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IMPACT OF A SUPERVISED OCCUPATIONAL EXPERIENCE
INSTRUCTIONAL PACKET ON IOWA VOCATIONAL AGRICULTURE
STUDENTS AS MEASURED BY A WORK VALUES INVENTORY

Iowa State University

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Impact of a supervised occupational experience instructional
packet on Iowa vocational agriculture students as
measured by a work values inventory

by

Russell Haynes

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CHAPTER I. INTRODUCTION

The contributions vocational agriculture programs can make to the educational philosophy and objectives of secondary schools have long been recognized by agricultural educators. Since inception, vocational agriculture programs have been designed to accomplish specific objectives. These objectives are of utmost concern to agricultural educators because they represent the "ends" of vocational agriculture programs. The U.S. Department of Education published the following objectives for vocational agriculture in 1965:

1. To develop agricultural competencies needed by individuals engaged in or preparing to engage in production agriculture....
2. To develop agricultural competencies needed by individuals engaged in or preparing to engage in agricultural occupations other than production agriculture....
3. To develop an understanding of and appreciation for career opportunities in agriculture, and the preparation needed to enter and progress in agricultural occupations....
4. To develop the ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education....
5. To develop those abilities in human relations which are essential in agricultural occupations....
6. To develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities....

Vocational education in agriculture uses three basic means to accomplish its objectives. They are: (1) supervised occupational experiences (SOE); (2) Future Farmers of America (FFA) organization; and (3) classroom-laboratory instruction. Each of these components makes unique contributions to vocational education in agriculture and to the general objective of secondary school education.

Williams (1977c, p. 1) defined SOE as "The outside of class performance of the tasks required by workers in agriculture occupations for which systematic instruction and supervision are provided, allows students to learn through actual performance of tasks in a work setting." Perceived as a "learning by doing concept", SOE provides a useful function in the integration of subject matter content with the "real world of work." Hence, SOE programs have a role as a socialization and developmental agent for students.

Statement of Problem

Supervised occupational experience programs play a vital role in the development of meaningful experiences for students. Both educators and students realize the benefits of SOE programs in regard to human and program development. Recently, a national project to identify and verify standards for vocational agriculture programs categorized supervised occupational

experience as a significant component in a quality vocational agriculture program (Agricultural Education Department, 1977). Relatedly, McCracken (1975, p. 183) perceived the need from a somewhat different perspective when he stated that:

There can be no adequate training in agricultural occupations that does not have its foundation in experience participation in the tasks for which the abilities are needed. Individuals in every group should have experience programs. What one practices, what he experiences, what he participates in, he learns (1975, p. 183).

Constraints such as minimal time, large class size, and the increased number of classes taught impose severe restrictions on teachers. Under the leadership of Williams (1977c), an instructional packet on SOE programs was developed by staff members in the Agricultural Education Department at Iowa State to provide subject matter content and instructional techniques to teachers. This instructional packet was disseminated to vocational agriculture teachers in Iowa as a handbook for them to use in helping students develop their SOE programs.

The problem, then, of this research was to determine the differential effect upon work values of students whose teachers used the SOE instructional packet as compared to those who did not.

Purpose of Study

The primary purpose of this study was to determine the relationship between work values of students and the use of

an SOE instructional packet. A secondary purpose was to determine the relationship between work values of students and selected student characteristics. More specifically, the objectives of this research were to:

1. Determine if significant differences exist between mean work values (composite and scale scores) of students whose teachers used the SOE instructional packet as compared to those who did not.

H_{01} : There is no significant difference between mean work values (composite and scale scores) of students whose teachers used the SOE instructional packet as compared to those who did not.

2. Determine if significant differences exist between mean scores on work value scales of Iowa vocational agriculture students and the national norms.

H_{02} : There is no significant difference between mean scores on work values scales of Iowa vocational agriculture students and the national norms.

3. Determine if significant differences exist between mean SOE attitude scores of students whose teachers used the SOE instructional packet as compared to those who did not.

H₀₃: There is no significant difference between mean SOE attitude scores of students who teachers used the SOE instructional packet as compared to those who did not.

4. Determine if significant differences exist between mean work values (composite and scale scores) when students are grouped according to their post high school plans, classified as follows:

H_{04.1}: There is no significant difference between work values (composite and scale scores) when students are grouped according to immediate plans upon completion of high school.

H_{04.2}: There is no significant difference between mean work values (composite and scale scores) when students are grouped according to occupational plans.

5. Identify relationships between students' attitudes about SOE and their work value scores (composite and scale).

H_{05.1}: There is no significant relationship between students' perception of SOE as a part of Vocational Agriculture Education scores and their work value scores (composite and scale).

H_{05.2}: There is no relationship between students' perception of the parents' roles in planning and conducting SOE score and their work value scores (composite and scale).

H_{05.3}: There is no relationship between students' perception of FFA participation in supporting SOE development score and their work value scores (composite and scale).

6. Identify relationships between students' perception of SOE as a part of Vocational Agriculture Education and their work values scores (composite and scale).

H₀₆: There is no significant relationship between students' perception of SOE as a part of Vocational Agriculture Education scores and their work value scores (composite and scale).

7. Identify relationship between students' perception of the parents' roles in planning and conducting SOE and their work value scores (composite and scale).

H₀₇: There is no relationship between students' perception of the parents' roles in planning and conducting SOE score and their work values scores (composite and scale).

8. Identify relationship between students' perception of FFA participation in supporting SOE development score and their work value scores (composite and scale).

H₀₈: There is no relationship between students' perception of FFA participation in supporting SOE development score and their work value scores (composite and scale).

Significance of Study

There has been a lot of research done to assess the significance of supervised work experience programs and the benefits that accrue to students, programs and the community as a result.

This study will be helpful in assessing the effect of a planning guide on work values of students. Additionally, it will identify significant relationships that exist between work values and selected student characteristics. The results can also provide credence to the notion that SOE complements in-school activities and facilitates the inculcation of the proper set of values.

Definition of Terms

Supervised occupational experience is the outside of class performance of the tasks required by workers in agriculture occupations for which systematic instruction and supervision are provided (Williams, 1977c, p. 1).

Work values inventory is an instrument developed to meet the need for a means of assessing the goals which motivate man to work. It is designed to measure the values which are extrinsic to as well as those which are intrinsic in work, the satisfactions which men and women seek in work and the satis-

factions which may be concomitants or outcomes of work (Super, 1970, p. 4).

Altruism refers to a work value, or goal, which enables one to contribute to the welfare of others. It assesses social service values and interest (Super, 1970, p. 8).

Esthetic refers to a value inherent in "work which permits one to make beautiful things and to contribute beauty to the world" (Super, 1970, p. 8).

Creativity refers to a value associated with "work which permits one to invent new things, design new products, or develop new ideas" (Super, 1970, p. 8).

Achievement refers to a value associated with "work which gives one a feeling of accomplishment in doing a job well." Achievement appears to assess a task orientation, a liking for work with visible, tangible, results (Super, 1970, p. 8).

Intellectual stimulation is associated with "work which provides opportunity for independent thinking and for learning how and why things work" (Super, 1970, p. 8).

Independence is associated with "work which permits one to work in his own way, as fast or as slowly as he wishes" (Super, 1970, p. 9).

Prestige is associated with "work which gives one standing in the eyes of others and evokes respect." Prestige taps a desire for the respect of others rather than for status or

for power (Super, 1970, p. 9).

Supervisory relations refers to a value associated with "work which is carried out under a supervisor who is fair and with whom one can get along" (Super, 1970, p. 10).

Associates refers to a value characterized by "work which brings one into contact with fellow workers whom he likes" (Super, 1970, p. 10).

Way of life is associated with the kind of work that "permits one to live the kind of life he chooses and to be the type of person he wishes to be" (Super, 1970, p. 10).

Variety is associated with "work that provides an opportunity to do different types of jobs" (Super, 1970, p. 10).

Economic Return is associated with "work which pays well and enables one to have the things he wants" (Super, 1970, p. 10).

Management is a work value scale associated with "work which permits one to plan and lay out work for others to do" (Super, 1970, p. 9).

Security is associated with "work which provides one with the certainty of having a job even in hard times" (Super, 1970, p. 9).

Surroundings is a work value associated with "work which is carried out under pleasant conditions" (Super, 1970, p. 9).

School refers to the Iowa high schools which participated in the study.

Instructional packet refers to a collection of printed materials outlining subject matter and suggesting teaching methodology for the teacher of vocational agriculture (Williams, 1977c).

CHAPTER II. REVIEW OF LITERATURE

This chapter encompasses a review of related literature to provide a rationale and theoretical framework for the study. It includes three sections: (1) the role of values, work and the school in society, (2) student benefits from SOE and, (3) factors related to students' post high school plans. In addition, it also suggests the potential role of education in general and vocational education in particular in influencing work values and the career decision-making process.

The Role of Values, Work and the School in Society

Many educators contend that values and work have a meaningful place in education as well as society. According to Horrocks (1962, p. 513), "There is a strong desire on the part of parents and the various community agencies of education and recreation to emphasize the development of character and the inculcation of a proper set of values in their children's upbringing." Horrocks further contended that "attitudes and values held by adolescents grow out of their environment and the influences to which they have been subjected." Relatedly, Martin as cited in Horrocks (1962, p. 613) stated that "values and standards are inculcated first through the learning of behavior by imitation and

reinforcement and second, by the definition of values reached inductively from behavior. This means that values are acquired from the parent or parent substitute, and later from other persons with whom the adolescent comes in contact--peers, teachers, and hero figures."

Values are a necessary and essential part of living and learning because they manifest themselves in all of our actions and are especially important in the decision-making process. Havighurst (1972, p. 29) in reference to the importance of values in life stated that:

Since living requires choosing between values, which are more or less desirable objects or modes of actions and since many important life situations require a choice between two or more values, the growing child must develop a scale of values which will enable him to make stable choices and to hold himself to these choices.

Morrison (1972) conducted a study to determine the relationships between experiences of high school students and changes in their vocational interest profiles. His study revealed that:

1. Experiences were shown in a number of instances to be directly associated with changes in interest.
2. The degree and nature of the relationships depended on which interest category was being considered.
3. There was some relationship between the intensity of experience and interest change, but little between the number of experiences reported and interest change.
4. Large interest changes resulted most frequently in circumstances where there was a prolonged constructive confrontation such as are associated with school and at

work. These changes were both increases and decreases except for at work where they were preponderantly decreases.

5. Large interest changes appeared most frequently where experiences were associated with questions of "identity," such as sense of manliness (or womanliness), morals and beliefs, and vocational developments.

6. Interest change was most frequently an increase when experiences were associated with vocational developments. They were most consistently a decrease when associated with getting along in the adult world; and least frequently a decrease when associated with development of parental relations.

Although interests are not synonymous with values they do embody activities or objects which the individual values. Based on Morrison's (1972) study on sophomore and junior students, experiences do, in fact, influence interests.

Churchill's (1969) study revealed that "familial communication had a definite effect on the development of vocational attitudes and values." It also suggested that a variety of persons influence the formation of vocational attitudes and values on adolescent males.

Relatedly, Schmarzweiler's (1958) research concerning values and occupational choice suggested that:

1. Value orientations influence occupational selection.
2. Occupational value orientations are learned in the socialization process.

These studies showed that experiences students undergo affect vocational interest and values. This fact gives credence to the notion that a planned instructional guide

can affect values because value orientations are a product of the socialization process.

There are many factors that impinge on students and thus the formation of their values, habits, attitudes and ethics. Talcott Parsons (1959), a renowned sociologist, analyzed the school's role as follows:

The school class...is an agency through which individual personalities are trained to be motivationally and technically adequate to the performance of adult rolesThe socialization function may be summed up as the development in individuals of the commitment and capacities which are essential prerequisites of their future role-performance. Commitments may be broken down and turned into two components: commitment to the implementation of the broad values of society, and commitment to the performance of a specific type of role within the structure of society.

Alex Inkeles (1966), another noted sociologist described the role of socialization in the following manner:

The main business of socialization is the training of infants, children and adolescents so they can ultimately fulfill the social obligations that their society and culture place upon them.

The school serves a socialization function which seeks to achieve the objectives mentioned previously by Parsons and Inkeles. Working and becoming a productive citizen is a part of our social obligation that society and our culture place upon us. Therefore, the school has an obligation to facilitate and enhance the transition from adolescence to a working and productive citizen who readily assumes adult roles and responsibilities.

Work, according to Borow (1964, p. xi.), "is the social act around which each of us organizes much of his daily waking experience and, hopefully, establishes a meaningful and rewarding life routine." Work is a very important entity, especially in our western culture, because it influences our social mobility, our social status, our values, our attitudes and, in general, our quality of life. Therefore, developing acceptable work habits, work attitudes and work values becomes an important concern to parents, students, school officials and to the broader society. Two questions that often arise among concerned citizens are: (1) Where is the optimum time to develop an interest in and knowledge of the world of work? (2) What delivery system should be utilized to accomplish this end?

The developmental aspects of youth influence the optimum time to begin development of acceptable work values. Havighurst (1972, p. 83-94) suggested that different values emerge during different developmental stages of an individual. Among the tasks that typically emerge during the 15 to 25 age period are: (1) achieving new and more mature relations with age-mates of both sexes; (2) achieving a masculine or feminine social role; (3) achieving emotional independence of parents and other adults; (4) achieving assurance of economic independence; (5) selecting and preparing for an occupation;

(6) acquiring a set of values and an ethical system as a guide to behavior; (7) preparing for marriage and selecting a mate; (8) starting a family; and (9) getting started in an occupation.

Educators, parents and community representatives are becoming more concerned about the role of public education, especially vocational education, in helping youth make the transition from adolescence to adulthood. Dewey (1938, p. 360-361), in reference to the place of vocational aims in education, stated that:

An occupation is the only thing which balances the distinctive capacity of an individual with his social service....A right occupation means simply that the aptitudes of a person are in adequate play, working with minimum of friction and the maximum of satisfaction.

Thus, Dewey supports the contention that education through occupations is necessary and helps to insure that each person fulfill his social obligation to his potential. He further stated that "education through occupations combines within itself more of the factors conducive to learning than any other method....It calls instincts and habits into play.... It is a foe to passive receptivity....It appeals to thought."

The pragmatic philosophy of John Dewey is exemplified in vocational agriculture programs in part through SOE programs, often referred to as cooperative work experience programs, occupational experience programs, and supervised farming

programs which are an integral part of quality vocational agriculture programs.

Student Benefits from SOE

There are many benefits that can be attributed to SOE programs; however, for them to become fully realized, teachers must first of all believe in SOE's merits and then relate and communicate these attributes to the student, school and community. The teacher must provide leadership in planning, implementation and evaluation of SOE programs. Although SOE programs embody a "shared effort" between parents, school officials and the community, it is the teacher who is primarily responsible for selling and coordinating the program. Accordingly, Miller (1974) advocated teaching SOE as part of the regular classroom instructional program so students may "learn the 'What', 'Why', and 'How' of supervised occupational experience" (p. 147).

Maslow as cited in Evans (1971) contended that there is a hierarchy of needs which serve as motivators for human learning. He classified these needs as follows:

- (1) Physiological, (2) safety, (3) belongingness and love, (4) importance, respect, self-esteem, and independence, and (5) information, understanding, beauty and self-actualization.

Although many educators perceive the first four needs in Maslow's hierarchy as being outside the domain of the

formal school setting, many others contend that due to unequal levels of living and other inequities among the population that the school should assume more responsibility in helping students satisfy these unmet basic needs. Realizing that students who are hungry, tired and poorly clothed are not motivated to learn, educators are seeking means to mitigate this situation by creating an environment more relevant to the needs of the students.

According to Evans (1971), "vocational education, especially cooperative education with its pay for useful work performed, offers a way to meet certain physiological needs; its small classes and work teams offer a sense of importance and belongingness; its emphasis on nonverbal content provides respect and self-esteem for the student with poor verbal skills, and its individualized instruction provides independence. With these needs met, the student may be ready for both vocational and non-vocational instruction which is designed to provide information, understanding, beauty, and self-actualization."

Moreover, Evans (1971) proposed two ways in which the school can alter motivations of its students. They are:

- (1) By allowing the student to receive instruction which appears to him to be relevant to his needs, and by providing extrinsic rewards for desired behavior.
- (2) By providing experiences which teach students basic skills required in the world of work.

Due to the knowledge explosion and associated advances in technology, the demand for trained agriculturists will continue to increase. The potential ramifications of this fact on SOE programs is profound because many of them are located in the work place and thus provide a mechanism to keep educators attuned to change. Research by Williams (1977b, p. 17-28) suggests that students who participate in SOE programs appreciate the importance of honest work and develop acceptable personal and work habits. This indicates that SOE programs do have some affect on students' perception of the work ethic.

Another noted researcher, Carwin (1973, p. 1), in support of SOE's developmental aspects contended that students:

- (1) Understand the requirements of an occupation more thoroughly;
- (2) are more familiar with the application of knowledge and skills learned;
- (3) and have a propensity to define occupational interest and choice concisely as a result of their SOE experiences.

Rogers (1978) compiled the following list of benefits to students as a result of cooperative education:

- (1) Students accomplish more academically and place a higher value on time.
- (2) Students demonstrate significantly better behavior and are more dependable.
- (3) Students demonstrate more responsibility and are more industrious than average.
- (4) Students develop a greater sense of self-worth which is so important to stability, maturity and good citizenship.

(5) Students develop better career orientation and are more decisive and constructive in plans and actions.

Carpenter, as cited by Domenichetti (1970), concurs with the findings of Williams, Carwin and Rogers. His results are as follows:

Those who are in contact with a work experience program, however, must bear in mind that values do not appear spontaneously but evolve as the program develops. Work experience does not guarantee to effect an overnight cure of a maladjusted problem child. It will however, help to develop work habits in a realistic situation and aid the youth to become vocationally adjusted. Not all of the values will exist in any one situation and the success of the program will depend on all concerned.

The following values have been found to exist in the majority of cases:

1. Work experiences provide occupational orientation, exploratory experience.
2. Work experience provides information, habits, and discipline associated with successful work.
3. Work experience provides a realistic experience.
4. Work experience acquaints youth with the working world.
5. Work experience develops a sense of achievement.
6. Work experience develops the ability to get along with others.
7. Work experience develops a sense of responsibility.
8. Work experience develops loyalty.

9. Work experience develops dependability.
10. Work experience is a stepping stone to future jobs.
11. Work experience provides opportunity to earn money.
12. Work experience develops appreciation for the value of money.

13. Work experience develops an appreciation of the skills required for specific jobs.

14. Work experience gives the student a clear understanding of his duties as a citizen.

15. Work experience leads to permanent employment.

16. Work experience aids in holding a student in school.

Developing SOE programs facilitates parental and community involvement in educational activities of the school. Many educators see SOE as a means of involving the student, the subject matter and the constituents of society in a coordinated effort to increase individual productivity through well-designed work experience programs. Rawls (1978) delineated the following as benefits perceived by parents in regard to SOE programs;

- (1) Promote acceptance of responsibility.
- (2) Develop self-confidence.
- (3) Develop pride in ownership.
- (4) Develop independence.
- (5) Provide an opportunity to learn on his/her own.
- (6) Develop pride in employment.
- (7) Guild a working relationship with others.
- (8) Develop an appreciation for work.
- (9) Promote student-vocational agriculture relationships.

- (10) Develop abilities in cooperation.
- (11) Provide an opportunity to plan work.
- (12) Provide an opportunity to make decisions.
- (13) Provide an opportunity to solve problems.
- (14) Provide motivation for learning.
- (15) Develop citizenship traits.
- (16) Encourage the keeping of records.
- (17) Provide an opportunity to put plans into action.
- (18) Provide experience in conducting business.
- (19) Promote student-parent relationship.
- (20) Contribute to relationships between school and home.
- (21) Provide an opportunity to manage money.
- (22) Encourage learning while earning money.
- (23) Encourage the use of business procedures.
- (24) Help maintain a favorable home environment.
- (25) Aid in making career choices.
- (26) Extend education from the school to the community.

In summary, parents are aware of the potential contributions of well-designed SOE programs.

Factors Related to Students' Post High School Plans

Two studies were completed at Iowa State University that focused specifically on factors related to the educational and occupational plans of vocational agriculture students upon graduation. Research by Byler and Kaas (1976) suggests the following in regard to students occupational plans:

- (1) Students planning to enter on-farm agriculture occupations had received more instruction in vocational agriculture than did students who indicated they planned to enter non-agricultural occupations.
- (2) A significant relationship exists between students' participation in the FFA and: (a) students who planned to enter an on-farm agricultural occupation, (b) students who planned to enter an off-farm agricultural occupation and, (c) students who planned to enter a non-agricultural occupation.

(3) Approximately 47.2 percent of the student groups indicated their father had been the most influential in their choice of occupation.

(4) Students who planned to enter an on-farm agricultural occupation were more certain of their choice of occupation than students who planned to enter off-farm agricultural occupations or non-agricultural occupations.

(5) Students planning to enter an on-farm agricultural occupation had given more thought to their choice of occupation than the students planning to enter non-agricultural occupations.

(6) Students planning to enter on-farm occupations perceived they possessed more ability to perform their chosen occupation than students planning to enter off-farm and non-agricultural occupations.

(7) Students planning to enter on-farm agricultural occupations perceived they had a greater knowledge of the occupation they planned to enter than students planning to enter other types of occupations.

(8) Students planning to enter on-farm agricultural occupations or off-farm agricultural occupations perceived that their high school training was of greater value to them in preparing for their chosen occupation, than students entering non-agricultural occupations.

(10) Students planning to enter on-farm agricultural occupations perceived their high school had provided a greater amount of training for the occupation they are planning to enter than did students who indicated they would enter off-farm agricultural occupations or non-agricultural occupations.

(11) Students planning to enter off-farm agricultural occupations perceived they received more encouragement from their father to attend a four-year college or university than did students planning to enter on-farm agricultural occupations or non-agricultural occupations.

(12) Students planning to enter agricultural occupations, either on-farm or off-farm, perceived their completed high school vocational agriculture courses as being of greater value in preparing them for their occupational choice than did students planning to enter a non-agricultural occupation.

(13) Students who planned to enter agricultural occupations believed their FFA program was of greater value to them in job preparation than did students planning to enter non-agricultural occupations.

(14) Students who indicated they were planning to enter either an on-farm agricultural occupation or an off-farm

agricultural occupation perceived that their vo-ag courses would be of greater value to them in preparing to attend an area vocational school than did students who were planning to enter a non-agricultural occupation.

(15) Students who planned to enter an off-farm agricultural occupation believed their vo-ag courses would be of greater value to them in preparing to attend a four-year college or university than did students who were planning to enter a non-agricultural occupation.

Byler (1975), in a study entitled "Analysis of Factors Related to the Educational Plans of Iowa Vocational Agriculture Students," found the following.

(1) Students who plan to enter the world of work are more certain of their occupational choice than those who planned to attend a postsecondary area vocational school or those who planned to attend a four-year college or university.

(2) Students who planned to enter the world of work upon graduation indicated they had received a greater amount of work experience for the occupation they planned to enter compared to those who planned to continue their formal education.

(3) Students who planned to attend a postsecondary area vocational school valued their vocational agriculture courses completed more than those who planned to attend a four-year college or university. However, students who planned to attend a four-year college or university had mean ratings that were significantly greater than those who planned to enter the world of work.

In conclusion, the school serves a social function as well as an educational one. Vocational agriculture, being a component of the school, also serves a social function. It provides the environment which nurtures youth and helps shape its values, attitudes and ethics through the experiences encompassed in its programs. Through the use of SOE,

FFA and classroom-laboratory activities, vocational agriculture programs seek to facilitate the students' transition from adolescence to adulthood and thus help them fulfill their social obligations to society.

CHAPTER III. METHODOLOGY

In this chapter, the design, the population for the study, the sampling procedure, the instrumentation, the method of data collection and the data analysis method are described.

Design

The primary purpose of this study was to assess the effect of an SOE instructional packet on students who completed two and one half years of vocational agriculture in Iowa public secondary schools. The design utilized is classified as an experimental post-test only control group design. Tuckman (1978, p. 130) depicts this design in the following manner:

$$R \times O_1, O_2$$

$$R \quad O_1, O_2$$

where

R indicates random selection from the population and random assignment to the treatment level.

X indicates the experimental treatment group (used the SOE packet in vocational agriculture instruction for

beginning vocational agriculture students ; the absence of X, indicates the control group for this treatment).

0₁ represents the Work Values Inventory used to determine composite and scale scores of experimental and control groups.

0₂ represents the Involvement In Agriculture Inventory used to collect information regarding personal and situational characteristics of students who participated in the Briers experiment and who were still enrolled in vocational agriculture at the time of this study.

Population

The population of the study consisted of Iowa vocational agriculture teachers in public secondary schools during the 1977-78 school year. The conditions stipulated for participation were the same as those stipulated by Briers (1978):

1. Teachers must have taught in their present school system during the 1976-77 school year. This eliminated all beginning instructors and those who had changed positions between the 1976-77 and 1977-78 school years.
2. Teachers must have been using the new Iowa Agricultural Experiment Program Records (Iowa Vocational Agriculture Teachers Association, 1976).
3. Teachers must have been teaching a class of beginning vocational agriculture students.
4. Teachers must have agreed to teach a unit on SOE program to their beginning students during fall semester of the 1977-78 school year.

Sample

The sample for this study consisted of the same teachers/schools previously identified, randomly selected and assigned in the Briers (1978) experiment. However, due to attrition only 32 of the original 33 schools used in the Briers research were considered. As a result, instead of the 17 schools in the experimental group and 16 schools in the control group used by Briers, this study was comprised of 16 schools in the control group and 16 schools in the experimental group.

Due to the random assignment of the Work Values Inventory, only 119 of the 388 vocational agriculture students still enrolled in the program at the same school as when the Briers (1978) experiment was conducted were participants in this study.

The rationale for designating the students as the experimental unit lies in the fact that they were influenced by the treatment rather than the classes or the school. According to Briers (1978) "with all the students in a beginning class measured rather than a random sampling, the school may be considered a cluster. All students within the cluster were sampled."

Treatment Levels

The independent variable of this study is SOE instruction which was further sub-divided into two levels or types of SOE instruction, those being: (1) Those teachers who used the SOE instructional packet (experimental group) and (2) those teachers who did not use the SOE instructional packet (control group).

Prior to the study, teachers assigned to the experimental group were provided inservice education in the use of the instructional packet entitled An Instructional Packet on Supervised Occupational Experience Program of Beginning Vocational Agriculture Students (Williams, 1977c).

Instrumentation

Two instruments were used to collect data. First, the Involvement in Agriculture Inventory was developed by the project team for the purpose of ascertaining personal and situational data on participating students (Appendix A).

The second instrument used was the Work Values Inventory by Super (1970). This instrument, designed to measure work values, consists of 15 scales. Each scale consists of three items rated on a five-point continuum where 1 = unimportant;

2 = of little importance, 3 = moderately important, 4 = important, and 5 = very important. Therefore, each work value scale may have a score as high as 15 or as low as three for each respondent. The inventory was standardized by administering it to 10,083 students in grades 7-12 during the spring of 1968. Data from the standardization sample were used in determining reliability measures by the test-retest procedure. Table 1 presents the results of the test-retest as reported by Super (1970) in the Work Values Inventory.

Collection of Data

Data were collected from the participants during the period from February 25-29, 1980. The Involvement in Agriculture Inventory was administered to all participants, whereas, the Super Work Values Inventory was administered only to those students designated by random numbers generated at the Iowa State University Computing Center.

Prior to February 25-29, 1980, letters were mailed to schools in which the data were to be collected, to inform school personnel about the study and to seek permission to survey the selected vocational agriculture class (Appendix B).

The selected schools were divided into five groups based

Table 1. Means, standard deviations, and test-retest reliability of work values inventory scales

Scale	51 Tenth Grade Males		48 Tenth Grade Females		99 Tenth Graders		
	Mean ^a	S.D. ^a	Mean ^a	S.D. ^a	Mean ^a	S.D. ^a	Reliability ^b
1. Altruism	10.61	3.12	12.19	2.61	11.37	3.34	.83
2. Esthetics	7.76	3.08	7.56	3.05	7.66	3.19	.82
3. Creativity	10.06	2.81	9.29	2.49	9.68	2.95	.84
4. Intellectual Stimulation	11.61	2.65	11.75	2.32	11.67	3.08	.81
5. Independence	10.47	2.51	10.00	2.28	10.24	2.82	.83
6. Achievement	12.08	2.03	11.98	2.16	12.03	2.91	.83
7. Prestige	11.49	2.17	11.29	2.19	11.39	2.81	.76
8. Management	9.80	2.44	9.48	2.74	9.64	2.94	.84
9. Economic Returns	12.84	2.12	11.63	2.57	12.25	3.03	.88
10. Security	11.27	2.59	10.38	2.79	10.53	3.26	.87
11. Surroundings	10.94	2.51	11.31	2.25	11.11	2.94	.82
12. Supervisory Relations	10.92	2.54	10.73	2.66	10.82	2.98	.83
13. Associates	11.27	2.57	11.77	2.25	11.51	3.08	.74
14. Variety	10.33	2.41	10.73	2.23	10.52	2.83	.82
15. Way of Life	12.92	2.03	12.81	2.19	12.86	2.95	.80

^aBased on first administration of test.

^bRetest after two weeks.

on geographic location and assigned to each of the project team members. Members then contacted schools by telephone to confirm exact times and dates for data collection (Appendix C).

On February 22, 1980, instruments were assembled for each student and school. Instruments were also coded so that identification by student, school and treatment could be made (Appendix D).

Data Analysis

Data were analyzed at the Iowa State University Computational Center using the Statistical Package for the Social Sciences (SPSS) (Nie, 1975). The following SPSS subprograms were used:

- (1) SPSS subprogram - Frequencies and crosstabs were used to assess personal and situational variables.
- (2) SPSS subprogram - One-way analysis of variance was used to test for significant differences among the groups. The Scheffe test was used to identify significant differences between all possible pairs at the .10 level of probability.
- (3) SPSS subprogram - Pearson correlation was used to determine relationships between scale and composite scores with selected attitude variables.
- (4) SPSS subprogram - T-Test was used to test for significant differences among treatment groups.

CHAPTER IV. FINDINGS AND DISCUSSION

The primary purpose of this chapter is to present the analyses of the data suggested in the objectives of the study and to provide some face data concerning the student population. More specifically, this chapter contains sections regarding:

- (1) Student characteristics.
- (2) Comparison of work value scores by treatment group.
- (3) Comparison of Iowa students' work value scores with the national norms.
- (4) Comparison of SOE attitude scores by treatment group.
- (5) Comparison of work value scales and students' post high school plans.
- (6) Relationship between students' attitudes about SOE and their work values scores.

Student Characteristics

One hundred and nineteen students previously in the Briers (1978) study, provided data for this study, of these, 52 or 43.7 percent were members of the control group and 67 or 56.3 percent were members of the experimental group and were subjected to the treatment as cited in Table 2. Table 2

Table 2. Years of vocational agriculture by treatment group

Years of Vocational Agriculture	Treatment Group				Total	
	Experiment		Control			
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Missing Cases	1	1.5	5	9.60	6	5.00
2 years	2	3.0	1	1.90	3	2.50
3 years	64	95.50	44	84.60	108	90.80
4 years	0	0	2	3.80	2	1.70
Totals	67	56.30	52	43.70	119	100.00

shows that 64 of the 67 students in the experimental group had three years of vocational agriculture, accounting for approximately 95.5 percent of the sample for that group, whereas 44 of the 52 students in the control group had three years of vocational agriculture, accounting for approximately 84.6 percent of the samples for that treatment group. These findings were expected since the years of vocational agriculture correspond with the time lapse between beginning freshmen vocational agriculture students in 1977 and vocational agriculture students classified as juniors in 1980.

Table 3 reveals that years of FFA membership also correspond with the time lapse between the original experiment in 1977 and the time these data were collected for this

Table 3. Years of FFA membership by treatment group

Years of FFA Membership	Treatment Group				Total	
	Experimental		Control			
	N	%	N	%	N	%
Missing Cases	1	1.50	6	11.50	7	5.90
1 year	1	1.50	0	0.00	1	0.80
2 years	4	6.00	1	1.90	5	4.20
3 years	59	88.10	43	82.70	102	85.70
4 years	1	1.50	2	3.80	3	2.50
0 years	1	1.50	0	0.00	1	0.08
Totals	67	56.30	52	43.7	119	100.00

study. Years of FFA membership usually correspond closely with years of vocational agriculture enrollment. In the case of the experimental group, 57 of the 67 students, or 88.10 percent of the sample for that treatment had three years of membership in the FFA. Findings in the control group also show a large percentage of students with three years of membership in the FFA. Approximately 43 of the 52 or 82.70 percent of the students were in this category.

Table 4 describes the post high school occupational plans of the students. Approximately 66 of the 119 students chose production agriculture as their occupational plan. They

Table 4. Occupational plans upon graduation of Iowa vocational agriculture students

Categories Of Students' Occupational Plans	Occupational Plans Upon Graduation of Iowa Vocational Agriculture Students	
	<u>N</u>	<u>%</u>
Missing Cases	6	5.00
Production Agriculture (own)	66	55.50
Ag Sales and Service	4	3.40
Ag Mech.	9	7.60
Ag Products/Processing	1	.08
Horticulture	0	0
Resources/Forestry	1	.08
Production Ag (employment)	4	3.40
Professional Ag	2	1.70
Non-Agriculture	10	8.40
Undecided	16	13.40
Totals	119	100.00

accounted for 55.50 percent of the sample. Sixteen of the 119 students were undecided about their occupational choice. They accounted for 13.40 percent of the sample. None of the other occupational categories reached the 10.00 percent level as an occupational plan among students.

Apparently, most students perceive production agriculture as a viable occupational choice. This category exceeds all the other categories combined.

Due to unusually low numbers in several of the occupational plan categories, several of them were combined to form only four. They are as follows:

(1) Students who gave production agriculture as their occupational plan.

(2) Students who gave agriculture business as their occupational plan.

(3) Students who gave non-agriculture as their occupational plan.

(4) Students who were undecided about their plan. Further analysis in this study used these four categories as the basis for making comparisons.

Table 5 describes the immediate educational plans upon graduation of the students. Approximately 34 of the 119 students plan to attend a community college or area vocational technical school. They accounted for approximately 28.60 percent of the sample. Students who plan to become self-employed comprised 21.80 percent of the sample. Twenty-six of the 119 students aspired to work for themselves. Students who plan to attend a four year college or university comprised 20.20 percent of the sample. Twenty-four of the 119 students aspired

Table 5. Immediate plans upon graduation of Iowa vocational agriculture students

Categories of Students' Immediate Plans	Immediate Plans Upon Graduation of of Iowa Vocational Agriculture Students	
	N	%
Missing Cases	6	5.0
Attend Community College or Area Vocational Technical School	34	28.60
Attend 4-year College or University	24	20.20
Become Self-Employed	26	21.80
Get a Full-Time Job	20	16.80
Other	9	7.60
Totals	119	100.00

to continue their education at a four year college or university. Students who plan to get a full-time job represented approximately 16.80 percent of the sample. Twenty of the 119 students plan to pursue this as an end.

In summary, approximately 48.73 percent of the students either plan to attend a community college or area vocational technical school or a four year college or university.

Therefore, post high school education seems to be an important consideration in the plans of students. However, students who plan to become self-employed and those who plan to get a full-time job also make up approximately 38.65 percent of the sample. Therefore, some assistance should be given to these two groups to help them reach their objectives.

Information from Briers' (1978) research provides additional insight into the characteristics of respondents for this study:

1. Three-fourths of the students lived on a farm and more than 60 percent of their fathers or guardians were engaged in farming.
2. More than two-thirds of the students desired to engage in agricultural occupations after completing their formal education.
3. More than half of the students planned to enter production agriculture, while 14 percent chose off-farm occupations in agriculture.
4. Twenty-one percent of the students planned to enter non-agricultural occupations, while eleven percent were undecided.

Comparison of Work Value Scores of Treatment Groups

The hypothesis to be tested in this section is:

H_{01} : There is no significant difference between mean work values (composite and scales scores) of students whose teachers used the SOE instructional packet as compared to those who did not.

The t-test was used to test for statistical significance

of the difference in composite work value means and means for the 15 work value scales. Results of the sixteen individual t-tests are summarized in Table 6. The tabular t-value with which the calculated t's were compared is 1.96 and 117 degrees of freedom. The small t-values, .15 to 1.04, indicated that the means for the two groups were similar. Thus, the data supported the null hypothesis; it was not rejected.

Super (1970) suggested that one type of interpretation of work value scores is that which examines raw scores in order to see the relative emphasis placed by the respondents on each of the scales. Therefore, the following discussion is presented.

When the total sample was considered, both control and experimental groups manifested the highest mean ratings on the following work value scales: (1) Way of Life; (2) Economic Return; (3) Achievement; (4) Independence; (5) Supervisory Relations. It is interesting to note the various constructs which both groups embrace. The construct of material or situational factors was perceived to be important as indicated by high mean values on the following scales: (1) Economic Returns; (2) Supervisory Relations; and (3) the Way of Life. According to Super (1970), this suggests that adequate pay, security of employment, a pleasant work environment, and supervisors who are pleasant and easy to get along

with are qualities valued highly by both groups.

Both groups also perceived the "Achievement" scale as being important. According to Super (1970), this scale assesses a "task orientation and gives one a feeling of accomplishment in doing a job well." The "Achievement" scale is one of the scales that comprise the "goodness of life" construct.

Respondents in both groups also rated the "Independence" scale as being important. This scale, according to Super (1970) is exemplified in "work which provides opportunity for independent thinking and for learning how and why things work." This scale is one of the components of the behavior control construct.

The scales with the lowest mean ratings between respondents in both groups were: (1) Security and (2) Esthetics. Therefore, students do not perceive "work which provides one with the certainty of having a job even in hard times" and "work which permits one to make beautiful things and to contribute beauty to the world" as being important compared to the other work value scales (Super, 1970).

Table 6. Means, standard deviations and t-values for work value scales for the total sample and by treatment group

Work Value Scales	Total Sample ^a	Treatment Group		t-value
		Control ^b	Experimental ^c	
	Mean S.D.	Mean S.D.	Mean S.D.	
WV (Composite)	168.60 21.66	167.07 23.24	170.57 19.49	.87
WV1 (Creativity)	10.71 2.20	10.55 2.36	10.92 1.99	.90
WV2 (Management)	9.68 2.13	9.59 2.18	9.78 2.08	.48
WV3 (Achievement)	12.30 2.01	12.13 2.09	12.51 1.89	1.03
WV4 (Surroundings)	11.48 2.21	11.37 2.21	11.63 2.23	.63
WV5 (Supervisory Relations)	12.05 2.4	12.08 2.35	12.01 2.55	-.15
WV6 (Way of Life)	12.69 2.13	12.65 2.29	12.75 1.93	.23
WV7 (Security)	8.63 2.52	8.71 2.32	8.53 2.78	-.37

WV8 (Associates)	$\frac{10.39}{2.39}$	$\frac{10.22}{2.32}$	$\frac{10.61}{2.49}$	.88
WV9 (Esthetics)	$\frac{8.63}{2.52}$	$\frac{8.71}{2.32}$	$\frac{8.53}{2.78}$	-.37
WV10 (Prestige)	$\frac{11.06}{2.12}$	$\frac{10.95}{2.09}$	$\frac{11.21}{2.17}$	.65
WV11 (Independence)	$\frac{12.19}{2.09}$	$\frac{12.13}{2.11}$	$\frac{12.26}{2.07}$	.34
WV12 (Variety)	$\frac{11.24}{2.38}$	$\frac{11.17}{2.40}$	$\frac{11.32}{2.38}$	.33
WV13 (Economic Return)	$\frac{12.27}{2.38}$	$\frac{12.05}{2.46}$	$\frac{12.51}{2.27}$	1.04
WV14 (Altruism)	$\frac{10.64}{2.48}$	$\frac{10.49}{2.56}$	$\frac{10.84}{2.37}$	.76
WV15 (Intellectual Stimulation)	$\frac{10.89}{2.02}$	$\frac{10.77}{2.34}$	$\frac{11.05}{1.53}$	.75

^aN = 119 with no missing cases.

^bControl = students whose teachers did not use the SOE instructional package (N = 52).

^cExperimental = Students whose teachers used the SOE instructional package (N = 67).

Comparison of Iowa Students' Work Value Scores with National Norms

The hypothesis to be tested in this section is:

H_{02} : There is no significant difference between mean scores on work values scales of Iowa vocational agriculture students and the national norms.

The t-test was used to test for significant differences in means for the 15 work value scales. Results of the 15 individual t-tests are summarized in Table 7. The tabular t-value with which the calculated t's were compared is 1.96 and 931 degrees of freedom. Several of the work value scales had significant t-values. They were: (1) Creativity ; (2) Supervisory Relations ; (3) Way of Life ; (4) Security ; (5) Associates ; (6) Variety ; (7) Economic Return ; (8) Altruism and (9) Intellectual Stimulation. Therefore, H_{02} was rejected, concluding that Iowa vocational agriculture students differed significantly from the national sample on the above scales.

Eleventh grade students who comprised the national norm group had significantly higher means for most of the scales representing the material or situational construct. The five work value scales perceived as being important by this group are as follows:

Table 7. Means, standard deviations and t-values for work value scores by Iowa students and national norms^a

Work Value Scales	Iowa Students ^b	National Norms ^c	t-values
	Mean S.D.	Mean S.D.	
WV1 (Creativity)	$\frac{10.71}{2.209}$	$\frac{11.30}{2.33}$	-3.96 *
WV2 (Management)	$\frac{9.68}{2.13}$	$\frac{9.82}{2.38}$	-.94
WV3 (Achievement)	$\frac{12.30}{2.01}$	$\frac{12.46}{2.00}$	-1.15
WV4 (Surroundings)	$\frac{11.48}{2.21}$	$\frac{11.75}{2.19}$	-1.86
WV5 (Supervisory Relations)	$\frac{12.05}{2.43}$	$\frac{12.44}{2.22}$	-2.65 *
WV6 (Way of Life)	$\frac{12.69}{2.13}$	$\frac{13.27}{1.95}$	-4.23 *
WV7 (Security)	$\frac{8.63}{2.52}$	$\frac{12.80}{2.36}$	-27.48 *
WV8 (Associates)	$\frac{10.39}{2.39}$	$\frac{10.80}{2.19}$	-2.82 *
WV9 (Esthetics)	$\frac{8.63}{2.52}$	$\frac{10.60}{2.72}$	-.186

WV10 (Prestige)	$\frac{11.06}{2.12}$	$\frac{11.32}{2.28}$	-1.770
WV11 (Independence)	$\frac{12.19}{2.09}$	$\frac{11.93}{2.09}$	1.844
WV12 (Variety)	$\frac{11.24}{2.51}$	$\frac{10.73}{2.38}$	3.37*
WV13 (Economic Return)	$\frac{12.26}{2.38}$	$\frac{12.86}{2.06}$	-4.25 *
WV14 (Altruism)	$\frac{10.64}{2.48}$	$\frac{11.42}{2.63}$	-4.94 *
WV15 (Intellectual Stimulation)	$\frac{10.89}{2.02}$	$\frac{11.53}{2.13}$	-4.50 *

^aN = 119 with no missing cases.

^bIowa students = students included in the sample of Iowa vocational agriculture schools (N = 119).

^cNational norms = students included in the national sample of eleventh grade boys were from 26 school systems in 20 states (N = 814).

*Significant at the .05 level of probability.

(1) "Economic Return." Super (1970) contended that this scale describes "a value or goal associated with work which pays well and enables one to have the things he wants."

(2) "Security." This work value scale, according to Super (1970), suggests an orientation toward "work which provides one with the certainty of having a job in hard times."

(3) "Supervisory Relations." This scale represents a value associated with "work which is carried out under a supervisor who is fair and with whom one can get along," according to Super (1970).

(4) "Way of Life." Super (1970) contended that this work value scale is associated with "work that permits one to live the kind of life he chooses and to be the type of person he wishes to be."

(5) "Associates." This scale characterizes a work environment that "brings one into contact with fellow workers whom he likes " (Super, 1970).

Three of the work value scales comprising the construct of self-expression had statistically significant t-values. Students who comprised the national norm group had significantly higher mean ratings on the following work value scales:

(1) "Creativity." This work value describes "work which permits one to invent new things, design new products, or develop new ideas " (Super, 1970).

(2) "Intellectual Stimulation." Super (1970), asserted that this work value characterizes "work which provides opportunity for independent thinking and for learning how and why things work."

Students who comprised the sample of Iowa students had a significantly higher mean rating for only one of the scales embodying the self-expression construct and that was:

"Variety." This work value reflects a pleasure orientation rather than a task orientation. Super (1970) contended that this scale is associated with "work that provides an opportunity to do different types of jobs."

Of the work value scales representing the goodness of life construct, only one was found to be statistically significant. "Altruism", a value associated with "work which enables one to contribute to the welfare of others", showed a higher mean rating among respondents in the national norm group.

Comparison of SOE Attitude Scores by Treatment Group

The hypothesis to be tested in this section is:

H₀₃: There is no significant difference between mean SOE attitude scores of students whose teachers used the SOE instructional packet as compared to those who did not.

The students' SOE attitude scores reflect their perception of the following:

1. SOE as a valuable part of their vocational agriculture education.

2. Parental help in planning and conducting SOE experiences.

3. The extent to which FFA participation supported the development of SOE experiences.

The t-test was used to test for significant difference in mean values of selected attitude scores between the experimental and control groups. Results of the three individual t-tests are summarized in Table 8. The tabular t-value with which the calculated t's were compared is 1.96 and 105 degrees of freedom. None of the t-values was found to be significant, therefore the null hypothesis was accepted.

Students whose teachers did not use the SOE instructional packet (control group) revealed higher mean values on all of the SOE attitude variables than did students whose teachers used the SOE instructional packet (experimental group). The comparatively low mean rating by both groups on the extent to which FFA participation supported the development of SOE experiences is of interest since both SOE and FFA programs are considered cornerstones of quality vocational agriculture programs. Characteristics of the scale used to obtain these ratings can be found in Appendix A.

Table 8. Means, standard deviations and t-values for SOE attitude scores by treatment group^a

SOE Attitude Variables	Control ^b Mean S.D.	Experimental ^c Mean S.D.	t-values
SOE as a valuable part of their vocational agriculture education	8.32 2.60	8.03 2.39	-.095
Parental help in planning and conducting SOE experiences	8.23 2.33	8.09 2.58	-.046
The extent to which FFA participation supported the development of SOE experiences	7.02 2.59	6.47 2.81	-1.72

^aN = 107, excluding 12 missing cases.

^bControl = students whose teachers did not use the SOE instructional package (N = 46)

^cExperimental = students whose teachers used the SOE instructional package (N = 61).

Comparison of Work Values Scales and Students' Post High School Plans

The hypotheses to be tested in this section are:

H₀4.1: There is no significant difference between work values (composite and scale scores) when students are grouped according to immediate plans upon completion of high school. The groups were:

- (a) Students who plan to attend a community college or area vocational technical school.
- (b) Students who plan to attend a four year college or university.
- (c) Students who plan to become self-employed.
- (d) Students who plan to get a full-time job.
- (e) Other.

H₀4.2: There is no significant difference between mean work values (composite and scale scores) when students are grouped according to occupational plans upon completion of high school. The groups were:

- (a) Students who gave production agriculture as their occupational plan.
- (b) Students who gave agriculture business as their occupational plan.

(c) Students who gave non-agriculture as their occupational plan.

(d) Students who were undecided about their occupational plan.

The one way analysis of variance procedure was used to test for the significant difference in composite work value mean and means for the 15 work value scales. Results of the individual F-tests are summarized in Tables 9 and 10. The tabular F-value corresponding to students' immediate plans upon graduation was $F_{108}^4 = 2.45$ and $F_{109}^3 = 2.68$ for their occupation plans upon graduation when tested at the .05 level of probability. When F-values ($P < .05$) were observed, the Scheffe' Test ($P < .10$) was used to identify differences between all possible pairs of group means.

Only one work value scale had a significant F-ratio when participants were grouped according to students' immediate plans upon graduation as reported in Table 9; however, several others revealed comparatively high mean values.

Students who plan to become self-employed revealed a statistically significant higher mean value on the work value scale of "Independence". Therefore, these students perceive work which permits one to work in his own way as being more important than their counterparts in the other categories. Hence, $H_{04.2}$ was rejected in regard to the work value scale

of "Independence." Therefore, it was concluded that students who plan to become self-employed had a statistically significant higher mean value than their counterparts in the other categories.

Super (1970) suggested that one type of interpretation of work value scores is that which examines raw scores in order to see the relative emphasis placed by respondents on each of the scales. Therefore, the following discussion is presented.

In addition to "Independence" other work value scales having relatively high mean for the total sample were: "Way of Life", and "Economic Return." Therefore, according to Super (1970) it can be concluded that the participants as a whole perceived work which reflect the following as being important:

(1) "Way of Life": "Work that permits one to live the kind of life he chooses and to be the type of person he wishes to be."

(2) "Economic Return": "Work which gives one a feeling of accomplishment in doing a job well".

Each of the respective categories of students, when grouped according to their immediate plans upon completion of high school, showed the lowest mean ratings on the work value scales of "Security", and "Esthetic". Therefore, the students do not perceive work which reflects the following

Table 9. Means, standard deviations and F-ratios for work values (composite and scale scores) of students when grouped according to immediate plans upon completion of high school

Work Value Scales	Total ^a Sample Mean S.D.	Group 1 ^b Mean S.D.	Group 2 ^c Mean S.D.	Group 3 ^d Mean S.D.	Group 4 ^e Mean S.D.	Group 5 ^f Mean S.D.	F-ratio
WV (Composite)	$\frac{169.12}{22.00}$	$\frac{168.02}{26.51}$	$\frac{171.70}{19.31}$	$\frac{167.50}{20.62}$	$\frac{170.00}{16.69}$	$\frac{169.11}{23.89}$	.147
WV1 (Creativity)	$\frac{10.73}{2.26}$	$\frac{10.91}{2.02}$	$\frac{10.33}{2.51}$	$\frac{10.96}{2.5}$	$\frac{10.70}{1.78}$	$\frac{10.55}{2.65}$	.032
WV2 (Management)	$\frac{9.76}{2.15}$	$\frac{9.47}{1.94}$	$\frac{9.91}{2.28}$	$\frac{9.92}{2.46}$	$\frac{9.90}{1.74}$	$\frac{9.77}{2.38}$	.244
WV3 (Achievement)	$\frac{12.31}{2.03}$	$\frac{12.23}{2.36}$	$\frac{12.45}{1.97}$	$\frac{12.73}{1.58}$	$\frac{11.85}{2.10}$	$\frac{12.11}{1.76}$	.59
WV4 (Surroundings)	$\frac{11.51}{2.22}$	$\frac{11.38}{2.46}$	$\frac{11.83}{2.09}$	$\frac{11.19}{2.29}$	$\frac{11.55}{1.87}$	$\frac{12.00}{2.12}$	.39
WV5 (Supervisory Relations)	$\frac{10.70}{2.22}$	$\frac{11.00}{2.30}$	$\frac{10.33}{2.05}$	$\frac{10.11}{2.53}$	$\frac{11.45}{1.43}$	$\frac{10.66}{2.73}$	1.33
WV6 (Way of Life)	$\frac{12.72}{2.11}$	$\frac{12.50}{2.68}$	$\frac{13.62}{1.63}$	$\frac{12.53}{1.58}$	$\frac{12.15}{2.15}$	$\frac{13.00}{1.90}$	1.64
WV7 (Security)	$\frac{8.67}{2.58}$	$\frac{8.82}{2.59}$	$\frac{8.20}{2.24}$	$\frac{8.80}{3.05}$	$\frac{8.95}{2.39}$	$\frac{8.33}{2.17}$	.33

WV8 (Associates)	$\frac{10.46}{2.39}$	$\frac{10.88}{2.40}$	$\frac{10.62}{2.08}$	$\frac{9.57}{2.41}$	$\frac{10.60}{2.37}$	$\frac{10.66}{3.94}$	1.21
WV9 (Esthetics)	$\frac{8.67}{2.58}$	$\frac{8.82}{2.59}$	$\frac{8.20}{2.24}$	$\frac{8.80}{3.05}$	$\frac{8.95}{2.39}$	$\frac{8.33}{2.17}$	.33
WV10 (Prestige)	$\frac{11.12}{2.16}$	$\frac{11.20}{2.61}$	$\frac{11.25}{1.77}$	$\frac{10.57}{2.17}$	$\frac{11.40}{1.69}$	$\frac{11.44}{2.12}$	.57
WV11 (Independence)	$\frac{12.23}{2.04}$	$\frac{11.52}{2.36}$	$\frac{12.37}{2.88}$	$\frac{13.07}{1.64}$	$\frac{11.90}{1.88}$	$\frac{12.77}{1.64}$	2.43* (3>5,2,4,1)
WV12 (Variety)	$\frac{11.26}{2.42}$	$\frac{10.85}{2.72}$	$\frac{11.54}{2.26}$	$\frac{11.69}{2.36}$	$\frac{11.35}{1.75}$	$\frac{10.66}{3.08}$	.66
WV13 (Economic Return)	$\frac{12.27}{2.44}$	$\frac{12.44}{2.80}$	$\frac{12.50}{2.35}$	$\frac{11.88}{2.23}$	$\frac{12.40}{2.23}$	$\frac{11.88}{2.14}$	.32
WV14 (Altruism)	$\frac{10.64}{2.54}$	$\frac{10.70}{2.78}$	$\frac{11.04}{2.82}$	$\frac{10.00}{2.46}$	$\frac{11.05}{1.73}$	$\frac{10.33}{2.59}$	.727
WV15 (Intellectual Stimulation)	$\frac{10.87}{2.03}$	$\frac{10.26}{2.12}$	$\frac{11.58}{1.95}$	$\frac{10.96}{2.04}$	$\frac{10.70}{1.68}$	$\frac{11.44}{2.50}$	1.72

^aN = 113 excluding six missing cases.

^bGroup 1 = students who plan to attend a community college, area or vocational technical school (N = 34).

^cGroup 2 = students who plan to attend a four year college or university (N = 24).

^dGroup 3 = students who plan to become self-employed (N = 26).

^eGroup 4 = students who plan to get a full time job (N = 20).

^fGroup 5 = Other (N = 9).

* Significant at the .05 level of probability.

Table 10. Means, standard deviations and F-ratios for work value scores of students when grouped according to occupational plans

Work Value Scales	Total Sample ^a Mean S.D.	Group 1 ^b Mean S.D.	Group 2 ^c Mean S.D.	Group 3 ^d Mean S.D.	Group 4 ^e Mean S.D.	F-ratio
WV (Composite)	<u>169.12</u> 21.63	<u>168.60</u> 21.50	<u>163.85</u>	<u>177.30</u> 10.98	<u>173.06</u> 18.64	1.08
WV1 (Creativity)	<u>10.73</u> 2.26	<u>10.83</u> 2.42	<u>10.47</u> 1.93	<u>10.70</u> 1.82	<u>10.68</u> 2.15	1.13
WV2 (Management)	<u>9.76</u> 2.10	<u>9.81</u> 2.28	<u>9.23</u> 1.57	<u>11.00</u> 1.33	<u>9.50</u> 2.25	1.68
WV3 (Achievement)	<u>12.31</u> 2.01	<u>12.53</u> 1.99	<u>11.61</u> 2.59	<u>12.70</u> 1.95	<u>12.12</u> 1.54	1.25
WV4 (Surroundings)	<u>11.51</u> 2.21	<u>11.39</u> 2.32	<u>11.23</u> 2.14	<u>12.20</u> 2.14	<u>11.93</u> 1.80	.68
WV5 (Supervisory Relations)	<u>10.70</u> 2.22	<u>10.40</u> 2.29	<u>11.19</u> 2.37	<u>10.60</u> 2.11	<u>11.37</u> 1.74	1.20
WV6 (Way of Life)	<u>12.72</u> 2.10	<u>12.78</u> 1.77	<u>11.80</u> 3.20	<u>13.60</u> 1.71	<u>13.12</u> 1.74	2.11
WV7 (Security)	<u>8.67</u> 2.54	<u>8.66</u> 2.62	<u>9.19</u> 2.22	<u>7.30</u> 2.00	<u>8.87</u> 2.82	1.29
WV8 (Associates)	<u>10.46</u> 2.39	<u>10.09</u> 2.57	<u>10.80</u> 2.18	<u>11.10</u> 2.18	<u>11.12</u> 1.89	1.32
WV9 (Esthetics)	<u>8.67</u> 2.54	<u>8.66</u> 2.62	<u>9.19</u> 2.22	<u>7.30</u> 2.00	<u>8.87</u> 2.82	1.29

WV10 (Prestige)	$\frac{11.12}{2.11}$	$\frac{10.95}{2.26}$	$\frac{10.57}{1.93}$	$\frac{12.10}{1.66}$	$\frac{11.93}{1.94}$	2.10
WV11 (Independence)	$\frac{12.23}{1.96}$	$\frac{12.78}{1.94}$	$\frac{10.71}{2.26}$	$\frac{12.40}{1.71}$	$\frac{11.81}{1.75}$	6.21** (1>3,4,2)
WV12 (Variety)	$\frac{11.26}{2.38}$	$\frac{11.37}{2.48}$	$\frac{10.19}{2.42}$	$\frac{11.90}{2.02}$	$\frac{11.81}{2.04}$	1.99
WV13 (Economic Return)	$\frac{12.27}{2.35}$	$\frac{12.00}{2.29}$	$\frac{11.71}{3.21}$	$\frac{13.50}{1.50}$	$\frac{13.37}{1.58}$	2.75** (3>4,1,2)
WV14 (Altruism)	$\frac{10.64}{2.53}$	$\frac{10.42}{2.52}$	$\frac{11.23}{2.60}$	$\frac{11.40}{2.27}$	$\frac{10.31}{2.65}$	.93
WV15 (Intellectual Stimulation)	$\frac{10.87}{2.05}$	$\frac{10.83}{2.12}$	$\frac{10.66}{1.87}$	$\frac{11.90}{1.91}$	$\frac{10.68}{2.08}$	.95

^aN = 113 excluding 6 missing cases.

^bGroup 1 = students who gave production agriculture as their occupational plans (N = 66).

^cGroup 2 = students who gave agriculture business as their occupational plans (N = 21).

^dGroup 3 = students who gave non-agriculture as their occupational plans (N=10).

^eGroup 4 = students who were undecided about their occupational plans (N=16).

** Significant at the .01 level of probability.

as being important:

(1) "Security": According to Super (1970), this work value suggests an orientation toward "work which provides one with the certainty of having a job in hard times."

(2) "Esthetic": Super (1970) contended that "work which permits one to make beautiful things and to contribute beauty to the world" is the construct measured by this scale.

Only two work value scales had significantly different mean ratings when grouped according to students' occupational plans as reported in Table 10.

Students who gave production agriculture as their occupational plan revealed a statistically significant higher mean rating on the work value scale of "Independence". Therefore, these students perceive "work that provides opportunity for independent thinking and for learning how and why things work" Super, 1970. Therefore, $H_{04.2}$ was rejected in regard to the "Independence" scale.

Students who gave nonagriculture as their occupational plan showed a statistically significant higher mean rating on the work value scale of "Economic Return." According to Super (1970), these students perceive "work which pays well and enables one to have the things he wants" as being important. Consequently, $H_{04.2}$ was rejected in regard to the "Economic Return" scale. This means students who gave nonagriculture as their occupational plan are significantly different than their counterparts.

Relationship Between Students' Attitudes about SOE and Their
Work Value Scores

H₀5.1: There is no significant relationship between students' perception of SOE as a part of vocational agriculture education scores and their work value scores (composite and scale).

H₀5.2: There is no relationship between students' perception of the parents' role in planning and conducting SOE score and their work value scores (composite and scale).

H₀5.3: There is no relationship between students' perception of FFA participation in supporting SOE development score and their work value scores (composite and scale).

The Pearson product-moment correlation was used to test for statistical significant relationships between composite and scale work value scores and the stated student attitude variables. Table 11 presents coefficients of correlation between each pair of interval-level variables.

Since the direction of the correlations was not hypothesized, a two-tailed test was performed with 105 degrees of freedom. A coefficient of correlation .1908 was significant at the 95 percent level of confidence, while a value of .2488 was significant at the 99 percent confidence level for the number of cases in the study. The correlation

coefficient values of .1908 and .2488 were found by linear interpolation.

Three selected student attitude variables, 15 work value scales scores and one work value composite score, yielded 48 correlation coefficients measured on an interval scale. Of these, only 8 were found to be significant at or above the 99 percent confidence level; only 6 correlations revealed significance between the 95 percent and 99 percent levels of confidence. So, 34 correlations were not of sufficient magnitude to indicate statistical significance at the 95 percent confidence level, which was the minimum acceptable level of confidence. Therefore, there is a possibility of statistically significant but spurious correlations as well as those that can be explained theoretically.

The three selected attitude variables were designed to provide insight into students' perception of SOE programs as they relate to parental involvement, the contribution of the FFA in supporting development of SOE programs and the educational value of SOE in vocational agriculture programs. Each student response was recorded on the Involvement in Agriculture Inventory found in Appendix A. Student perceptions were rated on an 11-point continuum where a value of 1 = "Strongly Disagree", 5 = "Slightly Disagree", 6 = "Undecided", 7 = "Slightly Agree", and finally 11 = "Strongly Agree".

Table 11. Coefficient of correlation between work value scores (composite and scale scores) and selected student attitude variables^a

Work Value Scales	My SOE has been a ^b valuable part of my Vo-Ag education	My parents helped ^c me plan and con- duct my SOE	FFA ^d Supports SOE
WV (Composite)	.1423	.2548**	.1838
WV1 (Creativity)	.0456	.1128	.1844
WV2 (Management)	.1760	.3758**	.2351*
WV3 (Achievement)	.2405	.2740**	.3236**
WV4 (Surroundings)	.0700	.2088*	.0587
WV5 (Supervisory Relations)	.0587	.1420	.0181
WV6 (Way of Life)	.0469	.0113	-.0030
WV7 (Security)	.1296	.2609**	.2027*
WV8 (Associates)	.0959	.2595**	.0844
WV9 (Esthetics)	.1296	.2609**	.2027*
WV10 (Prestige)	.1628	.1689	.1607
WV11 (Independence)	.1663	.0881	.0776
WV12 (Variety)	.0473	.0014	.0570
WV13 (Economic Return)	-.0635	.0193	-.0131
WV14 (Altruism)	.1429	.2542**	.1834
WV15 (Intellectual Stimulation)	.2514*	.2322*	.2117*

^aN = 119 with no missing cases.

^bMy SOE has been a valuable part of my Vo-Ag education.

^cMy parents helped me plan and conduct my SOE.

^dMy FFA participation supported the development of my SOE.

** Significant at the .01 level of probability.

* Significant at the .05 level of probability.

Close examination of the correlation coefficients for work value scores and students' perception of SOE as a valuable part of vocational agriculture education revealed only one coefficient that was significant at the .01 level of probability. The work value scale of "Intellectual Stimulation" yielded a significant correlation coefficient value of .2514 at the .01 level of probability. Therefore, students who perceive "work which provides opportunity for independent thinking and for learning how and why things work" as being important also perceive SOE as being a valuable part of their agricultural education. Super (1970) concurs with the previous definition of "Intellectual Stimulation."

Several correlation coefficients were found to be significant at the .01 and .05 levels of probability when the relationship between students' perception of parental help in planning and conducting SOE and the work value scales were examined.

Seven correlation coefficients were found to be significant at the .01 level of probability. They were manifested on the following work value scales:

- (1) Work Value Composite
- (2) "Management"
- (3) "Achievement"
- (4) "Security"
- (5) "Associates"

(6) "Esthetics"

(7) "Altruism".

The correlation coefficient between the work value composite and students' perception of parental help in planning and conducting SOE was significant. The correlation coefficient value of .2548 was significant at the .01 level of probability. Consequently, there was a positive association between parental involvement in planning and conducting SOE and the sum of the individual work value scores.

"Management", a work value scale which, according to Super (1970) is associated with "work which permits one to plan and lay out work for others to do" was positively correlated with students' perception of parental involvement in planning and conducting SOE programs. Therefore, students who perceived "Management" as an important work value also agreed that their parents helped to plan and conduct their SOE. The correlation coefficient value shown was .3758, which was significant at the .01 level of probability.

Students perceived the work value scale of "Achievement" to be positively correlated with parental assistance in planning and conducting SOE by manifesting a correlation coefficient of .2740, which was significant at the .01 level of probability. That is, students who valued

"work which gives one a feeling of accomplishment in doing a job well" according to Super (1970), also agreed that their parents helped to plan and conduct their SOE.

The work value scale of "Security" also showed a significant correlation coefficient value of .2609, which was significant at the .01 level of probability. Consequently, work which provides one with the certainty of having a job even in hard times, according to Super (1970), was positively related to students' perception of their parents assistance in planning and conducting their SOE.

"Associates", a work value which, according to Super (1970), is characterized by "work which brings one into contact with fellow workers whom he likes" was positively associated with students' perception of parental assistance in planning and conducting SOE programs. Consequently, students who perceived "Associates" as an important work value agreed that their parents helped to plan and conduct their SOE. The correlation coefficient value shown was .2595, which was significant at the .01 level of probability.

Students perceived the work value scale of "Esthetics" to be positively associated with parental assistance in planning and conducting SOE by revealing a correlation coefficient of .2609, which was significant at the .01 level of probability. That is, students who valued "work

which permits one to make beautiful things and to contribute beauty to the world" as being important according to Super (1970), also agreed that their parents helped to plan and conduct their SOE.

"Altruism", a work value which, according to Super (1970) is exemplified in "work which enables one to contribute to the welfare of others", was positively associated with students' perception of parental assistance in planning and conducting SOE programs. Consequently, students who perceived "Altruism" as an important work value agreed that their parents helped plan and conduct their SOE. The correlation coefficient value revealed was .2542, which was significant at the .01 level of probability.

Two correlation coefficients were found to be significant at the .05 level of probability for work value scores and students perception of parental involvement in helping plan and conduct their SOE. The work value scale of "Intellectual Stimulation" yielded a significant correlation coefficient value of .2322. Therefore, students who perceived "work which provides opportunity for independent thinging and for learning how and why things work" as being important also tended to agree that their parents helped plan and conduct their SOE. Super (1970) concurs with the previous definition of this work value.

"Surroundings", a work value which, according to Super (1970), is exemplified in "work which is carried out under pleasant conditions", was positively associated with students' perception of parental assistance in planning and conducting SOE programs. Therefore, students who perceived "Surroundings" as an important work value agreed that their parents helped plan and conduct their SOE. The correlation coefficient value revealed was .2088, which was significant at the .05 level of probability.

An examination of correlation coefficients between the work value scales and students' perception of FFA participation in supporting their SOE development revealed only one significant correlation coefficient. "Achievement", a work value scale which identifies "work which gives one a feeling of accomplishment in doing a job well" according to Super (1970), yielded a significant correlation coefficient value at the .01 level of probability. The value shown was .3236. Therefore, students perceived the work value scale of "Achievement" to be positively associated with FFA participation in supporting SOE development.

Four correlation coefficients were found to be significant at the .05 level of probability. They were manifested on the following work value scales:

- (1) "Management"
- (2) "Security"

(3) "Esthetics"

(4) "Intellectual Stimulation"

"Management", a work value scale which Super (1970) asserted is reflected into "work which permits one to plan and lay out work for others to do", was positively associated with students' perception of FFA participation in supporting the development of their SOE. Therefore, students who tended to rate the work value scale of "Management" as important also had positive feelings about FFA's developmental aspects. A correlation coefficient value of .2351 was shown.

The work value scale of "Security" also showed a significant correlation coefficient value of .2027, which was significant at the .05 level of probability. Consequently, "work which provides one with the certainty of having a job even in hard times", according to Super (1970), was positively associated with students' perception of FFA participation in supporting the development of their SOE. Consequently, students who tended to rate this work value scale as important also agreed with the idea that FFA participation supports SOE development.

"Esthetics", a work value scale which, according to Super (1970), is characterized as "work which permits one to make beautiful things and to contribute beauty to the world",

was found to be positively associated with students' perception of FFA participation in supporting the development of their SOE. The correlation coefficient value was .2027, which was significant at the .05 level of probability. Therefore, students who tended to rate this work value as important also agreed with the idea that FFA participation supported the development of their SOE.

"Intellectual Stimulation", a work value which, according to Super (1970), is exemplified in "work which provides opportunity for independent thinking and for learning how and why things work", was found to be positively associated with students' perception of FFA participation in supporting the development of their SOE. The correlation coefficient value was .2117, which was significant at the .05 level of probability. Consequently, students who tended to rate this work value as important also agreed that FFA participation supported the development of their SOE.

CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Supervised occupational experience (SOE) is widely recognized as one of the cornerstones used in the delivery of quality vocational agriculture programs. Research and practice have substantiated benefits that accrue to students, teachers, parents, the community and to quality vocational agriculture programs as a result of SOE. However, many SOE programs are fragmented, inadequately planned, implemented and evaluated. Plagued by problems such as lack of instructional material, minimal teacher time and sometimes a lack of commitment, the adoption of SOE programs has not been as pervasive as it was projected.

The Department of Agricultural Education at Iowa State University recognized the present problems confronting SOE programs and sought to mitigate them in part through developing an SOE instructional packet. Therefore, under the leadership of Williams (1977c) an SOE instructional packet was developed and validated. This study is a part of an ongoing project and is related to previous research by Briers (1978) who summarized his research procedure as follows:

The study was conducted during fall semester, 1977 to evaluate the effectiveness of an instructional packet on SOE programs for beginning vocational agriculture students in Iowa. Effectiveness was assessed in terms of (1) student knowledge of SOE, (2) student attitude toward SOE, and (3) student planning of individual SOE programs. Two treatment levels were used: (1) teachers were provided the instructional packet and inservice education on its use (experimental group) and (2) teachers were not allowed access to the instructional packet (control group).

The pretest-posttest control group design was used in the study. Pretest measures of (1) student personal and situational variables, (2) student knowledge of SOE, and (3) student attitude toward SOE were collected before the experimental instruction began. At the conclusion of this instruction, posttest instruments collected information concerning (1) student knowledge of SOE, (2) student attitude toward SOE, (3) student planning of their SOE programs, and (4) teacher personal, situational, and programmatic variables.

Teachers were randomly selected from a frame of experienced vocational agriculture teachers in Iowa, and they were randomly assigned to the control or experimental group. Actually, each experimental unit consisted of the teacher and his beginning vocational agriculture class (Briers, 1978, pp. 59-60).

This study was a post only control group design whose purpose was to ascertain data concerning the following:

1. Determine if significant differences exist between mean work values (composite and scale scores) of students whose teachers used the SOE instructional packet as compared to those who did not.

2. Determine if significant differences exist between mean scores on work value scales of Iowa Vocational Agriculture students and the national norm group.

3. Determine if significant differences exist between mean SOE attitude scores of students whose teachers used the SOE instructional packet as compared to those who did not. The SOE attitude variables considered were as follows:

- A. SOE is a valuable part of vocational agriculture education.
- B. Parental help in planning and conducting SOE experiences.
- C. The extent to which FFA participation supported the development of SOE.

4. Determine if significant differences exist between mean work values (composite and scale scores) when students are grouped according to their post high school plans, classified as follows:

- A. Immediate plans upon completion of high school.
 - 1. Students who plan to attend a community college or area vocational technical school.
 - 2. Students who plan to attend a four year college or university.
 - 3. Students who plan to become self-employed.
 - 4. Students who plan to get a full-time job.
 - 5. Other.
- B. Occupational plans upon completion of high school.
 - 1. Students who gave production agriculture as their occupational plan.

2. Students who gave agriculture business as their occupational plan.
3. Students who gave non-agriculture as their occupational plan.
4. Students who were undecided about their occupational plan.

5. Identify relationships between students' attitudes about SOE and their work value scores (composite and scale).

The SOE attitude variables considered were as follows:

- A. SOE is a valuable part of vocational agriculture education.
- B. Parental help in planning and conducting SOE experiences.
- C. The extent to which FFA participation supported the development of SOE.

The purpose of this research, then, is inextricably related to the Briers (1978) research in that it sought to assess the long term impact (two and one-half years) of the SOE packet. The sample for this study consisted of the same teachers/schools previously identified, randomly selected and assigned in the Briers (1978) experiment. However, due to attrition only 32 of the original 33 schools used in the Briers research were considered. As a result, instead of the

17 schools in the experimental group and 16 schools in the control group used by Briers, this study was comprised of 16 schools in the control group and 16 schools in the experimental group.

Due to the random assignment of the Work Values Inventory, only 119 of the 388 vocational agriculture students still enrolled in the program at the same school as when the Briers (1978) experiment was conducted were participants in this study.

Two instruments were used to collect data. The Work Values Inventory, developed by Super (1970), was designed to measure work values and consists of 15 scales. Each scale consists of three items rated on five point continuum where 1 = unimportant, 2 = of little importance, 3 = moderately important, 4 = important, and 5 = very important. Therefore, each work value scale may have a score as high as 15 or as low as three for each respondent. Students received the Work Values Inventory based on random numbers generated at the Iowa State University Computational Center. The Involvement in Agriculture Inventory was administered to all students in the sample.

The SPSS subprogram frequencies and crosstabs, one-way analysis of variance, Pearson correlation, and t-test were used in analyzing the data.

Conclusions

The following conclusions were drawn based upon the findings of the study:

1. Approximately 90 percent of the respondents in this study were enrolled in their third years of vocational agriculture and were classified as juniors in 1980.

2. Eighty-five percent of the total sample of students had three years of membership in the FFA.

3. Fifty-five percent of the students in the sample identified production agriculture as their occupational plan upon graduation. Therefore, most students perceive production agriculture as a viable occupational choice. It is interesting to note that this occupational choice category exceeded all others combined.

4. Twenty-eight percent of the respondents planned to attend a community college or area vocational technical school, while another 20 percent planned to attend a four-year college or university. Twenty-one percent planned to become self-employed upon graduation and 16 percent intended to seek a full-time job. In summary, approximately 48 percent of the students either planned to attend a community college or area vocational technical school or a four-year college or university. However, 38 percent planned to enter the world of work directly from high school.

5. The scores of students on the work value scales in the experimental treatment group were not significantly better than students in the control treatment group, indicating that utilization of the SOE packet did not impact the work values of vocational agriculture students.

6. The five work value scales with the highest mean ratings for the total sample were:

- a. "Way of Life"
- b. "Economic Return"
- c. "Achievement"
- d. "Independence"
- e. "Supervisory Relations"

7. The work value scales with the lowest mean ratings were "Security" and "Esthetics."

8. Eleventh grade students that comprised the national norm group for the Work Value Inventory (Super, 1970) had significantly higher means than the Iowa students for eight of the 15 work value scales studied. These were:

- a. "Economic Return"
- b. "Security"
- c. "Supervisory Relations"
- d. "Way of Life"
- e. "Associates"
- f. "Creativity"

g. "Intellectual Stimulation"

h. "Altruism"

9. Students who comprised the sample of Iowa vocational agriculture students had a significantly higher mean than the national norm group for the work scale "Variety."

10. No significant differences existed between the SOE attitude scores of students in the experimental group and students in the control group.

11. No significant relationship was observed between work value scores of students and their immediate plans upon completion of high school for 15 of the 16 work value measures.

12. Students whose immediate plan upon graduation was to become self-employed had a significantly higher mean on the work value scale "Independence" than students who planned to:

- a. attend a community college or area vocational technical school
- b. attend a four-year college or university
- c. get a full-time job
- d. other.

13. No significant relationship was observed between work value scores of students and their occupational plans for 14 of the 16 work value scales.

14. Students who gave production agriculture as their occupational plan had a significantly higher mean on the work

value scale of "Independence" when compared to the following:

- a. Students who gave agriculture business as their occupational plan
- b. Students who gave non-agriculture as their occupational plan
- c. Students who were undecided about their occupational plan.

15. Students who gave non-agriculture as their occupational plan had a significantly higher mean value on the work value scale of "Economic Return" when compared to the following:

- a. Students who gave agriculture business as their occupational plan
- b. Students who gave production agriculture as their occupational plan
- c. Students who were undecided about their occupational plan.

16. The SOE attitude variable, "My SOE has been a valuable part of my vocational agriculture education," showed a weak relationship with all work value scales. However, there was a significant and positive relationship between this SOE attitude variable and one work value scale, "Intellectual Stimulation."

17. The SOE attitude variable, "My parents helped me plan and conduct my SOE," was significantly and positively related to the following work value scores:

- a. WV composite
- b. "Management"
- c. "Achievement"
- d. "Surroundings"
- e. "Security"
- f. "Associates"
- g. "Esthetics"
- h. "Altruism"
- i. "Intellectual Stimulation"

This confirms the findings of Rawls (1978) as he delineated the benefits of SOE as perceived by parents. Although, the correlation coefficients were rather weak, it is still interesting to note the parallels between the perceptions of parents and students in regard to SOE.

18. The SOE attitude variable, "The extent to which FFA participation supported the development of my SOE," was significantly and positively related to the following work value scales:

- a. "Management"
- b. "Achievement"
- c. "Security"
- d. "Associates"
- e. "Intellectual Stimulation"

Although, most of the correlation coefficients were weak, it is important that vocational agriculture instructors know

that their students do not see the relationship between SOE and the FFA and should take action to rectify this situation.

Recommendations

Based on the findings of this study, the following recommendations are made to those responsible for planning initiating, conducting, evaluating and improving secondary vocational agriculture programs in Iowa. More specifically, these recommendations are directed toward: (1) teacher educators, (2) state supervisors, (3) in-service educators, (4) vocational agriculture instructors and (5) curriculum personnel.

1. Production agriculture should remain a viable part of the secondary vocational agriculture curriculum and an alternative type of SOE for students in Iowa.

2. More emphasis should be placed in the vocational agriculture curriculum on orienting students to and preparing students for occupations in off-farm agricultural occupations.

3. Occupational guidance should be an integral part of vocational agriculture programs to help students gain relevant experiences appropriate for their occupational and educational goals.

4. More attention should be given to helping students understand the relationship between SOE and FFA.

5. Agribusiness types of FFA activities should receive additional emphasis in an effort to interest more students in

agricultural occupations off-the-farm.

6. Materials that would encourage vocational agriculture students to initiate agribusiness oriented SOE programs should be developed.

7. SOE program planning, implementation, and evaluation efforts should involve parents.

8. More emphasis should be placed in Vocational Agriculture classes to help students recognize that SOE is an important part of vocational agriculture education.

9. Ways and means to facilitate communication and articulation between business and industry, post-secondary and secondary vocational agriculture programs should be identified. Hopefully, such activities would help students achieve their occupational and educational goals.

10. Inservice education should be conducted to help vocational agriculture instructors develop the competencies necessary to effectively develop SOE programs that provide opportunities for students to gain experience in production agriculture and various agribusiness areas.

11. Preservice education should be provided so that prospective teachers understand the objectives of SOE and the contribution SOE can make in helping students reach their educational and occupational goals.

12. Since research by Briers (1978) revealed that teacher utilization of the SOE packet had positive short-range effects on students, vocational agriculture teachers should

continue to use the SOE instructional packet. However, this research did not identify any impact on work values of students resulting from utilization of the SOE packet.

13. Since Iowa eleventh grade vocational agriculture students did not score as high as the eleventh grade national norm group did on seven of the 15 work value scales, more attention should be placed on developing positive work values through vocational agriculture learning activities.

Recommendations for further research

1. The relationship between vocational agriculture student work values and teacher characteristics, parental work values and student involvement in agriculture should be investigated.

2. A longitudinal study of the career development of these students should be undertaken.

3. Additional research is needed to assess the impact of the SOE instructional packet on student financial and psychological achievements.

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APPENDIX A: INVOLVEMENT IN AGRICULTURE INVENTORY

Directions: Please answer each of the questions with an "X" or fill in the blank provided. Be as accurate as possible and please respond to all questions.

1. How many years of vocational agriculture have you completed, including this year?

☐ (1) one
☐ (2) two
☐ (3) three
☐ (4) four

2. How many years have you been a member of the FFA, including this year?

☐ (1) one
☐ (2) two
☐ (3) three
☐ (4) four
☐ (5) none

3. What is the highest FFA degree you have received?

☐ (1) Greenhand
☐ (2) Chapter Farmer
☐ (3) Applied for Iowa (State) Farmer
☐ (4) Iowa Farmer

4. What occupational (job) do you plan to enter upon completion of your formal education?

5. What FFA award(s) have you received? (Check all that apply.)

☐ (1) Star Greenhand
☐ (2) Star Chapter Farmer
☐ (3) District Star Farmer
☐ (4) Local proficiency award, if so specify: _____
☐ (5) District proficiency award, applicant, if so specify: _____
☐ (6) District proficiency award, if so specify: _____
☐ (7) State proficiency award, if so specify: _____
☐ (8) Others (specify): _____
☐ (9) None

6. In what kinds of activities do you participate? (Check all that apply.)

☐ (1) Athletics
☐ (2) Music
☐ (3) Student government
☐ (4) 4-H
☐ (5) Other (list): _____
☐ (6) None

7. What are your immediate plans upon completion of high school?

☐ (1) Attend an area vocational school or community college
☐ (2) Attend a four-year college or university
☐ (3) Work for yourself (self-employed)
☐ (4) Get a full-time job
☐ (5) Other (describe): _____

8. What kind(s) of SOE program(s) have you had as part of your vocational agriculture program? (Check all that apply.)

☐ (1) Raising animals and/or crops you own
☐ (2) Working on a farm other than home farm
☐ (3) Working in an off-farm agricultural business
☐ (4) Working with projects carried out using school land, greenhouse, shop, or other school facilities. (Experiences that occur outside of normal classroom and shop activities.)
☐ (5) Interviewing and observing people working in agriculture
☐ (6) Other (describe): _____
☐ (7) None (I did not have a supervised occupational experience program.)

9. (Answer this question only if you checked more than one kind of experience for question 8.) Indicate the type of experience you consider to be the major one for you in 1979.

☐ (1) Raising animals and/or crops you own
☐ (2) Working on a farm other than home farm
☐ (3) Working in an off-farm agricultural business
☐ (4) Working with projects carried out using school land, greenhouse, shop, or other school facilities

_____ (5) Interviewing and observing people working in agriculture

_____ (6) Other (specify): _____

10. Indicate the number (and show % yours) of breeding livestock you had in 1979 as part of your vo-ag SOE program.

<u>Breeding Livestock</u>	<u>No.</u>	<u>% yours</u>
Beef cows	_____	_____
Beef heifers	_____	_____
Beef bulls	_____	_____
Dairy cows (milking)	_____	_____
Dairy heifers	_____	_____
Dairy bulls	_____	_____
Sows or bred gilts	_____	_____
Boars	_____	_____
Ewes	_____	_____
Rams	_____	_____
Mares	_____	_____
Studs	_____	_____
Nannie (goats)	_____	_____
Billy (goats)	_____	_____
Turkeys (laying)	_____	_____
Laying hens	_____	_____
Others (specify)	_____	_____
_____	_____	_____

11. Indicate the number (and show % yours) of livestock you sold or that were consumed at home in 1979 as part of your vo-ag SOE program. (Do not duplicate numbers reported in question 10.)

<u>Livestock Sold</u>	<u>No.</u>	<u>% yours</u>
Dairy heifers	_____	_____
Dairy calves	_____	_____
Dairy steers	_____	_____
Beef feeder calves	_____	_____
Beef steers, 1 yr.	_____	_____
Beef steers, 2 yr.	_____	_____
Pigs, feeders	_____	_____
Hogs, market	_____	_____
Lambs, feeders	_____	_____
Lambs, market	_____	_____
Colts (horses)	_____	_____
Kids (goats)	_____	_____
Broilers	_____	_____
Turkeys	_____	_____
Others (specify)	_____	_____

12. Indicate the number of hours you worked in 1979 as part of your vo-ag SOE program in each of the following settings. (Exclude regular vo-ag class time.)

<u>Setting</u>	<u>Paid Hours</u>	<u>Unpaid Hours Worked</u>
Farm(s) in community	_____	_____
School farm (livestock)	_____	_____
School farm (crops)	_____	_____
School greenhouse	_____	_____
School shop	_____	_____
Agribusiness in community	_____	_____
Non-agribusiness in community	_____	_____
Custom work	_____	_____
Other (specify)	_____	_____

13. Indicate the number (and % yours) of acres of land you owned or rented in 1979 as part of your vo-ag SOE programs.

<u>Type of Land</u>	<u>Owned</u>	<u>% yours</u>	<u>Rented</u>	<u>% yours</u>
Cropland	_____	_____	_____	_____
Pasture	_____	_____	_____	_____
Commercial	_____	_____	_____	_____
Forest land	_____	_____	_____	_____
Other, specify	_____	_____	_____	_____

14. Indicate the number (and % yours) of acres of crops harvested in 1979 as part of your vo-ag SOE program.

<u>Crops</u>	<u>Acres Harvested</u>	<u>% yours</u>
Corn (grain)	_____	_____
Corn (silage)	_____	_____
Soybeans	_____	_____
Oats (grain)	_____	_____
Oats (silage)	_____	_____
Sorghum (grain)	_____	_____
Sorghum (silage)	_____	_____
Alfalfa	_____	_____
Mixed Hay	_____	_____
Haylage	_____	_____
Other, specify	_____	_____
_____	_____	_____

15. Indicate the type and amount of vegetables or fruits you produced in 1979:

_____ type _____ (amount-lbs., bushels, etc.) % yours

_____ type _____ (amount-lbs., bushels, etc.) % yours

_____ type _____ (amount-lbs., bushels, etc.) % yours

16. Indicate the types and amount of equipment, buildings and machinery you owned in 1979 (and % yours) that was used in your vo-ag SOE program (include cars and trucks).

<u>Type</u>	<u>Number</u>	<u>Model</u>	<u>Year</u>	<u>% yours</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

17. Indicate the number (and % yours) of acres of unharvested crops you had during 1979 as part of your vo-ag SOE program.

<u>Type</u>	<u>Acres</u>	<u>% yours</u>
Native grass (pasture)	_____	_____
Legumes	_____	_____
Cover crop	_____	_____
Other (specify)	_____	_____

18. What was your net worth at the: (Could be taken from page 13 of record book.)

1. End of 1978 or beginning of 1979. _____

2. End of 1979 or beginning of 1980. _____

19. In future years, we may desire to contact you by mail to ask you to provide additional inputs for vocational agriculture programs. If so, where could you be reached? (Give a permanent address.)

(name of parent or guardian)

(route, street or box number)

(town) (state) (zip code)

Directions: The following list of statements is NOT a test. There are no right or wrong answers. If you strongly disagree with the statement, write "1" on the line in front of the item. If you strongly agree, write "11" on the line. Use any number from 1 to 11. Please give your own opinion, and respond to each item.

- | | | | | | | | | | | |
|----------------------|---|---|----------------------|-----------|---|-------------------|---|---|----|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | | | | Undecided | | | | | | |
| Strongly
disagree | | | Slightly
disagree | | | Slightly
agree | | | | Strongly
agree |
- ____ (20) My SOE has been a valuable part of my vo-ag education.
- ____ (21) My 1979 vo-ag (SOE) record book was accurate and complete.
- ____ (22) My vo-ag teacher helped me plan and conduct my SOE.
- ____ (23) My parents helped me plan and conduct my SOE.
- ____ (24) My vo-ag classes have helped me plan and conduct my SOE.
- ____ (25) My FFA participation supported the development of my SOE.
- ____ (26) My SOE has helped prepare me for an off-farm agriculture job in the future.
- ____ (27) My SOE has helped me get FFA degrees and awards.

- ____(28) My SOE has increased my interest in agriculture.
- ____(29) My SOE has made my vo-ag classes more meaningful and interesting.
- ____(30) My SOE has helped prepare me for farming as a future occupation.

APPENDIX B: LETTER TO SCHOOLS

In the Fall of 1977, your department was randomly selected from among all Iowa schools offering vocational agriculture to participate in a study of the effectiveness of an instructional packet on selecting and planning supervised occupational experience (SOE) programs by beginning vocational agriculture students. Students listed on the attached sheet participated in the study as freshmen. These students are probably high school juniors this year. This study involved 444 beginning vocational agriculture students in 33 schools and provided information that showed the packet to be an effective educational tool. The research resulted in the dissemination of the SOE packet to all Iowa vocational agriculture teachers the following year. It has also been disseminated and used nationally.

Based upon the situation and results described above, the Agricultural Education Department is initiating a companion study that would involve the same schools and students. The project is funded by the Iowa Agricultural Experiment Station to study the involvement of high school vocational agriculture students in agriculture. The project would focus on the students' supervised occupational experience (SOE) programs and related economical, educational, social and psychological factors. Special attention will be given to benefits students receive from vocational agriculture SOE programs.

Since this study is directly related to the content and activities of Iowa vocational agriculture programs, I am going directly to the teachers involved to request permission to include their vocational agriculture programs (students on the attached sheet who are still enrolled in vocational agriculture) on the project. If you would agree to participate in this project, a person from the Agricultural Education Department would visit your school to collect information from you and the selected students. The person visiting your school would ask you and the students to voluntarily provide information that could be given in approximately 40-45 minutes (a regular vocational agriculture class in which most of the selected students are enrolled).

I feel this project will help your department as well as vocational agriculture programs throughout Iowa. Our ultimate goal is to show how vocational agriculture students are involved in agriculture and the benefits received from such involvement. Please understand that we are not evaluating you

or your school. All information gathered will be reported in group summary form. We would, however, give you summary feedback on the information given by your students.

Please discuss the participation of your department in this project with your administration. John Jones, Carlton Morris, Russell Haynes, or George Shorther will call you in a few days to check on participation approval, and, if permission to involve your school is granted, to schedule a time for the visit to your school. If you have questions in the meantime, call me at 515/294-5872.

Thank you for your help in this way.

Sincerely,

David L. Williams, Professor
Agricultural Education

DLW:jch

Enclosure

General Instructions to Student Participants

Your school has granted permission for the Agricultural Education Department at Iowa State University to work with students in this vocational agriculture class. We are making a state-wide study of the involvement of vocational agriculture students in agriculture and studying related economical, educational, social and psychological factors. We believe this project will help vocational agriculture throughout Iowa. Our goal is to show how vocational agriculture students are involved in agriculture and the benefits they have received from such involvement. Your school was randomly selected to participate.

You will be asked some questions about your supervised occupational experience (SOE) program. SOE programs may also be called vo-ag projects, supervised farming programs, home projects, FFA projects, agriculture placement experience, or similar terms.

Each student is asked to voluntarily provide information using three different forms. (All students will not be asked to complete the same questionnaires -- some forms were randomly assigned.)

Please complete the Agribusiness Achievement Test in your packet first, the Work Values Inventory or Self-Esteem

Evaluation second, and then the Involvement in Agriculture Inventory. If you do not have time to complete the Inventory, your Vo-Ag teacher will direct you in finishing it later and then mail it to Iowa State University.

Please follow the directions on each form. The information you provide will be considered confidentially and reported only in group summary form.

Thank you for your participation in this project.

David L. Williams
Professor and Project Director
Agricultural Education Department
Iowa State University

APPENDIX C: SCHOOLS AND VOCATIONAL AGRICULTURE TEACHERS
PARTICIPATING IN THE STUDY

<u>Experimental Treatment</u>	<u>Original Teacher</u>	<u>Replacement Teacher</u>
School		
Atlantic	R.D. Beaver	B.C. Johnk
Davis County	D.S. Shelton	
Farmington	W.W. Cottrell, Jr.	L.R. Burkett
Guthrie Center	N.N. Bradley	G.R. Hanna
Kanawha	L.L. Stine	H.D. Drews
Keota	D.W. Sprouse	
Knoxville	B. Hanna	
Lake City	R.E. Engstrom	
Latimer	B.L. Umbaugh	G.L. Keehn
Pella	J.L. Krug	
Pomeroy	A.J. Fiala	
Clay Central	D.A. Binder	D.B. Klave
Sigourney	T.D. David	D.M. Flippin
Strawberry Point	D.G. Miller	
Stuart-Menlo	D.R. Wilson	
Terrill	S.L. Anderson	L.G. Smith
West Bend	R.H. Cast	
<u>Control Treatment</u>		
School		
United Community	T.D. Kamp	J.A. Biagi
Colo	L.J. Stewart	T.D. Davis, Jr.
Corydon	R.R. Shelton	
Fort Madison	G.L. Hayes	
George	R.A. Sprague	D.L. Childress
Lone Tree	E.J. Miller	
Manson	A.S. Halvorsen	J.W. Hansen
Mediapolis	J.R. Howell	
Prairie City	T.G. Ross	M.L. Striegel
Southeast Polk	J.A. Appleget	
Sac City	D.R. Miller	R.E. Heitz
St. Ansgar	M.H. Hanson	T.A. Dudding
Sheffield	R.L. Eichmeier	
Sheldon	F.A. VonLoh	
Thornburg	R.L. Blizzard	
West Branch	F.L. Abel	

APPENDIX D: DATA CODING FORMAT

Coding For SOE Project, 1980

(Revised 3/18/80)

<u>Card No.</u>	<u>Variable</u>
Card No. 1	Involvement in Agriculture Inventory (Items 1-9, 18-19 and 20-30)
Card No. 2	Agribusiness Achievement Tests
Card No. 3	Involvement in Agriculture Inventory
Card No. 4	Involvement in Agriculture Inventory
Card No. 5	Involvement in Agriculture Inventory
Card No. 6	Involvement in Agriculture Inventory
Card No. 7	Work Value Inventory and Self-Esteem Evaluation
Card No. 8	Teacher Demographic Data (Items 1-27)
Card No. 9	Teacher Demographic Data (Item 28)
Card No. 1.1	Purdue Teacher Opinionnaire (1 in Col. 1 & 1 in Col. 9)

Card No. 1.
Involvement in Agriculture Inventory (Items 1-9, 18-19 and 20-30)

<u>Column No.</u>	<u>Variable & Item Number</u>	<u>Response Code (Value)</u>
01	Card Number	1
02-03	School Number	01-36
04-06	Student Number	001-507
07	Control/Experimental	1 = Control 2 = Experimental
08	1980 Follow-up	8
09	Teacher Stability	1 = same as 77-78 2 = change since 77-78
10	Blank	
11	Years of Vo-Ag (1)	1-4
12	Years in FFA (2)	0-4
13	Highest FFA Degree (3)	1 = Greenhand 2 = Chapter Farmer 3 = State Farmer Applicant 4 = Iowa Farmer
14	Occupational Plans (4)	1 = Production Ag (own) 2 = Ag Sales & Service 3 = Ag Mech. 4 = Ag Products/ Processing 5 = Horticulture 6 = Resources/Forestry 7 = Production Ag (employ.) 8 = Prof. Ag 9 = Non-Agriculture 0 = Undecided Blank = Missing Data

- | | | |
|----|---|---|
| 15 | FFA Awards - Star Greenhand
(5) | 1 = Yes, 2 = No |
| 16 | FFA Awards - Star Chapter
Farmer (5) | 1 = Yes, 2 = No |
| 17 | FFA Awards - Dist. Star
Farmer (5) | 1 = Yes, 2 = No |
| 18 | FFA Awards - Local Prof.
Award (5) | 1 = Yes, 2 = No |
| 19 | FFA Awards - Dist. Prof.
Award Appl. (5) | 1 = Yes, 2 = No |
| 20 | FFA Awards - Dist. Prof.
Award (5) | 1 = Yes, 2 = No |
| 21 | FFA Awards - State Prof.
Award (5) | 1 = Yes, 2 = No |
| 22 | FFA Awards - Other (5) | 1 = Yes, 2 = No |
| 23 | FFA Awards - None (5) | 1 = Yes, 2 = No |
| 24 | School Activities - Athletics
(6) | 1 = Yes, 2 = No |
| 25 | School Activities - Music
(6) | 1 = Yes, 2 = No |
| 26 | School Activities - Student
Govn. (6) | 1 = Yes, 2 = No |
| 27 | School Activities - 4-H (6) | 1 = Yes, 2 = No |
| 28 | School Activities - Other
(6) | 1 = Yes, 2 = No |
| 29 | School Activities - None
(6) | 1 = Yes, 2 = No |
| 30 | Plans after High School
(7) | 1 = attend community
college
2 = attend a 4-year
college |

		3 = self-employed
		4 = get a job
		5 = other
31	SOE-animals/crops (8)	1 = Yes, 2 = No
32	SOE-working/farm (8)	1 = Yes, 2 = No
33	SOE-working/off-farm (8)	1 = Yes, 2 = No
34	SOE-working at school (8)	1 = Yes, 2 = No
35	SOE-interview/observe (8)	1 = Yes, 2 = No
36	SOE-other (8)	1 = Yes, 2 = No
37	SOE-None (8)	1 = Yes, 2 = No
38	Major SOE (9)	1 = animals/crops
		2 = working/farm
		3 = working/off-farm
		4 = at school
		5 = interview/observe
		6 = other
		7 = none

Card No. 2
Agribusiness Achievement Test

<u>Column No.</u>	<u>Variable and Item Number</u>	<u>Response Code (Value)</u>
01	Card Number	2
02-03	School Number	01-36
04-06	Student Number	001-507
07	Control/Experimental	1 = Control 2 = Experimental
08	1980 Follow-up	8
09	Teacher Stability	1 = same as 77-78 2 = change since 77-78
10	Blank	
11-12	Animal Science Raw Score	0-50
13-14	Animal Science T-Score	7-85
15-16	Plant & Soil Science Raw Score	0-50
17-18	Plant & Soil Science T-Score	3-96
19-20	Ag. Mechanics Raw Score	0-50
21-22	Ag. Mechanics T-Score	5-94
23-24	Ag. Mgt. Raw Score	0-50
25-26	Ag. Mgt. T-Score	14-87