

# Survey of Current Students: Implications for Recruitment and Retention

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## Abstract

Survey results from students who recently (current freshmen and sophomores) made the decision to enter Oregon State University's (OSU) College of Agricultural Sciences (CAS) indicated that 1) more women were entering OSU from high school, whereas men were more likely to attend a community college and then transfer, 2) first contacts at OSU were very important to students' enrollment decision, 3) literature from OSU, visiting campus and parents were considered among the most valuable sources of college information, 4) a very low percentage of students (12.9%) received information from 4-H/Extension staff members even though over 36% of the students reported 4-H experience, 5) universities are competing for students more than at previous times, and 6) students continue to have difficulty with financing their education.

## Introduction

Colleges of Agriculture have faced problems with enrollments over the past three decades. According to Employment opportunities for college graduates in food and agricultural sciences (Coulter et al., 1990), there are approximately 48,000 annual openings for college graduates in food, agriculture, and natural resources and only 43,500 qualified graduates.

Enrollment numbers in Colleges of Agriculture reached their peak in the late 1970's and plummeted with the onset of the farm crisis in the very late 1970's and early 1980's (Dyer et al., 1995). Enrollments in the College of Agricultural Science (CAS) at Oregon State University (OSU) have paralleled that of the national average, reaching peak enrollment numbers in 1977, and bottoming out in 1988 (OSU, 1997). The CAS at OSU has experienced a steady increase since 1988. However, enrollments are just now beginning to approach the numbers of the late 1970's.

Koon (1992) suggested that colleges and universities have not been sufficiently accountable to long standing demands in undergraduate education and the lack of accountability in this area undermined public trust. Some legislatures were becoming reluctant to fully fund higher education because of the lack of accountability in undergraduate education (Ewell, 1991). In his University Day Address, Oregon State University President Paul Risser pointed out, "Our own budget for 1997 declined because of lower university wide enrollments in 1996-97. We now have a

clear and campus-wide understanding that OSU's state funding is directly tied to its enrollment" (Risser, 1997).

In recent years, colleges and universities have increased research related to students' decision making and college choices (Smith, 1990). Historically, standardized surveys have been the prevalent instrument for assessing student opinions toward their educational experience in higher education institutions (Franklin and Knight, 1995). Although standardized surveys have many advantages and are used for ease in data collection, according to Terenzini (1989), assessing student opinions through standardized tests lacks specificity, focuses on limited numbers of objectives, and results in restricted assessment exploration.

Much research has been done to identify the characteristics and factors of students pursuing a degree in agriculture for recruitment purposes. Studies (Scofield, 1995; Christmas, 1989; Taylor and Johnson, 1993; Smith and Bers, 1989; Taylor, 1989) found that parents had the most influence on choice of major. Further research by Jackman and Smick-Attisano (1991) indicated that choice of major was influenced by reputation of the programs. Other studies (Touchstone and Reisenburg, 1997; Andreason et al., 1997) indicated that Agricultural Colleges should target recruitment efforts toward students coming from high school agricultural education programs and 4-H programs.

The conceptual framework for this study emphasized the need to study factors that influence a student's selection and pursuit of a field of study at OSU. Fishbein and Ajzen (1975) determined that intentions to participate in an activity could be predicted based upon knowledge, observation, or other information about some issue. Determining information students use to make college and major decisions and the importance they attach to that information as well as determining the level of knowledge students possess about various programs within colleges or majors may assist in future recruitment and retention efforts.

## Methods

A mail instrument was developed using information found in the literature and the expertise available at the OSU Survey Research Center. The instrument was field tested on a group of juniors not part of the study. Instrument validity was derived from the OSU Survey Research Center. In

addition to the quantitative data, this study also sought qualitative (anecdotal) input by having several open-ended questions located at positions which would allow for the continuation of a response started in a quantitative format.

The survey was conducted during winter and spring terms of 1997. The population consisted of all undergraduate students who entered the CAS during the fall term in 1996 and 1997. The selection of these two terms provided a population of 439 students. There were 310 responses after three reminders for a final response rate of 73.7%. Analysis was done by frequency counts and percentages. The t-test was used to determine where significant differences occurred by gender with the alpha level set at .05.

### Findings, Discussion, Conclusions and Recommendations

This study was divided into five subsets for reporting purposes. The findings and discussion within each subset were reported first followed by pertinent qualitative data from the open-ended questions. Each subset section is closed by the conclusions and recommendation for that subset. This reporting structure was selected to facilitate clarity of understanding and positioning of the conclusions and recommendations within

the subset data from which it was drawn. There were far too many anecdotes to list all of them so representative selections were made.

### Subset 1: Sources of students for the College of Agricultural Sciences (CAS) at OSU

About 48% of recently enrolled CAS students were transfer, with 51% of this group coming from community colleges. That leaves nearly a quarter (24.5%) of the entering class in the CAS as community college transfer students. Conversely, OSU averaged 22.8% of its students transferring to the university with 60% of these from community colleges for a total of 13.7%. The CAS is dealing with a 10.8% greater community college transfer rate than the remainder of the university. Because of first year attrition for students who enter a university, the high transfer rate for the CAS also yields the highest junior to senior year dropout rate in the university.

Over 56% of entering students were female. Females were significantly more likely to enter OSU straight from high school. Therefore, the mean entering age was significantly lower for females than for males. Conversely, males were significantly more likely to enter OSU from a community college and were significantly older in entering age (Table 1).

Table 1. How CAS Students Entered OSU.

Entered OSU	Male		Female		Total	
	n	%	N	%	n	%
Directly from high school	55	35.71	99	64.29*	154	53.10
Transfer from C.C. or other univ.	70	51.47	66	48.53	136	46.90
Total	125	43.10	165	56.90	290	100.00

\* = significant at  $p = 0.05$

### Open-ended responses:

1. When I transferred from XCC I was very surprised at how sincerely interested the people in the XX Dept. were in individual people. They even put pictures up in the hall! I expected to be barely more than a number.
2. While at XCC nobody from the OSU Ag Dept. ever visited. I wish someone would have. I'm glad I decided to attend OSU, but my decision was in doubt because I hadn't met the people.
3. My transfer went very smoothly. People were friendly and able to answer any questions or concerns I had. I've been very impressed with my choice of school.

### Discussion/Conclusions/Recommendations

More females are entering CAS programs and they tend to come from high schools. Males tend to more frequently come from community colleges. It is therefore important to recruit both the high schools and community colleges and recruiters should be people who can answer specific questions – especially for transfer students.

The OSU staff that potential students discuss programs with are critical to students' decisions to attend CAS at OSU. It is recommended that staff be friendly, well-informed individuals who are recognized for their ability to meet and interact well with people.

## Subset 2: Majors and enrollment

The availability of the major, in which the student was interested, was very important to the final enrollment

decision for a particular university. Decisions by gender were interesting for CAS departments. Table 2 presents the differences in gender enrollments for each CAS department.

Table 2. CAS majors of survey participants.

Department	Male		Female	
	n	%	n	%
Ag. Business Management	17	58.62	12	41.38
Ag. and Resource Management	2	40.00	3	60.00
Animal Science	12	17.91	55	82.09
Pre-Vet. Medicine	4	36.36	7	63.64
Bioresource Research	1	12.50	7	87.50
Crop Science	7	53.85	6	46.15
Environmental Science	0	00.00	1	100.00
Fisheries Science	16	66.67	8	33.33
Food Science & Technology	9	42.86	12	57.14
General Agriculture	6	33.33	12	66.67
Horticulture	21	50.00	21	50.00
Natural Resources	2	40.00	3	60.00
Rangeland Resources	3	75.00	1	25.00
Soil Science	5	62.50	3	37.50
Wildlife Science	28	57.14	21	42.86

### Open-ended responses:

I transferred so I could finish an Animal Sciences degree.

I would prefer to go to a smaller Oregon college, but OSU is the only college in Oregon that offers the major I need.

## Discussion/Conclusions/Recommendation

Students tend to enroll in colleges because of the majors they offer. Therefore, it is important when conducting a recruitment activity to get past the general university information, to specific information about majors. Recruiters should be knowledgeable of the majors available, employment opportunities for graduates, and the courses required for the majors. Recruiters should be careful to avoid sex role stereotypes.

### Subset 3: Sources of Information and Value of Information

OSU pamphlets and literature were rated as highest in importance at 69.5% of the students reporting receiving valued information for decision making from that material. Over 54% reported visiting campus and 43% reported

receiving positive input from friends at OSU. Females were more positive about the impact of visiting campus than males. Similarly females were more positive about the effects of a letter from the Dean or other OSU staff than were males and they perceived the value of OSU brochures higher than males. Males reported a more positive impact from attending an OSU athletic event than females (Table 3).

Parents remain a very important source of valued information for CAS students, 46.7% reported receiving valued information from their parents. When the parent factor was shared with other Head Advisers at OSU during Fall 1997, the College of Health and Human Performance indicated that in informal studies they had done, slightly more than 10% of its students reported receiving valued college decision making information from their parents.

Table 3. Sources of information students learned about CAS while in high school.

Information Source	Source of Information			Importance of Source = %			
	Total %	Male % of total	Female % of total	Very	Some What	Not Too	Not at all
Pamphlets or literature from OSU	69.44	36.84	63.16*	38.16	48.79	10.14	2.90
Visit to OSU campus	54.82	35.76	64.24*	44.44	37.65	17.90	0.00
Parents or other family members	46.84	47.52	52.48	46.04	41.73	10.07	2.16
OSU students	42.86	46.51	53.49	25.78	51.56	21.09	1.56
Other friends	33.22	43.43	56.57	20.20	47.47	32.32	0.00
Personal letter from professors or Deans	29.10	33.33	66.67*	22.99	49.43	20.69	6.90
High school teacher	28.57	37.21	62.79	35.29	42.35	18.82	3.53
Visit from OSU staff	18.27	34.55	65.45	48.15	35.19	12.96	3.70
Visit or phone call from Ag. Ambassador	14.67	25.00	75.00*	29.55	43.18	18.18	9.09
Extension or 4-H leader	12.96	30.77	69.23	30.77	48.72	20.51	0.00

\* = significant at p = 0.05

Surprisingly only 12.9% of the students reported receiving information from Extension staff while over 36% reported being involved in 4-H. About 30% of the students reported being involved in high school agriculture programs. And, as the number of years of involvement in high school agriculture and FFA increased so did the potential for the students to enter CAS programs. Females reported attending 4-H and FFA functions on the OSU campus at a significantly higher rate than males and gave a higher importance to those

functions than did males in making decisions to enroll in the CAS at OSU.

Results indicated that students visit OSU campus for various activities (Table 4). Most students (45.11%) visit campus activities with friends/relatives, followed by athletic events (45.11%), and high school visitations (32.91%). Significantly more females than males visited OSU campus for FFA/4-H activities.

Table 4. Visitation to campus before enrolling as a student.

Campus visitation method	Attended?	% of Whole Attended	
	%	Male	Female
Activities with friends/relatives	45.11	38.68	61.32
Athletic events	33.62	50.63	49.37
High school visitations	32.91	35.06	64.94
Career day/summer conferences	28.51	49.25	50.75
FFA/4-H activities	24.68	24.14	75.86*

\* = significant at p = 0.05

### Open-ended responses:

I applied for both OSU and SOSC on the same day, but started my college experience at SOSC because they got back to me four months earlier than OSU. I then transferred to get the major I wanted.

I was unsure about whether or not to transfer to OSU until I visited campus and met some of the CAS staff.

I do not recall hearing about the CAS at OSU while I

was in high school. The first specific information I received was when I personally visited OSU.

### Discussion/Conclusions/Recommendations

OSU and CAS brochures must get to students in a timely fashion, perhaps through parents or alumni. The brochures are critical recruitment pieces, especially for females. When OSU recruitment teams visit high schools and community colleges they should have CAS materials

available and be ready to answer specific questions about CAS programs. Parents continue to be an important facet to CAS recruitment. The CAS should continue to build relationships with parents and alumni.

High school teachers of agriculture continue to be of value in the recruiting process. With about 30% of the recently enrolled students reporting they received valuable information from high school teachers and about 30% of the students reporting high school agriculture backgrounds, it appears agriculture teachers are promoting college programs at appropriate rates.

Extension staff may have the greatest potential of providing additional help in the recruitment arena. Extension staff should be inserviced on recruitment information which is available and how best to use the information. Males and females surveyed reported near identical participation in high school FFA but a significantly higher number of females reported participation in 4-H. By involving Extension staff in the recruitment function additional gains may be possible in recruiting females into the CAS.

Potential OSU students visit campus for various activities from youth conventions to athletic events. These activities should not be overlooked as a recruitment function. OSU might consider hosting an event which asks current OSU students to invite a friend to campus. OSU should continue its current high school and community college campus visit programs.

#### **Subset 4: Other Decision Factors of Importance**

Over 67% of the students considered two or more universities and completed the admissions forms for each.

Over 67% of students had one or both parents graduate from OSU previously.

Over 46% of students were on some form of scholarship.

Over 49% reported a home setting of farm/ranch/country or cities less than 10,000 in population.

##### **Open-ended responses:**

It (college) costs too much for Baccalaureate Core (General Education) classes.

I may not be able to attend classes next quarter because I don't have enough money.

I'd go to XXX if they had a Horse program.

#### **Discussion/Conclusions/Recommendations**

Universities are competing for students more than ever before, therefore, a recruitment plan is critical. Students reported completing two or more college admissions forms. Many students were affected by alumni, especially parents. Perhaps Alumni Offices should be more in tune with recruitment as well as fund raising.

Students are having difficulty financially. Scholar-

ships are critical to recruitment and retention. It is recommended that efforts be accelerated to provide funds for scholarships for students. There was more concern over the cost of school than any other single factor mentioned in the open-ended responses.

Nearly half the CAS students were from rural areas. Metropolitan areas are a valuable recruitment area for CAS programs. Attention must continue to the Metropolitan areas while not diminishing the recruitment attention given rural areas.

#### **Subset 5: Retention Factors which Arouse Out of Open-ended Responses**

Most of my professors are nice and there's just a friendly atmosphere. The OSU Hort Club has been and is a good outreach for horticulture students.

I was in X college before transferring to CAS. There is absolutely no comparison when it comes to personal attention.

The CAS is very good. I am enjoying all the things it has to offer me like advisers who know about current up-to-date information and teachers who love to be one-on-one with students.

OSU is great. After having everybody and everything familiar to me 3800 miles away, it's wonderful to find such a warm place. Most of my professors really seem to care. My adviser tries (sometimes harder than me) to help me to adjust.

#### **Discussion/Conclusions/Recommendations**

A unit's ability to retain students arises out of the faculties' attention to students as persons. Advising is critical to the students' success and desire to stay in school. Advisers must go beyond providing accurate information to providing a warm, friendly, caring environment in the advising session. People who teach 100 level courses should be the best teachers in the college.

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## Computer Access, Usage, and Literacy of Undergraduates in the Agricultural Sciences

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### Abstract

As the use of information technology to deliver agricultural science education increases, particularly in higher education, educators must examine factors that affect

student access to and use of the technology. This study examined computer access, usage, and perceived computer literacy among undergraduates. Student computer access, usage, and literacy impact a host of higher education issues.