

Relationship of Student Attitudes about Vocational
Agriculture to Selected Student,
School, and Program Variables

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There has been a trend in recent years to reduce government spending in many areas. In this atmosphere of retrenchment, accountability has taken on new importance for vocational educators. With the increasing emphasis on accountability, legislators, educators, and the general public are asking if expenditures for vocational education are producing desired results. Funding agencies are asking for evaluative information upon which to base policy decisions. Moreover, a review of the Vocational Education Amendments (1976) makes it clear that the authors of the legislation expect evaluation of vocational education programs to yield data useful in formulating ongoing and future policy and program decisions.

A generally accepted source of evaluative data for vocational education programs is the graduates of those programs. It is important to have an understanding of the level of satisfaction program participants have with the experiences received while enrolled in vocational agriculture. This was the focus of the study.

Objectives

Specifically, the study was designed to accomplish the following objectives:

1. Describe selected demographic characteristics of senior vocational agriculture students in Florida high schools.
2. Appraise student attitudes about experiences in the vocational agriculture program.
3. Identify student, school, and program variables related to student attitudes about the program

Methods and Procedures

Population Investigated

The population consisted of all Florida high schools with vocational agriculture programs. All of the 333 senior high school vocational agriculture teachers were asked to have each senior vocational

agriculture student in their program complete a brief questionnaire that identified the student's name, address, telephone number, and the number of years enrolled in vocational agriculture. Two follow-up contacts resulted in 93% of the teachers responding. Slightly over 1800 senior vocational agriculture students were identified.

A random sample of 385 students was selected from the accessible population. A total of 312 questionnaires were completed for an 81% response rate.

Ten randomly selected non-respondents were contacted and asked to respond to selected items on the questionnaire. An analysis of this information revealed no significant differences between respondents and non-respondents.

Instrumentation

In order to obtain requisite information, a telephone interview questionnaire was developed to obtain data from high school seniors. An instrument used in a Southern Agricultural Education Region follow-up study (Iverson & Brown, 1979) assisted in forming a basis for many of the items included.

The instrument was field tested on a group of 20 students who were not included in the random sample. Field testing yielded a reliability co-efficient of .87 on the questionnaire.

Data Collection and Analysis

Eight interviewers collected data for the study between March 18 and March 23, 1983. Descriptive statistics were utilized to summarize the items related to student, school, and program variables.

To determine categories of attitudes and student, school, or program variables, each of the program evaluation statements was first examined by factor analysis. Three categories of evaluation statements were identified. A multiple regression was utilized to examine the relationship between the categories of evaluation statements and the demographic variables.

Findings

Objective One

Student Characteristics. Eighty-one percent of the respondents were male and 92% were white. Approximately one-fourth (24.7%) of the respondents had been enrolled in vocational agriculture for four

years while 62 (19.9%) students had been enrolled in vocational agriculture for five years. The students were highly urban as indicated by the fact that 122 (39%) students lived on one acre or less. There were only 32 students who lived on more than 50 acres. However, when asked if they were from an agricultural background, 71.7% responded yes.

Table 1 illustrates that only 2.6% of the students indicated that they planned to farm upon graduation from high school. There was 35 (11.3%) students who indicated that they planned to work in some agricultural occupation other than farming. The largest portion of the students (45.4%) indicated that they planned to continue their education after high school either in a post-secondary vocational school or in a college.

School Characteristics. The majority (65.9%) of the students were in schools with multiple teacher vocational agriculture departments. The majority of the students rated their vocational agriculture classroom, shop, and land laboratory as good. Only 2.2% of the students rated their land laboratory as poor. Over one-fifth (20.8%) of the students indicated that the land laboratory at their school was excellent.

Program Characteristics. The program area with the largest enrollment was production agriculture. Almost one-third (30.3%) of the students were enrolled in production agriculture programs. The second largest program area was ornamental horticulture with 27.7% of the total enrollment. The smallest program areas were agricultural supplies and agricultural processing.

Table 1

Plans After Graduation (n = 310)

Category	Number	Percent	Cumulative percent
Farm	8	2.6	2.6
Agricultural occupation	35	11.3	13.9
Non-agricultural occupation	30	9.7	23.5
Post-secondary voc. school	24	7.7	31.3
College	117	37.7	69.0
Military	42	13.5	82.6
Do not know	54	17.5	100.0

Over 85% of the students surveyed had been members of Future Farmers of America (FFA) at least one year. Of the 146 students who had been enrolled in vocational agriculture for four or more years, 134 (91.8%) had been members of the FFA for four or more years. There were 28 (9.0%) students who had been a member of the FFA for only one year. One half of the FFA members had earned the Chapter Farmer Degree and over one half (57.8%) had participated in at least one FFA contest above the local level during their senior year.

Sixty-eight percent of the students surveyed had been involved in a supervised occupational experience program (SOEP) for at least one year. Of the 146 students who had been enrolled in vocational agriculture for four or more years, 61 (41.8%) had been involved in the SOE program for four or more years.

Each student who had been involved in the SOEP was asked to categorize it as either an ownership program, placement program, or directed laboratory experience program. There were 16 students who had projects that were in two different categories and three students indicated that they had all three types of projects. There were 119 (51.7%) students involved in an ownership experience program, and 56 (24.3%) students in a placement program. Almost two-thirds of the students indicated that their SOEP would lead to continued income after graduation. Over two thirds of the students involved in SOE indicated that their teacher had visited their project during their senior year. Over 80% of the students surveyed indicated that they maintained record books on their SOEP. Most students (87.7%) indicated that their teachers were available to help with the SOEP in the summer.

Objective Two

Student attitudes about experiences received in vocational agriculture were measured by having each student rate 16 program evaluation statements. A modified four-point Likert-type scale was utilized to categorize responses. Students could strongly agree (coded 4), agree (coded 3), disagree (coded 2), or strongly disagree (coded 1) with each of the items. Frequencies, percentages, and a mean response were computed for each statement.

In general, experiences received very high ratings from the seniors. For the statement: "vocational agriculture taught me skills useful in production agriculture," 99.4% of the students agreed or strongly agreed. When asked if they would enroll in vocational agriculture again, 96.8% of the students responded positively. The item with the least number of students responding positively (agree or strongly agree) was "vocational agriculture helped me choose an occupation." On this statement 73.4% of the students either agreed or strongly agreed. These data may be reviewed in Table 2.

Table 2

Ratings of Statements about the Vocational Agriculture Program by Senior Vocational Agriculture Students in Florida
(n = 312)

Statements about vocational agriculture experiences	Frequencies and percentages of responses				Mean
	Strongly agree	Agree	Disagree	Strongly disagree	
Taught me skills useful in production agriculture	106 (34.0%)	204 (65.4%)	1 (0.3%)	1 (0.3%)	3.33
Taught me skills useful in agribusiness and natural resources	77 (24.8%)	214 (68.6%)	20 (6.4%)	1 (0.3%)	3.18
Helped me learn how to participate in meetings	120 (38.5%)	171 (54.8%)	18 (5.8%)	3 (1.0%)	3.30
Helped me choose an occupation	66 (21.0%)	163 (52.4%)	81 (25.9%)	2 (0.6%)	2.94
Helped me develop leadership skills	119 (38.1%)	170 (54.5%)	22 (7.1%)	1 (0.3%)	3.31
Helped me understand how to enter & advance in agricultural occupations	93 (29.7%)	199 (63.9%)	18 (5.8%)	2 (0.6%)	3.22
Helped me see the need to get along with others on the job	135 (43.4%)	167 (53.4%)	10 (3.2%)	0 (0.0%)	3.40
Helped me learn to work in production agriculture areas like farming, greenhouse production or nursery	147 (47.1%)	159 (51.0%)	6 (1.9%)	0 (0.0%)	3.45
Helped me learn to work in agribusiness and natural resources areas like sales and service, forestry or food processing	56 (17.9%)	196 (62.8%)	56 (17.9%)	4 (1.3%)	2.97
Helped me learn to get along with other people	113 (36.3%)	191 (61.1%)	7 (2.3%)	1 (0.3%)	3.34
Vocational agriculture classes were good for me	145 (46.5%)	162 (51.9%)	4 (1.3%)	1 (0.3%)	3.44
If I had it do over, I would re-enroll in vocational agriculture	167 (53.5%)	135 (43.3%)	9 (2.9%)	1 (0.3%)	3.50

Note. The scale ranged from Strongly Agree = 4 to Strongly Disagree = 1.

Students were in less agreement about teacher assistance received while in vocational agriculture. Responses to four items related to teacher assistance are summarized in Table 3. Approximately 96% of the students indicated that their teacher provided them with information on careers within agriculture. Over three-fourths of the students indicated that their teachers encouraged them to attend college.

Table 3

Ratings of Statements about Teacher Assistance in Vocational Agriculture by Senior Vocational Agriculture Students in Florida

Statements about teacher assistance	Frequencies and percentages of responses				Mean
	Strongly agree	Agree	Disagree	Strongly disagree	
Encouraged me to enter an occupation in agriculture	90 (28.8%)	186 (59.6%)	33 (10.6%)	3 (1.0%)	3.16
Encouraged me to consider attending college	86 (27.6%)	155 (49.7%)	69 (22.1%)	2 (0.6%)	3.04
Provided information on career outside agriculture	49 (15.7%)	181 (58.0%)	80 (25.6%)	2 (0.6%)	2.88
Provided information on career within agriculture	115 (36.9%)	187 (59.9%)	10 (3.2%)	0 (0.0%)	3.33

Note. The scale ranged from Strongly Agree = 4 to Strongly Disagree = 1.

Objective Three

To accomplish objective three, the 16 evaluation statements were examined by factor analysis. Categories of evaluation statements (constructs) were identified through factor analysis using the principle components method and a varimax rotation. Variables loading .60 or higher on a factor were considered in interpreting the meaning of the factor. Three factors were identified and are summarized in Table 4. For each factor identified, the factor loading of each questionnaire item is indicated. The three categories of response statements were identified and labeled as: (a) values of the program, (b) instructional program, and (c) career guidance.

Table 4

Results of Factor Analysis of the Evaluative Responses

<u>Factor/item name</u>	<u>Factor loading</u>
<u>Factor 1: Values of the program</u>	
Vo-Ag helped me develop leadership skills.	.67
Vo-Ag helped me learn to get along with others.	.66
Vo-Ag classes were good for me.	.70
If I had it to do over again, I would enroll in vocational agriculture.	.62
<u>Factor 2: Instructional program</u>	
Vo-Ag taught me skills useful in agribusiness and natural resources.	.72
Vo-Ag helped me learn to work in production agriculture areas like farming, greenhouse production, or nursery operations.	.60
Vo-Ag helped me learn to work in agribusiness and natural resources areas like forestry, sales, and services or food processing.	.68
<u>Factor 3: Career guidance</u>	
My teacher encouraged me to enter an occupation in agriculture.	.70
My teacher encouraged me to consider attending college.	.76
My teacher provided me with information on careers within agriculture.	.69

To determine whether the student, school, or program variables were related to the attitude factors, a step-wise multiple regression analysis was conducted. The student, school, and program variables were used as the independent variables and the three factors identified by factor analysis were used as dependent variables. A probability level of .05 was used to determine if each independent variable significantly contributed to the explanation of variance in each factor.

For the first factor, values of the program, three variables contributed to the variance: years of participation in SOEP, adequacy of the land laboratory, and teacher availability to supervise SOE programs in the summer. However, these variables accounted for only 13.3% of the variance (R^2) in this factor.

For the second factor, instructional program, three variables significantly explained the variance: teacher availability in the summer, years of participation in SOEP, and adequacy of the land laboratory. They explained 11% of the variance (R^2) in this factor.

For the third factor, career guidance, another three variables contributed to the variance: years in FFA, adequacy of the land laboratory, and years of participation in SOEP. They explained 17.9% of the variance (R^2) in this factor.

Conclusions and Recommendations

1. Females and racial minorities were inadequately represented among seniors enrolled in vocational agriculture in Florida in 1983.
2. Students enrolled in vocational agriculture programs in Florida were not farm oriented. Program planners need to focus attention on helping teachers design supervised occupational experiences for these students.
3. A small portion (11.3%) of the seniors were planning to enter either farming or agriculture/agribusiness occupations immediately upon graduation. Future follow-up studies should focus on determining the actual number of students who pursue an agricultural/agribusiness occupation.
4. Less than one-half of the students who had been enrolled in vocational agriculture for four years had completed four years of supervised experience. Leadership and inservice efforts must continue to focus on developing a stronger commitment to this aspect of the program.
5. Overall, seniors indicated very positive attitudes about the experiences they received in vocational agriculture. Two variables were related to each of the three evaluative factors that were identified. These variables were: years of involvement in SOEP and student attitudes concerning the adequacy of the land laboratory. In addition, teacher availability in the summer was related to factor one and factor two. Years in FFA was significantly related to factor three: career guidance. However, it was concluded that these variables were contributing very little to explaining the variance in student attitudes.

References

- Iverson, M. J., & Brown, R. A. (September, 1979). *The role of high school vocational agriculture/agribusiness programs in the occupational success of graduates: Research report of a southern regional study in agricultural education*. Auburn, AL: Research Committee of the Southern Region.