Why Undergraduates Chose Agricultural Education as a Major: 1980 vs. 1985

John Hillison, Associate Professor
William G. Camp, Associate Professor, and
Stanley R. Burke, Assistant Professor
Agricultural Education
Virginia Polytechnic Institute and State University

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Agricultural education has had a recurring nationwide problem of teacher shortages in vocational agriculture (Craig, 1980, 1984). In his 1984 study, Craig noted that, while the number of graduates from teacher education programs in agriculture was sufficient to supply the demand for teachers, the percentage of graduates accepting teaching positions declined, thereby leaving a net shortage of qualified teachers. The placement of graduates in non-teaching vocations may be evidence that teacher education programs in agriculture are broad-based and are meeting the needs of students who plan to teach as well as those who desire other professional endeavors, as advocated by Weaver (1981).

Craig (1984) reported a low retention rate for teachers of vocational agriculture. This turnover rate is another reason for the recurring shortage of teachers of vocational agriculture. Knight (1977) found that teachers left the profession because: (a) their long range occupational plans were other than teaching; (b) they encountered a lack of student interest; (c) there were inadequate advancement opportunities; (d) long hours; and (e) inadequate compensation. Allen (1976) found that Oregon vocational agriculture teachers taught less than five years and left teaching because of salary, lack of adequate time for family and to become school administrators.

Agricultural education researchers have found certain factors to be effective in recruiting high quality students to teacher education programs. Evans (1971) found that teachers of agriculture were most influential in recruiting students for programs of agricultural education. Luft (1974) noted that 37% of the students enrolled in teacher education programs in agriculture had taken four years of vocational agriculture in high school. Luft further found that common recruitment practices used were personal interviews, university tours, career units taught about agricultural education, displays and brochures.

Producing a greater number of teachers could also help alleviate the shortage. Yet, in a time of continuing fiscal restraint, budgets for recruitment may be severely limited. Certain faculty time available for recruitment is limited. Finding what causes a student to major in agricultural education could help channel both recruitment and counseling efforts, thus maximizing the impact of limited resources in terms of budget and time.

Different studies have examined factors that influence students to major or not to major in agricultural education. Miller, Williams and Sprouse (1984) found that the vocational agriculture teachers' responsibilities associated with the Future Farmers of America (FFA) and with the supervised occupational experience (SOE) programs encouraged students to consider a career in teaching. They also found that high school students who averaged B grades in vocational agriculture classes were more encouraged to become teachers than students who averaged A grades on the factors of personal, general teaching responsibilities and FFA/SOE responsibilities. In addition, the B average students rated

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significantly higher than C average students on the factors of personal and FFA/SOE responsibilities ($p<.01$ and $p<.05$, respectively).

A study conducted in Oregon (Cole, 1984), examined why agricultural education degree recipients chose to teach and why some of those who chose to teach made teaching a career. Cole also attempted to find why some of those who started teaching left the profession. Among his conclusions and recommendations were: (a) students who had been actively involved in SOE and FFA activities should be recruited as agricultural education majors; (b) pedagogy in agricultural education is important to the longevity of vocational agriculture teachers; and (c) follow-up studies should be conducted periodically to assess the value of agricultural education program changes.

The researchers decided to examine more closely the factors influencing students to major in agricultural education. The review of literature and research revealed no studies which attempted to determine long-term trends in enrollment factors in agricultural education. The researchers used a cross-sectional approach to compare contemporary agricultural education majors to a benchmark year when similar data had been collected half a decade earlier.

Objectives of the Study

The major purpose of this study was to compare 1980 and 1985 students on factors influencing them to select a major in agricultural education and the relative importance of those factors. The specific objectives for the study were:

1. To determine the difference in influences between 1980 and 1985.

2. To determine the difference in influences between males and females.

3. To determine the difference in influences between types of major.

4. To determine the age at which students had selected agricultural education as a major.

Methods

An instrument was developed specifically for the study in 1980 and then was reused, intact, in 1985. Students majoring in agricultural education and enrolled in an agricultural education course at Virginia Tech were requested to write open-ended statements describing why they had chosen their major. An instrument development team composed of graduate students and faculty members in the department was established. The purpose of the team was to examine the pool of statements for clarity, duplication and content validity. The team consolidated the initial pool of statements into 27 influences which were then logically grouped into nine factors or categories of influences, each containing three items. Note Table 1 for a list of the 27 influences. Categories used and their respective influences on a decision to major in agricultural education were: (a) previous work experience, items 1, 10 and 19; (b) economic/social, items 2, 11 and 20; (c) college experience, items 3, 12 and 21; (d) high school influences, items 4, 13 and 22; (e) instructor influences, items 5, 14 and 23; (f) friends/peer influences, items 6, 15 and 24; (g) family/home influences, items 7, 16 and 25; (h) personal reasons, items 8, 17 and 26; and (i) recruitment activities, items 9, 18 and 27.

Table 1

Ranking and Means of Influences by 1980 and 1985 Majors

Influences	1980 Majors (n = 54) Rank	1980 Majors (n = 54) $\bar{X}$	1985 Majors (n = 46) Rank	1985 Majors (n = 46) $\bar{X}$
1. Farm background	5	5.37	2	7.02
2. Get into other jobs	1	6.61	1	7.32
3. Visit to university campus	13.5	3.09	16	3.02
4. School administrator	15	3.05	17	2.83
5. Teacher other than ag	19	1.87	20	1.91
6. Friend	10	3.66	12	4.08
7. Parents	12	3.54	9	4.51
8. Work with young people	2	6.13	3	6.70
9. Recruitment brochure	23	1.33	23	1.45
10. Tried other jobs, prefer this	24	1.28	26	0.83
11. Geographical mobility	9	3.67	13	3.68
12. University counseling center	25	0.81	25	0.91
13. H.S. guidance counselor	20	1.46	22	1.70
14. Ag teacher	3	5.64	4	6.59
15. Had friends in agriculture	16	2.85	14	3.57
16. Brother or sister	21	1.85	19	2.17
17. Own boss	11	3.58	10	4.26
18. College recruitment program	22	1.70	21	1.79
19. Non-farm work experience	18	2.33	18	2.77
20. Demand for ag teachers	6	5.31	11	4.23
21. Ag faculty at university	7	5.27	6	5.74
22. H.S. Vo-Ag & FFA experience	4	5.61	5	5.77
23. Other teachers	13.5	3.09	15	3.13
24. Student peers	17	2.82	8	4.91
25. Spouse	27	0.25	27	0.62
26. Share ag interests w/ others	8	5.03	5	6.45
27. Slide-tape presentation	26	0.79	24	1.00

Note. Based on a scale of 0 (least influence) to 10 (greatest influence)

The instrument was field tested with 15 undergraduate students and 11 randomly selected vocational agriculture teachers. The field test consisted of a test-retest administration which established reliability coefficients ranging from r = .70 to r = .88 for each of the nine categories.

In addition to the previously mentioned 27 items, demographic information was collected. The demographic data consisted of such information as name, sex, anticipated year of graduation, type of major and years of enrollment in vocational agriculture.

The subjects participating in the study consisted of two intact populations. One group was composed of 54 Virginia Tech undergraduate majors enrolled in agricultural education courses in the winter quarter of 1979-80 from which the 1980 data were collected. The second group of subjects consisted of 47 Virginia Tech undergraduate majors enrolled in

agricultural education courses during the winter quarter of 1984-85, from which the 1985 data were collected.

Subjects were requested to react to the statements on the instrument using a scale of from 1 (little influence) to 10 (a great deal of influence). If the factor had no influence, the subjects were directed to indicate N/A (no influence) which was scored as 0.

Findings

1980 Compared to 1985

As indicated in Table 1, both the 1980 and 1985 majors ranked "get into other jobs" as the most influential reason for choosing agricultural education with $\bar{X}$ = 61 and $\bar{X}$ = 7.32 respectively. The 1980 majors ranked "work with young people" second (6.13), "agriculture teacher" third (5.64) and "high school vocational agriculture and FFA experiences" fourth (5.61). The 1985 majors ranked "farm background" second (7.02), "work with young people" third (6.70) and "agriculture teacher" fourth (6.59). "Parents" moved from twelfth (3.54) in 1980 to ninth (4.51) in 1985. "Student peers" moved from seventeenth (2.82) in 1980 to eighth (4.91) in 1985.

One interesting change occurred when the 1980 majors ranked "demand for agriculture teachers" sixth ($\bar{X}$ = 5.31), while the 1985 majors ranked it eleventh ($\bar{X}$ = 4.23). Nationally, publicity in 1980 indicated more severe teacher shortages in agricultural education than in 1985. However, there was about an equal number of teaching position openings per major for both years (Craig, 1980, 1984).

The five lowest ranked factors for both 1980 and 1985 majors were the same. The lowest five responses were "spouse," "slide-tape presentation," "university counseling center," "recruitment brochure," and "tried other jobs, prefer this."

Males Compared to Females

The 1980 group of males ranked the factor "economic/social" the highest ($\bar{X}$ = 17.12) while the 1985 group of males ranked "personal reasons" the highest ($\bar{X}$ = 18.08). Females from both the 1980 and 1985 groups ranked "personal reasons" highest (15.74 and 14.90 respectively). Both males and females in 1980 ranked "recruitment activities" the lowest (4.22 and 3.05 respectively). In 1985, females ranked family/home influences the lowest (4.00), while males ranked recruitment activities the lowest (3.50).

The largest mean difference between males and females was on the factor "friends/peer influences" with a difference of 4.79 in 1985. For that factor, males went from 9.87 in 1980 to 13.59 in 1985, while females only went from 8.28 in 1980 to 8.80 in 1985 (see Table 2).

Major Option

In 1983, an extension option was added to the undergraduate curriculum. Table 3 displays the differences in factors between the extension option majors and the teaching option majors in 1985. Three factors had relatively large (5 or greater) mean differences between the students in the two options. These three factors were economic/social, high school and instructor. In all three situations, majors in the teaching option had the higher mean score. A degree of caution must be used in examining these results because there were only eight majors in the new extension option who completed the instrument.

Table 2

Means for 1980 and 1985 Majors by Sex

Factors	1980		1985	
	Males (n = 36)	Females (n = 18)	Males (n = 37)	Females (n = 10)
Previous work experience	9.76	7.44	11.00	9.20
Economic/social	17.12	12.56	15.92	12.70
College experiences	9.05	9.45	9.92	8.80
High school influences	11.20	8.00	10.73	8.70
Instructor influences	11.25	9.33	12.41	9.10
Friends/peer influences	9.87	8.28	13.59	8.80
Family/home influences	5.86	5.22	8.19	4.00
Personal reasons	14.25	15.74	18.08	14.90
Recruitment activities	4.22	3.05	3.50	4.24

Note. Based on a scale of 0 (least influence) to 30 (greatest influence)

Table 3

Means by Type of Major Option

Factors	Extension Option (n = 8)	Teaching Option (n = 39)
Previous work experience	9.13	10.92
Economic/social	10.25	16.26
College experiences	8.00	10.03
High school influences	2.50	11.90
Instructor influences	7.13	12.64
Friends/peer influences	15.00	12.08
Family/home influences	4.25	7.91
Personal reasons	17.13	17.48
Recruitment activities	3.50	4.38

Note. Based on a scale of 0 (least influence) to 30 (greatest influence)

Decision Age

The mean age for 1980 majors selecting their field of study was 19.82 years. The mean age for 1985 majors was 17.89 years. One possible explanation for this almost two year drop in the mean age for selecting a major was a proportionally smaller number of double majors in 1985. Double majors in this study tended to start with their technical agriculture major and then select agricultural education as a second major later during their college careers. Because of the delayed choice of the second major, double majors were older at the time they made that decision.

Conclusions and Recommendations

A change in influencing factors occurred between the 1980 and 1985 majors. The largest shift was in the people important to the student major in making his or her decisions. This conclusion has an implication for the important people to emphasize as part of the recruitment process. The specific people influencing majors were agriculture teachers, peers and parents. Overt recruitment activities such as brochures, college recruitment programs and slide-tape presentations had little influence on majors. Recruitment efforts should be geared more to having an impact on the influential people rather than directly on the potential recruit, thus using the efforts more efficiently.

An important reason for majoring in agricultural education is the flexibility of the program which permits majors to enter other jobs. Recruitment efforts should emphasize the flexibility of the major as a strong attraction for future students. Teacher educators recruiting students should be willing to admit that not every major should or can be a future teacher.

The agricultural education majors of 1985 were less influenced by their agriculture teacher than were the 1980 majors. A partial explanation for this change could be the addition of the extension option. Extension option students were less likely to have participated in a high school agricultural education program. Recruitment activities for extension option majors may need to be different than recruitment activities for teaching option majors.

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