Table 2 show

that there was significantly no association between occupational status of graduates and their gender.

Table 1. Demographic information of 1991-1994 college of agriculture graduates.

Characteristics	Female		Male		Total	
	n	%	n	%	n	%
Gender	27	7.00	336	93.00	363	100.0
Marital status :						
Married	3	0 .83	26	7.16	29	7.99
Single	22	6.06	279	76.86	301	82.90
Engaged	2	55	23	6.34	25	6.89
Other	-	-	8	2.20	8	2.20
Residential status :						
Urban	25	7.00	245	68.63	270	75.63
Rural	2	0.56	85	23.81	87	24.37
Further education :						
No (B.S. level)	27	7.52	300	83.57	327	91.10
Yes (M.Sc. or Ph.D.)	-	-	32	8.91	32	8.90

Table 2. Occupational status of different genders of agricultural graduates.

Gender		Occupational status		
		Employed	Unemployed	Total
Female	n	19.0	8.0	27.0
	%	7.4	7.6	7.5
Male	n	238.0	97.0	335.0
	%	92.6	92.4	92.5
Total	n	257.0	105.0	362.0
	%	100.0	100.0	100.0

Chi-Square = 2.42 P>0.10

Table 3 illustrates that 57% were employed in agricultural occupations and 14% were employed in non-agricultural occupations. Eleven percent of respondents indicated that they were fulfilling mandatory military service. Twelve percent of graduates were attending college for further education, and 7% were unemployed.

Usefulness of College Courses

The graduates were asked to rate the usefulness of general agricultural courses in relation to their current or future job responsibilities. The ranked mean scores in Table 4 illustrates that the courses rated the most

useful were those dealing with a) farm management , b) general agronomy, c) farm machinery and d) farm practices. Coursework in animal husbandry and food processing received the lowest mean scores.

Table 3. Current occupational status of 1991-1994 College of Agriculture, Shiraz University baccalaureate graduates.

Occupational categories (n=362)	Number	Percent
Agricultural occupation	206	57
Non- agricultural occupation	51	18
Military service	33	10
Master's degree (college student)	37	11
Ph.D. degree (college student)	4	1
Unemployed	31	7
Total	362	100

A t-test was applied to assess the statistical significance between employed and unemployed graduates' perceptions toward the usefulness of general agricultural courses. The results indicated that employed graduates perceived that "agricultural education and extension" is more useful than unemployed graduates ($P<0.08$). In this regard, it may be inferred that employed graduates can apply the concepts which they have learned in a real work place. But, unemployed graduates rated the usefulness of "statistical methods" and "agricultural economics" significantly ($P<0.001$) higher than employed graduates.

The economic courses help to develop better understanding of agricultural business and may not be useful to all graduates as far as the application of its content is concerned. On the other hand, the statistical courses are useful for those who get involved in research projects, and the young employees do not have a serious chance in this regard.

CONCLUSIONS AND RECOMMENDATIONS

Shiraz University is one of the oldest and largest of Iran's 49 public universities. At the present time, the University offers 150 degree programs to approximately 14000 students. In order to provide a high quality

Table 4. Usefulness of agricultural courses as perceived by employed (N_1= 237) and unemployed (N_2 = 127) agricultural graduates.

Courses	Groups	% response				Mean score	SD	P§
		Not useful	t useful	Useful	No response			
1. Farm Management	A†	28.7	19.8	32.1	19.4	2.97	1.44	
	B	24.4	18.9	41.7	15.0	3.25	1.41	
	C	27.2	19.3	35.6	17.9	3.08		0.11
2. General Agronomy	A	29.1	27.4	37.1	6.3	3.09	1.31	
	B	26.0	28.3	37.8	7.9	3.03	1.03	
	C	27.7	27.4	37.5	7.4	3.08		0.72
3. Farm Machinery	A	34.5	21.1	34.2	10.2	2.99	1.39	
	B	31.5	31.5	28.3	8.7	2.91	1.22	
	C	33.2	24.5	32.3	10.0	2.98		0.62
4. Farming Practice	A	35.8	21.5	36.2	6.3	2.92	1.40	
	B	38.6	26.0	28.3	7.1	2.75	1.34	
	C	36.3	22.8	33.7	7.1	2.88		0.28
5. Cereal Production	A	36.3	19.8	28.7	15.2	2.84	1.46	
	B	30.7	26.0	30.7	12.6	2.91	1.31	
	C	34.0	21.7	29.6	14.7	2.88		0.65
6. Entomology	A	38.0	16.0	34.1	11.9	2.89	1.88	
	B	43.3	17.3	30.2	9.2	2.70	1.70	
	C	39.1	16.3	32.9	11.7	2.83		0.28
7. General Soil Sience	A	37.6	25.3	27.0	10.1	2.73	1.26	
	B	33.1	29.9	30.0	7.1	2.85	1.26	
	C	35.6	26.9	28.1	9.5	2.78		0.43
8. General Horticulture	A	38.4	22.8	29.2	9.7	2.77	1.89	
	B	41.8	19.7	29.9	8.7	2.76	1.70	
	C	39.4	21.5	29.3	9.8	2.77		0.28
9. Agricultural Economics	A	43.4	27.0	21.1	8.4	2.60	1.22	
	B	30.7	26.8	35.5	7.1	3.06	1.28	
	C	38.9	26.6	26.4	8.2	2.77		0.00
10. Plant Pathology	A	36.7	10.5	32.1	20.7	2.81	1.63	
	B	45.7	14.2	29.1	10.0	2.65	1.42	
	C	39.4	11.7	31.0	17.9	2.75		0.38
11. Irrigation	A	40.1	26.2	23.6	10.2	2.70	1.18	
	B	36.2	29.9	26.0	7.9	2.81	1.20	
	C	38.3	27.4	24.5	9.8	2.74		0.41
12. Surveying & Topography	A	38.8	20.3	25.4	15.7	2.69	1.40	
	B	40.2	22.0	26.8	11.6	2.79	1.39	
	C	38.8	20.9	25.8	14.4	2.73		0.53
13. Agricultural Extension & Education	A	37.9	28.7	27.4	5.9	2.78	1.32	
	B	46.4	26.0	19.7	7.9	2.52	1.23	
	C	40.8	27.4	24.7	7.0	2.69		0.08
14. Statistical Methods	A	52.3	19.0	22.4	6.3	2.43	1.30	
	B	34.7	22.8	35.5	7.1	2.95	1.36	
	C	46.2	20.1	26.6	7.1	2.60		1
15. Meteorology & Climatology	A	46.0	25.6	14.0	14.4	2.37	1.20	
	B	46.4	30.7	14.9	7.9	2.44	1.13	
	C	45.9	27.2	14.4	12.5	2.40		0.58
16. Food Processing	A	51.4	19.4	19.0	10.1	2.33	1.33	
	B	49.6	24.4	13.4	12.6	2.35	1.34	
	C	50.2	21.5	17.1	11.1	2.33		0.99
17. Animal Husbandry	A	61.2	11.8	10.1	16.9	1.91	1.25	
	B	60.6	17.3	9.4	12.6	1.99	1.18	
	C	60.3	13.6	10.1	16.0	1.95		0.57

Rating scale : Useful = 3, Somewhat useful = 2, not useful = 1

†A= Employed , B = Unemployed , C = Total § Probability of two- tailed t test.

education to every student, the University supports continued effort to evaluate and improve the programs it offers. As part of this commitment, the College of Agriculture has initated efforts to evaluate its programs. One of the measures or indicators used to evaluate programs are follow-up surveys. These follow-up studies provide the worth or merit of programs. They also provide justification for the continuation or revision of programs. The information gathered in this study reveals that the majority of graduates were employed and in contrast, only 7% of the respondents were unemployed. Fifty seven percent of the employed respondents were involved to some degree in an occupation related to agriculture. Ten percent of graduates indicated that they were working in a job related to their field of study. Employed graduates showed more satisfaction towards agricultural economics, and statistical method courses than those unemployed. Graduates rated the coursework received in "farm management" the highest, followed by "agronomy" and "agricultural machinery" courses. The results of this study should be used by faculty and administrators as they examine the effectiveness and quality of the programs within the departments. The information from this follow-up study, also can be used to meet accountability requirements. It is advised that all faculty members should revise their course contents periodically to meet the needs of students. Similar studies should be conducted in other agricultural colleges to provide future comparative evaluative information on graduates in order to test the results in this study. The study should be replicated periodically to keep abreast of any changes in group perception of the major components of agricultural college programs.

LITERATURE CITED

1. Henderson, J.L., and G. Shebang. 1990. Follow-up of international graduate students in agricultural education at the Ohio State University. J. Agric. Edu. 31:71-74.

2. McGhee, M.B. and J.G. Cheek. 1990. Assessment of the preparation and career patterns of agricultural education graduates, 1975-1985. J. Agric. Edu. 31:17-22.

3. Miller, W.W. 1998. The follow-up survey as a student outcome assessment method: Some procedures and examples. Nat. Asso. Coll. Teach. Agric. J. 42: 40-46.

4. Office of Administrative Affairs. 1998. Shiraz University-General Catalogue, 1998. Shiraz University, Shiraz, I.R. Iran (in Farsi).

5. Osmond, J., T.S. Hoover and M.P. Dougherty. 1998. Follow-up study of graduates from the College of Agriculture and School of Forest Resources and Conservation from the University of Florida. Nat. Asso. Coll. Teach. Agric. J. 42:16-24.

6. Randavay, S. 1990. A Follow-up study of the doctoral program in Agricultural and Extension Education. J. Agric. Edu. 30:40-44.