

**Enrollment in Ohio Vocational Agricultural Program:
A Curriculum Consideration**

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Through work, people not only obtain their identity but also their social contact and sense of accomplishment. Careers influence the standard of living, life style and much of personal happiness. The choice of a career is one of the most important decisions of a person's life and should be based on a sound educational base.

From the beginning, a basic premise of vocational education has been that programs were for those entering or preparing to enter employment (Smith-Hughes Act, 1917). The objectives of vocational agriculture in Ohio as contained in the State Department of Education Agricultural Education Service handbook stated: The program is for those who are preparing for employment and those who are presently employed in agriculture at technical or vocational levels. Hence, it could reasonably be assumed that the specialized agricultural programs available in joint vocational schools were planned for those that have made a career choice. The program has two major parts--the freshman-sophomore, and the junior-senior components. The freshmen and sophomore component is introductory and preparatory to the specialized programs of the junior and senior years component.

The Ohio Agricultural Education Service's suggested course of study contains a section which sought to develop student occupational competencies under the instructional program area "Personality Development." Section D of this program area seeks to develop these career related skills in the students:

- D1: a. Obtain agricultural career information.
 - b. Develop agricultural career goal and associated occupational work.
- D2: a. Analyze community and job information.
 - b. Formulate occupational trends for agriculture.
- D3: a. Prepare personal data sheet.
 - b. Write application letter.
 - c. Apply for a job by telephone or in person.
 - d. Fill out employment application.
 - e. Interview for a job.
 - f. Establish satisfactory employee-employer relations.
- D4: a. Categorize the personal career goals.
 - b. Formulate 5-year and 10-year occupational career goals previously determined.

- D8: a. Design potential earnings from occupational career goals previously determined.
- b. Analyze the career objectives in providing financial needs.

As a result of these experiences, students were supposed to develop the skills which will enable them to explore and discover facts about themselves and the world of work in agriculture. It might then be expected that students who went through these experiences would have developed self-confidence and a high level of maturity in matters related to career decision-making.

Research findings on occupational guidance reveal that high school students were increasingly looking outside the school for career information and counseling. Some of the identified sources of occupational information include parents, friends and mates (Phipps, 1969; Sponaule, 1972). Knight (1977) find that one of the major reasons why Ohio vocational agriculture teachers quit teaching was the increasing number of non-interested students enrolled in the vocational agriculture programs. The questions then are: Are students sufficiently informed of the nature, scope and requirements for agricultural occupations when they enrolled in agricultural programs? What knowledge of agricultural occupations do students possess when first enrolled in specialized vocational agriculture programs in joint vocational schools?

Objectives of the Study

The objectives of the study were:

1. To determine "maturity of career choices" among students through assessing the students' knowledge of the agricultural occupational information upon enrollment in joint vocational schools.
2. To investigate relationships between students' knowledge of agricultural occupations and selected student background, demographic and career variables.

Procedure

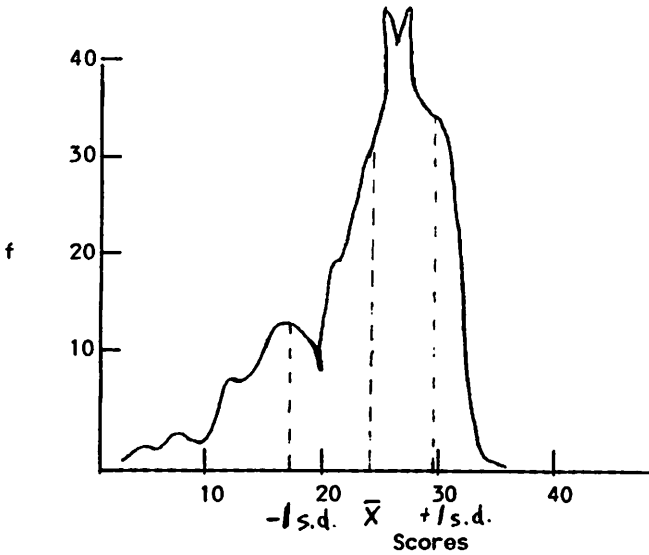
Ten joint vocational schools were randomly selected from a population of 51 which offered specialized agricultural programs in Ohio. All of the 465 students who had just enrolled in either Agricultural Mechanics, Horticulture, Farm Management, Natural Resources, Small Animal Care or Products Processing programs were involved. A validated 36 item multiple choice test, with items selected from criterion-referenced tests on Ohio freshmen-sophomore vocational agriculture students (Warmbrod, 1973), was administered, with no time restriction on the students, within the first two weeks of enrollment in the specialized programs. The test was divided into three sections containing 12 questions on the nature of agricultural occupations (Section I), 7 on training and experience requirements in agriculture (Section II), while the last 17 focused on job information, job entry and job advancement (Section III). Using Richardson Formula 20, the reliability coefficients of the test were: Section I, 0.67; Section II, 0.38; Section III, 0.78; and overall for the test, 0.84. Similarly, the standard errors of measurement were: 0.10 for Section I, 0.07 for Section II, 0.17 for Section III, and 0.22 overall. A questionnaire on the students' background, demographic and career information was attached to the test.

Scores for the three separate sections were summed to obtain each student's total score on the test (hereafter called the score). The scores were treated to simple descriptive statistics.

In analyzing for relationship between scores and students' variables, scores were grouped into four categories (A, B, C, D) on the basis of deviation about the mean. The four categories fall within the score brackets described by the following inequalities contained in Figure 1.

$$\begin{aligned} 0 &< D < \bar{x} - 6 \\ \bar{x} - 6 &< C < \frac{\bar{x}}{2} \\ \frac{\bar{x}}{2} &< B < \bar{x} + 6 \\ \bar{x} + 6 &< A < 36 \end{aligned}$$

Cross tabulations of the score groups by students' variables were then subjected to Chi-square analysis. Coefficients of correlation as measured by Cramer's V were also recorded.



Mean=22.98; Mode=26; S.D.=6.09; Kurtosis=0.45; Skewness=-0.97

Figure 1. Frequency distribution of student scores: Knowledge of agricultural occupations.

Findings

Of the possible score of 36, students' scores ranged from 3 (8%) through 34 (94%) with a mean of 22.9 items correct (64%). The standard deviation about the mean was 6.1. While about 75% scored higher than 75% of the items correct, 9% of the students scored more than 80% of the test items correct. The students' scores distribution about the mean is contained in Figure 1.

Chi-square tests indicated a relationship between students' scores on the test items and students' overall letter-grades in classwork and school related activities during freshman and sophomore years, Chi-square=62.11, $p=0.001$. The strength of the relationship as revealed on Cramer's V-value was 0.21. Table 1 contains a cross tabulation of the test score grades and the school work grades of students. Students with better school grades (A's and B's) scored higher on the test while students with poor school grades (C's, D's and F's) associated with low scores.

Table 1

Percentage Distribution of Student Knowledge of Agricultural Occupations Scores by Grades Earned in School Work: Freshman and Sophomore Years

Score Level	Mostly	Equal	Mostly			Total n=463
	A's & B's n=22	A's, B's, & C's n=70	B's & C's n=177	C's & D's n=162	D's & F's n=32	
A	36.4	18.6	6.8	4.9	3.1	9.1
B	45.5	55.7	57.6	44.5	28.1	49.9
C	13.6	20.0	22.0	27.8	28.1	23.8
D	4.5	5.7	13.6	22.8	40.7	17.2
Percent of Total Students	4.8	15.1	38.2	35.0	6.9	100.0

Note. Chi-Square=62.11; significance=.001; Cramer's V=0.21.

Similarly, Chi-square analysis (contained in Table 2) indicated students' reasons for enrolling in specialized agricultural programs; Chi square=72.66, $p=0.001$. The corresponding Cramer's V-value was 0.23. While students who enrolled for the purposes of "preparing for future job" and for "preparing for advanced studies" associated with better knowledge (higher scores), students who were "advised" into the programs by counselors or who enrolled in agricultural programs because they were closed-out of other programs at the vocational schools tended toward poorer knowledge (low scores).

Table 2

Percentage Distribution of Student Knowledge of Agricultural Occupations Scores by Reasons for Enrollment in Agricultural Programs

Score Level	Closed Out of Other Courses n=22	Advised by Counselor n=11	No Good Course in Home School n=68	Give It a Trial n=49	For Advanced Study n=41	To Prepare For Job n=273	Total n=464
A	4.5	0.0	5.9	10.2	17.1	9.2	9.1
B	36.4	0.0	51.5	30.8	56.1	53.5	49.8
C	4.5	18.2	23.5	36.7	14.6	24.9	23.9
D	50.0	81.8	17.6	14.3	12.2	12.1	16.6
% of all Students	4.7	2.4	14.7	10.6	8.8	58.8	100.0

Note. Chi-square=72.66; significance=.001; Cramer's V=0.23.

Students' farm experience cross tabulated with students' test scores indicated a significant association, Chi square=30.28, $p=0.01$. The corresponding Cramer's V-value was 0.15. Students with longer farm experience associated with higher test scores.

Based on "hours of instruction" in agricultural occupations and careers," students were blocked into five groups: 0, 1-10, 11-20, 21-30 and 30+. The frequency distribution of the respondents indicated that about 75% of the students had no instruction in agricultural occupations, 15% had less than 10 hours of instruction and the remaining 10% had exposure hours varying between 11 and 30 hours. A Chi-square analysis of students' scores and hours of instruction in agricultural occupations indicated a non-significant association, Chi square=12.65, $p=0.39$. A cross tabulation of students' scores and exposure hours in agricultural careers is contained in Table 3.

Table 3

Percentage Distribution of Student Knowledge of Agricultural Occupations Scores by Class Hours of Instruction on Agricultural Occupations: Freshman and Sophomore Years

Score	Class Hours of Instruction					Total n=455
	None n=335	Less Than 10 n=65	11-20 n=18	21-30 n=6	30+ n=31	
A	8.7	9.2	11.1	0.0	12.9	9.0
B	48.4	47.7	38.9	83.3	64.5	49.2
C	26.0	18.5	33.3	16.7	16.1	29.4
D	17.0	24.6	16.7	0.0	6.5	16.7
% of Total Students	73.6	14.3	4.0	1.3	6.8	100.0

Note. Chi-square=12.65; significance=0.3935; Cramer's V=0.10.

The frequency distribution of participation in vocational agriculture at the freshman and sophomore level indicated that only 9% had vocational agriculture for two years, 9% for one year while 8% had no exposure at all. Chi-square analysis (Table 4) of students' scores on the test and periods of previous exposure to vocational agriculture were significantly associated, Chi square=16.55, $f=0.01$. Students with two years' exposure associated with higher test scores.

Discussion and Recommendations

Test item scores which reflect students' knowledge of career information upon enrollment in Ohio specialized agriculture programs varied

Table 4

Percentage Distribution of Student Knowledge of Agricultural Occupation Scores by Number of Years of Previous Vocational Agriculture Enrollment

Score Levels	Zero n=382	One n=41	Two n=42	Total n=465
A	8.1	4.9	21.4	9.0
B	50.5	39.0	57.1	49.9
C	24.6	29.3	11.9	23.9
D	36.8	26.8	9.5	16.8
% of All Students	82.2	8.8	9.0	100.0

Note. Chi-square=16.55; significance=0.011; Cramer's V=0.13.

widely. If enrollment and training in the specialized agriculture programs mean preparing the students for jobs in the agricultural areas, it might be concluded that the students' mean score of 64% indicated a poor knowledge of the occupations the students were preparing for. If only 10% of the respondents scored higher than 80%, then the majority of the student enrollees did not take advantage of the two-year freshman-sophomore vocational agriculture program existing in Ohio high schools.

As the results of analysis indicated, students with superior innate ability and native intellect tended to score high on the test. While such variables as school grades, purposefulness of intentions and farm experience were associated with superior test scores, they do not substitute for proper career orientation programs which the students should have prior to enrollment. While students with these superior innate qualities and farm experience tended to rely on their personal ingenuity for career choice, the weak and the "advised" students enrolled in the programs with little or no occupational basis--a situation which often necessitates seeking career information from parents, friends and class mates (Phipps, 1969; Sponagle, 1972) after enrollment. Such non-mature career decisions appear inconsistent with the objectives of The Smith-Hughes Act of 1917.

The non-significance of the Chi-square test on students' scores and "hours of exposure" to agricultural career orientation talks prior to enrollment in the specialized programs appeared incongruous. Since most of the students did not enroll in the freshman-sophomore agriculture, it might be possible that the career awareness programs to which the students were exposed was not related to agriculture. It may be necessary to investigate the nature of the career orientation programs to which the students were exposed. An investigation into the teaching strategies of the personality development component of freshman-sophomore vocational agriculture may be desirable. Since the score of 9% of the students who had the two years (freshman-sophomore) vocational agriculture significantly correlated with high test scores, it might be concluded that this

group of students did not consider talks on agricultural occupations as special hours of exposure on careers.

Since career choice is one of the most important decisions of a person's life, enrollment into career preparation programs like the specialized agricultural programs in Ohio vocational schools should take place after students have been exposed to programs on career awareness, exploration and orientation. Such a practice will not only give the prospective students the opportunity to discover themselves but will also afford them the chance to assess their future career prospects. Besides, vocational counselors would have sound basis for their advisement.

While it might be impracticable to advise that all students who intend to enroll in specialized agriculture programs be selected from the two-year freshman-sophomore agriculture program, enrollment into such programs should be based on career programs mounted by the vocational schools themselves. Where the vocational schools, for some reason, could not mount career information programs prior to enrollment, enrollment should be flexible, and vocational advisement should take note of those students' variables which are significantly related to high scores on the agricultural occupations test in addition to students' interests and future needs.

References

- Bailey, L. J., & Stadt, R. (1973). Career education: New approaches to human development. Bloomington, IL: McKnight Publishing Co.
- Ginzberg, E. (1972). Towards a theory of occupational choice: A restatement. Vocational Guidance Quarterly, 20(3), 169-176.
- Knight, J. A. (1977). Why vocational agriculture teachers in Ohio leave teaching. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- Leighbody, G. B. (1972). Vocational education in America's schools: Major issues of the 1970's. Chicago: American Technical Society.
- Ogunrinde, S. I. (1981). Student knowledge of agricultural occupations upon enrollment in agricultural programs in Ohio joint vocational schools. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- Phipps, C. (1969). Results of a summer workshop. American Vocational Journal, 44(7), 31.
- Sponaugle, A. J. (1972). Attitude of guidance counselors regarding vocational education. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- Super, D. (1957). The psychology of career. New York: Harper and Brothers.
- Warmbrod, J. R. (1973, July 31-August 2). Competencies of students in area vocational schools who have and who have not studied vocational agriculture in grades nine and ten. Paper presented at the Central States Regional Research Conference in Agricultural Education, Southern Illinois University, Carbondale, IL.

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production of research that exhibits the highest standards of rigor and scholarship.

References

- Bean, J. P. (1982, March). A casual model of faculty research productivity. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY. (ERIC Document Reproduction Service No. ED 216-661)
- Behmyer, C. E. (1974). Institutional and personal correlates of faculty productivity. Unpublished doctoral dissertation, University of Michigan, Ann Arbor.
- Berelson, B. B. (1954). Content analysis. In G. Lindzey (Ed.), Handbook of social psychology (Vol. 1, pp. 488-522). Reading, MA: Addison-Wesley.
- Blackburn, R. E., Behmyer, C. E., & Hall, D. E. (1978). Correlates of faculty publication. Sociology of Education, 51, 132-141.
- Clark, D. L., & Guba, E. G. (1977, April). A study of teacher education institutions as innovators, knowledge producers and change agencies (final report). Bloomington: Indiana University. (ERIC Document Reproduction Service No. ED 139 805).
- Kelly, M. E. (1982). Enablers and inhibitors to research productivity among faculty members in vocational education. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- Mannebach, A. J., McKenna, P. G., & Pfau, G. (1984, December). An analysis of research methodology reported in agricultural education, 1974-1982. Paper presented at the National Agricultural Education Research Meeting, New Orleans, LA.
- Schubert, W. H. (1979, July/August). Contributions to AERA annual programs as an indicator of institutional productivity. Educational Researcher, 8(7), 13-17.

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