

**The Contribution of Agribusiness Placement SOE
in Developing the Occupational Ability of
Vocational Agriculture Students**

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Vocational agriculture students have indicated to agricultural educators through research that supervised occupational experience (SOE) is important in developing occupational abilities (Williams, 1977). However, this same research found differences among students with ownership, employment, and responsibility experiences concerning the importance of SOE in developing some occupational abilities. Deductively, it would seem logical to conclude that within any given type of SOE student perceptions may also vary.

In attempting to narrow the above conclusions down to a practical, workable, and timely research problem, the decision to study students with non-farm agribusiness placement SOE programs was made. The problem, then, with which this study was concerned was the following: What differences, if any, exist among students regarding the perceived importance of the contribution of their agribusiness placement SOE to the development of occupational ability and, how should agricultural educators respond to differences and/or lack of differences?

Purpose of the Study

The purpose of the study was to determine if significant differences existed in how vocational agriculture students perceived the importance of agribusiness placement SOE in contributing to the development of occupational ability when students were classified by selected demographic variables. The specific demographic variables of the students studied, as derived from a review of related literature, included:

1. Their home location,
2. Their years of enrollment in vocational agriculture courses,
3. How they obtained the training stations for their agribusiness placement SOE programs,

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4. Whether or not they had received Future Farmers of America (FFA) recognition for success in an agribusiness placement SOE program,
5. Their immediate post-high school plans, and
6. Their occupational plans.

Methodology

A random sample of 150 high school students, representing all Iowa vocational agriculture departments with at least six juniors and/or seniors participating in non-farm agribusiness placement SOE programs during the 1981-82 school year was identified. All teachers from the 22 schools meeting the population criteria participated in the study by administering the research instruments as part of their regular vocational agriculture curricula.

The research instrument included a list of 35 occupational abilities appropriate for workers specifically engaged in non-farm agribusiness occupations. The occupational ability inventory was derived from the U.S. Office of Education publication, "Objectives for Vocational and Technical Education in Agriculture" (1965) and was refined to reflect contemporary conditions based on a review of related literature. Students were asked to indicate on a nine-point scale how great they perceived the contribution of their agribusiness placement SOE to have been in developing each ability. The contributory scale ranged from "no contribution" = 1 to "utmost contribution" = 9.

Packets containing the questionnaire-cover letter units for the students identified were mailed to the instructors for each of the 22 participating vocational agriculture departments. Three weeks later, follow-up telephone calls were made to non-respondents and additional questionnaire-cover letter units were mailed as necessary. All 22 schools eventually responded.

Upon inspecting the returned questionnaires, it became evident that many vocational agriculture teachers had failed to distinguish between farm placement and non-farm placement students during the identification process. Since the study had been designed specifically for students with non-farm agribusiness placement SOE programs, instruments from other students were discarded. Improperly completed instruments were also discarded. The remaining 78 instruments were used in the analysis.

The Guttman split-half test for reliability was applied to the occupational ability inventory and yielded a coefficient, it was deemed appropriate to consider the sum total of the 35 separate occupational abilities studied to be an overall measurement of occupational ability. Therefore, grand means derived from the occupational ability inventory were used in the data analysis.

Means and standard deviations were calculated for the total sample and for each of the subgroups studied. Oneway analysis of variance and the t-test were used to test for significant differences between selected subgroup characteristics and occupational ability. The Scheffe' post hoc procedure was used with the oneway analysis of variance to identify significant differences between all the possible pairs of subgroup grand means.

Background of the Study

Characteristics of the Students

In an effort to make the results of the occupational ability analysis more meaningful, a brief profile of the "statistically average" student participating in this study is provided. The typical student participating in an agribusiness placement SOE program was found to have a home location other than a farm but still to have had previous supervised occupational experience involving the raising of animals and/or crops. This student had been enrolled in vocational agriculture for at least three years and was an FFA member with the Chapter Farmer Degree. The type of agribusiness placement SOE program that this student was most likely to have was one involved with agricultural sales and service or agricultural mechanics. The average number of months of participation in an agribusiness placement SOE program for this student was 15 months with his/her present employer and 17 months with all employers. The training station for the employment experience was located by this student without assistance from a vocational agriculture teacher. Future plans for this typical student included a post-secondary education leading to an occupation in a non-farm agribusiness (Pilgrim, 1983).

Rankings of Occupational Abilities

Although the findings of this study will be reported in the next section using grand means for the occupational ability inventory, examples of the types of items comprising the inventory are provided to increase understanding. Students were asked to rate the contribution of their agribusiness placement SOE programs in developing each of 35 occupational abilities. The nine-point rating scale ranged from "no contribution" = 1 to "utmost contribution" = 9. The top five occupational abilities and their respective means for the total sample of 78 students included: a) learn from the experiences of others (7.58), b) use equipment in an agribusiness job (7.47), c) use my time efficiently (7.32), d) maintain customer relations (7.28), and e) identify skills needed in an agribusiness job (7.21). The bottom five occupational abilities and their respective sample means were: a) explain the role of agriculture in our nation (5.24), b) earn extra money to stay in school (5.04), c) use animal science information in an agribusiness job (4.90), d) use the services of agencies and organizations in securing a job (4.79), and e) use plant and soil science information in an agribusiness job (4.32).

Findings

Reported in Tables 1 and 2 are the means, standard deviations, and *F*-ratios (Table 1) or *t*-values (Table 2) resulting from an analysis for significant differences between occupational ability grand means when students were grouped into six independent variable classifications.

Analysis by Home Location

Table 1 indicates that at $p=.05$ level there were no significant differences in the perceived importance of the contribution of agribusiness placement SOE in developing occupational ability when students were grouped by home location. However, when the 35 occupational abilities were considered separately, the ability to learn from the ex-

Table 1

Grand Means, Standard Deviations, and Analysis of Variance for Students' Perceived Importance of the Contribution of Agribusiness Placement SOE in Developing Occupational Ability by Two Independent Variables

Independent variable	Total \bar{X} S.D.	Group 1 \bar{X} S.D.	Group 2 \bar{X} S.D.	Group 3 \bar{X} S.D.	<i>F</i> -ratio
a					
Home Location	216.78	212.60	219.00	219.58	0.30
	37.28	36.89	34.50	39.55	
b					
Immediate Post-High School Plans	216.78	222.85	215.13	199.53	2.32
	37.28	35.04	38.27	39.94	

a Group 1 = students who lived on a farm ($n = 30$); Group 2 = students who lived in a rural area or on an acreage, but not on a farm ($n = 15$); Group 3 = students who lived in a town or a city ($n = 33$)

b Group 1 = students planning on attending a post-secondary institution immediately following high school graduation ($n = 47$); Group 2 = students planning to continue working for their present agribusiness placement SOE employer immediately following graduation ($n = 16$); Group 3 = all remaining students in the sample ($n = 15$)

Table 2

Grand Means, Standard Deviations, and T-values for Students Perceived Importance of the Contribution of Agribusiness Placement SOE in Developing Occupational Ability by Four Independent Variables

Independent variable	Total \bar{X} S.D.	Group 1 \bar{X} S.D.	Group 2 \bar{X} S.D.	T-value
a				
Years of High School Vo. Ag.	216.78 37.28	225.70 37.56	213.05 36.87	1.37
b				
Placement Assistance Received	216.78 37.28	225.52 33.30	214.20 39.50	1.24
c				
FFA Recognition Received	216.78 37.28	224.48 36.55	213.15 37.42	1.26
d				
Ultimate Occupational Plans	216.78 37.28	220.05 38.16	205.24 34.93	1.44

- ^a Group 1 = students with one to two years of occupational agriculture courses (n = 23); Group 2 = students with three to four years of vocational agriculture courses (n = 55)
- ^b Group 1 = students receiving training station placement assistance from their vocational agriculture instructors (n = 27); Group 2 = students receiving no training station placement assistance from their vocational agriculture instructors (n = 44)
- ^c Group 1 = students receiving an FFA award for success in an agribusiness placement SOE program (n = 25); Group 2 = students not receiving an FFA award for success in an agribusiness placement SOE program (n = 53)
- ^d Group 1 = students planning to enter an agricultural occupation (n = 59); Group 2 = students planning to enter a non-agricultural occupation or undecided in occupational plans (n = 17)

periences of others had the highest mean for students who lived on farms and students who lived in towns or cities. The number one occupational ability among students residing in rural areas or on acreages was the ability to use equipment in an agribusiness job. On the low end of the rating list for students who lived on farms was the ability to use plant and soil science information in an agribusiness job. The ability to manage an agribusiness took last place among students who lived in rural areas or on acreages. Among urban students, the ability to use the services of agencies and organizations in securing a job was developed the least by an agribusiness placement SOE program.

Analysis by Years of Vocational Agriculture

As shown in Table 2, no significant differences were found in the perceived importance of the contribution of agribusiness placement SOE in developing occupational ability when students were grouped by the number of years that they had been enrolled in vocational agriculture courses. In addition, it should be noted that on an individual occupational ability basis, both groups gave their highest ratings to the ability to learn from the experiences of others while their lowest ratings went to the ability to use plant and soil science information in an agribusiness job.

Analysis by Teacher Placement Assistance

No significant difference in grand means was observed when students were grouped according to whether or not they had received assistance from their vocational agriculture instructors in locating the training stations for their agribusiness placement SOE programs (note Table 2). When analyzing the 35 occupational abilities separately, students receiving teacher placement assistance perceived the ability to use equipment in an agribusiness job as developed the most and the ability to use animal science information in an agribusiness job as developed the least. This was not paralleled by students without teacher placement assistance as they placed the ability to learn from the experiences of others at the top of their list and the ability to use plant and soil science information in an agribusiness job at the bottom.

Analysis by FFA Recognition

The statistics in Table 2 indicate there was no significant difference in occupational ability grand means when students were classified by whether or not they had received FFA recognition for success in an agribusiness placement SOE program. However, the ability to learn from the experiences of others was number one among all occupational abilities for students receiving recognition and num-

ber two for students without recognition. The ability to use plant and soil science information in an agribusiness job was placed 35th for both groups.

Analysis by Post-High School Plans

No significant differences were observed when students were classified according to their plans immediately following high school graduation (note Table 1). Although no differences existed in grand means, there was variety in the perception of the importance of the contribution of agribusiness placement SOE in developing occupational abilities on an individual item basis. Students planning on postsecondary education attached the highest value to agribusiness placement SOE in developing the ability to use equipment in an agribusiness job while students planning to continue working for their present agribusiness employers rated the ability to maintain customer relations number one. The remaining students in the sample believed agribusiness placement SOE made the greatest contribution in developing the ability to recognize skills and interest in making employment plans. On the other hand, students with postsecondary educational plans and students continuing with their present agribusiness employment gave their lowest ratings to the ability to use plant and soil science information in an agribusiness job. All remaining student respondents placed the ability to earn extra money to stay in school in last place.

Analysis by Occupational Plans

The data reported in Table 2 indicates that no significant difference between the occupational ability grand means was present when students were grouped by their occupational plans. Of the 35 occupational abilities comprising the inventory, the ability to learn from the experiences of others topped the list for students with agricultural occupational plans, while the ability to follow written directions and rules was number one for students with other occupational plans. Both groups gave the ability to use plant and soil science information in an agribusiness job last place designation.

Implications

From the results of this study, the following implications were formulated for agricultural educators at the local, state, and national levels.

1. On an individual item basis, all but three of the occupational abilities attained sample means above the scale midpoint. These statistics indicate that agribusiness placement SOE plays a key role in the development of occupational abilities for agribusiness-oriented students.

2. Agribusiness placement SOE programs contribute similarly to the development of occupational ability regardless of students' a) home location, b) years of high school vocational agriculture, c) degree of teacher placement assistance, d) amount of FFA recognition received in an agribusiness placement SOE program, e) immediate post-high school plans, and f) occupational plans. These findings suggest that group instructional materials and methods may be effectively used in helping large numbers of students develop general occupational abilities through agribusiness placement SOE programs.

3. Although no significant differences were found in the importance of the contribution of agribusiness placement SOE in developing occupational ability on a grand mean basis, various student groups rated individual items comprising the grand means differently. These findings reinforce the concept of designing individualized training plans to enhance student strengths and overcome student weaknesses.

4. In the Background of the Study section the "statistically average" student participating in an agribusiness placement SOE program was briefly described. The personal characteristics of this student differ considerably from those of the "traditional" vocational agriculture student. Apparently agribusiness placement SOE is important in meeting the special needs of a client group that has not always been given full consideration in agricultural education.

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