

Many questions are asked and an excellent experience of oral communication takes place.

The last and probably one of the units the students enjoy most is the "Job Package." Because they are aware of the difficulty of getting a good job, students take this unit very seriously. They are asked to select an actual job listing from the placement center board. They then write an application letter and resume. These are sent to the student who will be interviewing them. Questions for the interview are then formulated from the letter and resume. An interview is set up. Interviews are done between the students themselves. They prepare to be interviewed as well as to conduct an interview. Ten minute time slots are scheduled in a location that would be similar to that of an actual job interview. These interviews are videotaped and put on reserve in the library for the student to view and

critique. The student and instructor then review their performance for improvements. Upon completion an interview follow-up letter is written.

A variation of the interview process is also used where instructors in the field of the students' programmatic area do the actual interviewing. This is done when instructors are available and willing to give of their time.

Conclusion

Although the various methods previously described are only one instructor's way of organizing, presenting, and interrelating technical communication correspondence and reports, it is hoped that even a portion might inspire a colleague to try a new or different approach in teaching Introduction to Technical Reporting.

High-Ability Urban High School Seniors' Perceptions of Agricultural Study and Selected Recruitment Strategies

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Introduction

United States agriculture leads the world in meeting the needs of a growing population with a reduced supply of resources. It is an industry which has become increasingly complex and technologically advanced, thus requiring a stable supply of well-trained and highly-educated professionals to ensure its future success.

The primary source of such professionals has traditionally been colleges of agriculture which provide slightly more than 65% of the individuals needed (National Association of State Universities and Land Grant Colleges). During the late 1960's and early 1970's, agricultural college enrollments increased tremendously. However, since 1978, enrollment in the land grant colleges of agriculture has declined nearly 25% (Reisch, 1984), yet the USDA projects the overall demand for food and agricultural science graduates will exceed the supply by 13% during the mid 1980's (1980). Because of the national and international importance of agriculture, this deficit of qualified professionals threatens not only the agricultural industry, but also the entire United States economy and the global community.

One of the major solutions proposed to remedy this human resource dilemma is recruitment of high-ability urban students by colleges of agriculture. The nature and aspirations of these students along with declines in the number of college age students and smaller rural populations provide a logical basis for this initiative. Hence, there is a need to understand how

these students perceive agriculture, studying in a college of agriculture and agricultural careers.

Purpose and Objectives

The purpose of this study was to determine how high-ability urban students perceived agriculture, agricultural areas of study and careers; and what recruitment strategies would be most effective in attracting such students to attend an agricultural college.

The objectives of the study were addressed via the following research questions:

1. How accurate are the current perceptions of high-ability high school seniors regarding agriculture, agricultural areas of study, curricula and careers?
2. How do high-ability urban high-school seniors rate the effectiveness of selected recruitment strategies and which of these strategies have they experienced?

Procedures

Population and Sample

A list of high school seniors from the Ohio cities of Columbus, Toledo and Dayton who had achieved a composite score of 26 or above on the ACT or 1150 or above on the SAT and who had been admitted to The Ohio State University was obtained from The Ohio State University Admissions Office. A random sample of 186 students was chosen from the population of 359 to participate in the study.

Data Collection

Data were collected via a six-part, researcher developed, mailed questionnaire. The instrument was tested for content validity, reliability and suitability.

Face validity was established via a panel of expert faculty and graduate students at Ohio State. The instrument was pilot tested at Findlay High School with 22 students of high academic ability. Reliability was

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established following the pilot test and yielded Cronbach alpha coefficients from .68 to .85 (see Table 1).

Table 1. Cronbach's Alpha for the Seven Domains of the Instrument

Domain	Cronbach's Alpha
(1) Areas of Study	.76
(2) Curricula	.68
(3) Careers	.75
(4) Agriculture Overall	.85
(5) Information Sources	.74
(6) Recruitment Strategies	.76
(7) Types of College Information	.75

The data for the study were collected from 158 students who completed and returned the instrument. A 15% random sample of non-respondents was followed up, and no significant differences were observed between respondents and non-respondents on measures central to the problem being investigated.

Data Analysis

Data were analyzed using descriptive statistics, including frequencies, percentages, measures of central tendency and measures of variability.

Results

Perceptions of Agriculture

The students strongly agreed that areas of study most traditionally associated with agriculture, such as horticulture and animal science, are offered at agricultural colleges. They agreed that engineering, economics and nutrition were areas of study that are also offered. They were undecided as to whether non-traditional areas such as journalism, sociology and education are offered (see Table 2).

The students were undecided (Table 2) as to whether or not the course work of agricultural college students focuses mainly on the production of livestock and crops. They strongly agreed that agricultural college students take courses in biological science but were undecided about the social sciences and computer science.

The students agreed that agricultural college graduates can easily enter science-oriented careers (Table 2) but were undecided as to whether they can easily enter business-oriented careers, earn lower salaries than other college graduates or generally become farmers. Some other items about which they were undecided were: whether or not people employed in agricultural careers generally work outdoors, if they have little room for advancement, if they are predominantly males, or whether they work in urban areas.

Eighty-five percent of the students reported that they had never considered attending an agricultural college (Table 3). No interest in agriculture, interest in some other area, never giving it any thought, lack of knowledge about agriculture and no interest in farming were the major reasons given by the students for never considering attending an agricultural college.

Recruitment Strategies

The students identified their visits to colleges as the only recruitment strategy rated as "very effective" (Table 4). Visits to their schools by college representatives, college day programs in their schools, advice from relatives, mail sent to their homes and visits to their homes by college representatives were rated as "effective." The students were undecided as to how effective telephone calls to their homes, films, videocassettes, posters, television and radio advertisements would be.

The students rated information regarding career opportunities upon graduation as the only type of information that would be "very important" in influencing them to attend an agricultural college. All other types of information related to college study were rated as being important.

The recruitment strategies experienced by the greatest number of students included mail sent to their homes, their visits to colleges, visits to their schools by college representatives and advice from their parents.

Conclusions and Recommendations

The following conclusions are based on the findings of this study:

1. High ability urban high school seniors' (in this study) perceptions of:

- Agricultural areas of study — were only partially accurate. The less directly an area of study is traditionally associated with agriculture, the more uncertain students were as to whether or not it was offered at an agricultural college.
- Agricultural college curricula — were only partially accurate. They perceive agricultural study as technically and science-oriented, but were uncertain as to whether or not it was high-tech and socially oriented.
- Agricultural careers — were very vague. They were generally uncertain as to what careers related to agriculture are like.
- Agriculture in general — were accurate in some respects but unclear overall. High-ability urban students lacked knowledge regarding agriculture and therefore had vague perceptions of the various aspects of the industry.

2. High-ability urban high school seniors in this study preferred personalized recruitment strategies.

3. The high-ability urban high school students in this study felt that information regarding career opportunities upon graduation would be very important in influencing them to attend an agricultural college.

It is recommended that colleges of agriculture should:

- Add to their recruitment efforts a marketing approach. They must make their market position clear to high-ability urban students. This will include emphasis on how agricultural study can prepare urban students for satisfying careers.

Table 2. Analysis of Students' Responses to Part I: Perceptions of Agriculture (n = 138)

Item Number	Item Statement	Students' Responses												Mean	S.D.
		SA		A		U		D		SD		Miss			
		(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)		
	I think that the following areas of study are offered at an agricultural college:														
1.	a. Journalism	2	1.4	27	19.6	34	24.6	52	37.7	23	16.7	0	0.0	2.51	1.03
2.	b. Engineering	26	18.8	70	50.7	14	10.2	21	15.2	7	5.1	0	0.0	3.63	1.11
3.	c. Sociology	8	5.8	47	34.1	39	28.3	38	27.5	6	4.3	0	0.0	3.09	1.01
4.	d. Education	21	15.2	56	40.6	31	22.5	28	20.3	2	1.4	0	0.0	3.48	1.03
4.	e. Nutrition	66	47.8	63	45.7	7	5.1	1	0.7	1	0.7	0	0.0	4.39	.69
6.	f. Horticulture	106	76.8	26	18.9	5	3.6	1	0.7	0	0.0	0	0.0	4.72	.57
7.	g. Economics	59	42.8	61	44.2	9	6.5	6	4.4	2	1.4	1	0.7	4.23	.87
8.	h. Animal Science	88	63.8	44	31.9	0	0.0	5	3.6	1	0.7	0	0.0	4.54	.75
9.	i. Plant Pathology	109	79.0	24	17.4	4	2.9	1	0.7	0	0.0	0	0.0	4.75	.54
10.	It is not necessary for a student to have a farm background in order to do well in an agricultural college.														
11.	The classwork of agricultural college students focuses mainly on the production of livestock and crops.	61	44.2	62	44.9	8	5.8	7	5.1	0	0.0	0	0.0	4.28	.79
12.	a. The humanities	6	4.4	46	33.3	23	16.7	49	35.5	14	10.1	0	0.0	3.14	1.12
13.	b. Psychology	21	15.2	76	55.1	26	18.9	14	10.1	1	0.7	0	0.0	3.74	.86
14.	c. Economics	7	5.1	38	27.5	45	32.6	41	29.7	7	5.1	0	0.0	2.98	.99
15.	d. Chemistry	50	36.2	78	56.5	7	5.1	2	1.5	1	0.7	0	0.0	4.26	.69
16.	e. The social sciences	57	41.3	68	49.3	6	4.3	7	5.1	0	0.0	0	0.0	4.27	.77
17.	f. Communications	16	11.6	57	41.3	42	30.4	21	15.2	2	1.5	0	0.0	3.46	.94
18.	g. Mathematics	20	14.5	62	45.0	30	21.7	25	18.1	1	0.7	0	0.0	2.54	.98
19.	h. Music	47	34.1	80	58.0	5	3.6	6	4.3	0	0.0	0	0.0	4.22	.71
20.	i. Business	5	3.6	14	10.2	27	19.6	70	50.7	22	15.9	0	0.0	2.35	.99
21.	j. Biological science	50	36.2	82	59.4	4	3.0	1	0.7	1	0.7	0	0.0	4.30	.63
22.	k. Computer science	86	62.3	50	36.2	2	1.5	0	0.0	0	0.0	0	0.0	4.61	.52
23.	More than one-fifth of the United States labor force is employed in food and agricultural careers.	16	11.6	64	46.4	32	23.2	22	15.9	4	2.9	0	0.0	3.48	.99
24.	Agricultural graduates can easily enter business oriented careers.	20	14.5	66	47.8	26	18.8	22	16.0	3	2.2	0	0.7	3.57	1.00
25.	Salaries earned by agricultural graduates are lower than those earned by most other college graduates.	12	8.7	53	38.4	41	29.7	29	21.0	2	1.5	1	0.7	3.32	.95
26.	Most agriculture-related careers involve working outdoors.	7	5.1	53	38.4	51	37.0	21	15.2	6	4.3	0	0.0	2.75	.93
27.	Agricultural graduates are sought after as employees by many government agencies.	6	4.3	60	43.5	28	20.3	44	31.9	0	0.0	0	0.0	2.80	.94
28.	There is little room for advancement for people employed in agricultural careers.	12	8.7	66	47.8	47	34.1	13	9.4	0	0.0	0	0.0	3.56	.78
29.	Economically, agriculture is Ohio's most important industry.	4	2.9	31	22.5	30	21.7	58	42.0	15	10.9	0	0.0	3.35	1.04
30.	A majority of agricultural college graduates become famous.	14	10.1	55	39.8	35	25.4	31	22.5	3	2.2	0	0.0	3.33	1.01
31.	Agriculture-related careers are held predominantly by males.	6	4.3	36	26.1	39	28.3	51	37.0	6	4.3	0	0.0	3.11	.99
32.	Agricultural graduates can easily enter science oriented careers.	8	5.8	71	51.5	25	18.1	34	24.5	0	0.0	0	0.0	2.62	.92
33.	People with agricultural careers work in urban areas.	12	8.7	76	55.1	31	22.4	16	11.6	3	2.2	0	0.0	3.56	.89
34.	Agricultural graduates are sought after by engineering firms.	5	3.6	57	41.3	35	25.4	37	26.8	4	2.9	0	0.0	3.16	.96
34.	Agricultural graduates are sought after by engineering firms.	5	3.6	45	32.6	41	29.7	41	29.7	6	4.4	0	0.0	3.01	.97

Note: SA - Strongly Agree (5); A - Agree (4); U - Undecided (3); D - Disagree (2); SD - Strongly Disagree (1); Miss - Missing Data; and SD - Standard Deviation.

2. Convey that agriculture is a vital, up-to-date, diverse industry which offers a variety of career opportunities.

3. Convince high-ability urban students that an agricultural college can meet their needs.

4. Convince high-ability urban students that the agricultural industry has careers that pay well, are

enjoyable, challenging, interesting, have strong job markets and provide opportunities for advancement.

5. Create a complete and accurate image of agriculture for high-ability urban students.

6. Work with high school teachers in urban areas, particularly those who teach science, and provide them with interesting information about agriculture and

Table 3. Summary of Students' Responses as to Whether or Not They Had Considered Attending an Agricultural College (n = 138)

Considered Attending Responses		(f)	(%)	Reason	(n) ^a		
Yes	18	13.0	Relatives were farmers	3			
			Diversity of opportunities	2			
			Interested in Horticulture	2			
			Interested in Veterinary Medicine	2			
			Relatives attended an ag. college	2			
			Exposed to ag. career opportunities	1			
			Good undergraduate degree	1			
			Interested in animals	1			
			Interested in the environment	1			
			Interested in forestry	1			
			Interested in genetic engineering	1			
			Offered the major I wanted	1			
			Offered a scholarship from the college	1			
			Wanted to be a farmer	1			
			No	118	85.5	Not interested in agriculture	35
						Interested in another area	32
						Never thought about it	19
Don't know much about it	13						
Not interested in farming	8						
Have no agricultural experience	3						
Agricultural field is stagnant	2						
Limited job opportunities	2						
Poor image of agriculture	2						
Don't feel farming is a lucrative business	1						
Don't like working outdoors	1						
Don't think I would enjoy it as a career	1						
Not interested in science	1						
Poor pay	1						
None	2	1.4					

^a Indicates number of students giving a particular response. Each student was able to give numerous responses.

Table 4. Analysis of Students' Responses to Part III: Recruitment Strategies (n = 138)

Item Rank No.	Recruitment Strategy	Students' Responses														Mean	S.D.			
		Experienced				Effectiveness Rating														
		Yes (f) (%)	No (f) (%)	Miss (f) (%)	VE (f) (%)	E (f) (%)	U (f) (%)	NE (f) (%)	Miss (f) (%)											
1	10.	Your visits to colleges	115	83.3	8	5.8	15	10.9	102	74.0	28	20.3	4	2.9	2	1.4	2	1.4	3.69	.60
2	6.	Visits to your school by college representatives	112	81.1	11	8.0	15	10.9	61	44.2	54	39.1	10	7.3	11	8.0	2	1.4	3.21	.89
3	5.	College day programs in your school	98	71.0	25	18.1	15	10.9	47	34.1	63	45.6	9	6.5	15	10.9	4	2.9	3.06	.93
4	13.	Others	37	26.8	23	16.7	78	56.5	22	15.9	16	11.9	12	8.7	5	3.6	83	60.2	3.00	1.00
5	12.	Advice from relatives	112	81.1	11	8.0	15	10.9	41	29.7	56	40.6	20	14.5	19	13.8	2	1.4	2.88	1.00
6	1.	Mail sent to your home	119	86.2	4	2.9	15	10.9	24	17.4	70	50.7	11	8.0	32	23.2	1	0.7	2.63	1.03
7	8.	Visits to your home by college representatives	8	5.8	115	83.3	15	10.9	34	24.6	28	20.3	39	28.3	22	15.9	15	10.9	2.60	1.08
8	9.	Films	55	39.8	68	49.3	15	10.9	8	5.8	63	45.7	33	23.9	21	15.2	13	9.4	2.46	.85
9	11.	Videocassettes	22	15.9	101	73.2	15	10.9	9	6.5	50	36.2	39	28.3	24	17.4	16	11.6	2.36	.88
10	7.	Telephone calls to your home	81	58.7	42	30.4	15	10.9	22	15.9	38	27.5	28	20.3	48	34.8	2	1.5	2.25	1.10
11	4.	Posters	88	63.7	35	25.4	15	10.9	4	2.9	51	36.9	24	17.4	55	39.9	4	2.9	2.03	.96
12	2.	Television advertisements	79	57.2	44	31.9	15	10.9	7	5.1	38	27.5	26	18.9	62	44.9	5	3.6	1.92	.98

assist them with ideas as to how they could use this information with their students.

7. Invite high-ability urban students to the campus to participate in classes, see facilities and meet with faculty and students.

8. Have college representatives visit high schools.

9. Begin recruiting these students during their junior year of high school.

10. Emphasize career opportunities for these students in recruitment literature.

References

Coulter, K.J., & Stanton, M. (Ed.). (1980). *Graduates of Higher Education in the Food and Agricultural Sciences: An Analysis of Supply/Demand Relationships, I* (Miscellaneous Publication No. 1385). Washington, DC: US Government Printing Office.

National Association of State Universities and Land Grant Colleges (date not listed). *Human Capital Shortages: A Threat to American Agriculture*. Washington, DC: Resident Instruction Committee on Organizations and Policy.

Reisch, K.H. (1984, September). "Recruiting and Retention." *NACTA Journal*, 28(3), 27-31.



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