

A FOLLOW-UP STUDY TO DETERMINE THE RELATIONSHIP
BETWEEN HIGH SCHOOL SUPERVISED OCCUPATIONAL EXPERIENCE
PROGRAMS IN AGRICULTURE AND ESTABLISHMENT IN OCCUPATIONS,

by

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DEDICATION

This dissertation is dedicated with sincere love and appreciation to my wife . Her sacrifices, support and encouragement were invaluable during the process of this study.

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Chapter 1

INTRODUCTION

The arrangements whereby the practical aspects of occupations are taught vary. Terms such as internship, apprenticeship, and cooperative education are names of common arrangements. The oldest and most widely used name for supervised occupational experience in high school agricultural education is supervised farming program involving student owned animal and crop projects. The supervised farming program along with other arrangements for providing supervised practice in agricultural education and other vocational areas are called supervised occupational experience programs. These programs consist of "all the practical activities of educational value conducted by pupils for which systematic instruction and supervision are provided by their teachers, parents, employers, or others" (Phipps, 1972:185).

Supervised occupational experience programs in vocational agriculture include both experience programs for students preparing for farming and experience programs for students preparing for non-farm occupations requiring knowledge and skill in agriculture. Phipps (1972:186-187) describes a supervised occupational experience program as involving several of the following activities, depending on the occupational objectives of the students:

1. Placement experiences in agriculturally oriented
business and jobs
 - a. without pay

- b. with pay
- 2. Farming programs
 - a. production projects on the farm
 - (1) crops
 - (2) livestock
 - b. improvement projects on the farm
 - c. supplementary farm practice
- 3. Plant or animal projects
 - a. at home
 - b. in animal laboratories
 - c. on school or public land
 - d. in a greenhouse, arboretum or nursery
- 4. Soil and agriculture mechanics projects
 - a. at home
 - b. on school or public land
 - c. in the school's agricultural mechanics shop or
in public agricultural machinery shops
- 5. Placement for farm experience

The main purpose of the supervised occupational experience program is to provide students the opportunities for learning through experiences in real-life activities. The values of supervised occupational experience programs are many. A supervised occupational experience program is intended to:

- 1. provide an opportunity for the development of abilities needed for employment in an occupation;

2. provide an avenue to satisfactory, progressive, establishment in an occupation;
3. provide the opportunity to earn, save and use money.
4. provide motivation;
5. develop originality, pride of ownership, initiative, self-confidence and managerial ability;
6. develop abilities in making sound business judgments;
7. provide experiences in keeping records;
8. provide opportunities to explore various occupations;
9. develop attitudes and values that lead to getting along with people; and
10. provide the opportunity for establishment in occupations.

Supervised occupational experience programs in vocational agriculture education began early in the 1900's. Because the students who enrolled in vocational agricultural education at that time were either from farms or pursuing occupations in farming, the occupational experiences were conducted either on the home farm or on a farm provided by the school. The major type of supervised occupational experience conducted then was the supervised farming program. Subsequently, the farming programs of students became the means of establishment in farming either as an owner, operator, manager, or laborer.

Today, students enrolled in production agriculture are still expected to have a farming program composed of crops and/or livestock units or farm placement. These farming programs and placement

experiences should be related to the future plans and needs of the student. Enrollees in all vocational agriculture courses are encouraged to have a farming program as well as a placement experience in an agricultural business. This encouragement exists because it is believed that those who serve farmers can serve them better if they understand farming.

This study was unique in several aspects. Most of the existing follow-up studies in vocational agriculture education examined the occupational status of former students one to two years following graduation from high school. These studies sought to find relationships between the total program of vocational agriculture and the occupational status of former students. This study was undertaken to seek relationships between a portion of the vocational agriculture curriculum, the supervised occupational experience program, and the establishment in an occupation of former students five to six years following high school graduation.

In a previous study by McMillion and Auville in 1975, data were collected which showed that some vocational agriculture students had more quantity in their supervised occupational experience programs such as capital owned, the number of hours worked and income derived than other students. It is often suggested by agricultural educators that larger supervised occupational experience programs enable students to acquire more knowledge and skills necessary to become established in occupations. This study was a follow-up of those students on whom data were collected by McMillion and Auville. The purpose of their study

was to determine whether relationships existed between the quantity in a supervised occupational experience program as measured in that study and the establishment of the former students in an occupation.

NEED FOR THE STUDY

The supervised occupational experience program was mandated by the Smith-Hughes Act in 1917. The Act (U.S. Congress, 1917) stated that in order for public schools to receive Federal funds to support their vocational agriculture programs, the students enrolled had to be provided directed or supervised practice in agriculture on either a school farm or a home farm for at least six months per year. Legislation passed since 1917 has increased the requirements that vocational education programs have to meet in order for them to receive Federal funds. The Vocational Education Act of 1963 (U.S. Congress, 1963:403) stated that Federal funds should be used for vocational education programs that train individuals for gainful employment. The 1968 Amendments (U.S. Congress, 1968:1076) stated that "effective use" will be made of the instruction gained from vocational education programs.

Legislation of this type continued in the 1970's. The Education Amendments of 1976 (U.S. Congress, 1976:2187) mandated the evaluation of vocational education programs "based on quality of instruction in terms of preparation for employment and placement in employment," for the purpose of improving the effectiveness and continuance of vocational programs. This Act (U.S. Congress, 1976:2178) further

stated that "vocational use" must be made of the instruction gained from vocational education programs.

Many educators have also stressed the need for vocational programs to prepare students for occupations. Calhoun and Finch (1976:213) stressed that vocational education at the secondary level is responsible for providing the skills necessary for job entry. They suggested that contemporary programs in vocational agriculture should emphasize "preparation and advancement in any occupation involving knowledge and skill in agriculture." Similarly Roberts (1971:158) placed "make a beginning and advance in farming" as the first of his seven major objectives of vocational agriculture. Richardson and McFadden (1975) emphasized the need for evaluation when they stated that "with the emphasis on accountability, and the mandates of Vocational Education legislation, valid evidence of the effectiveness of vocational programs must be demonstrated."

The supervised occupational experience program is one of the means used by vocational agriculture educators to provide graduates with the skills necessary for employment in agricultural occupations. It is for this purpose that supervised occupational experience is an integral and very essential part of the instructional program in vocational agriculture. Although the importance of the supervised occupational experience program is widely accepted by agricultural educators, there has been a decline in the number of students who participate in such programs. Lee (1980) stated that:

Supervised occupational experience is an area of the agricultural education inventory which has received

considerable discussion in recent years. Our profession is fearful that this element is slipping away and without it we would have lost one of the great pillars on which vocational education in agriculture/agribusiness has been built. My observation is that we have talked about this a lot and, except for a few cases, done very little to remedy the decadence.

A lack of student participation in supervised occupational experience programs is also prevalent in Virginia, although the Virginia Criteria for Quality Vocational Programs in Agricultural Education (1978:3) states that students are to engage in supervised occupational experiences and that the occupational experiences are to be related to the occupational objectives of the students. A review of the annual reports on agricultural education in Virginia showed that the numbers of students completing occupational experience programs had steadily decreased since 1979. Julian Campbell, Virginia State Supervisor of Agricultural Education, (1979:5; 1980:7; 1981:7) stressed that more emphasis was needed on supervised occupational experience programs to enable students to develop skills needed in related occupations.

Iverson (1980) found that 40 percent of the 1974 vocational agriculture graduates in 13 Southern states failed to carry out a supervised occupational experience program during each year that they were enrolled. He concluded that "strategies must be developed and utilized to help more students in the region initiate and thus benefit from SOE programs."

It was the opinion of the researcher that this decline was due, in part, to a lack of support of the supervised occupational experience

program. This lack of support may have existed because not enough research had been conducted to provide evidence which supported the value of the program. Without evaluation, one lacks information as to how successful a program is in accomplishing its goals. Lee (1980) stated that "we must conduct significant research which documents the role of supervised occupational experience in our program." According to Warmbrod and Phipps (1966:55), "programs of supervised experience in agriculture have been justified philosophically and educationally but research efforts supporting these justifications have been meager".

In 1980 a survey was made by the Virginia Tech Agricultural Education staff to determine the research priorities in Virginia agricultural education for that year. The staff members developed a list of seventeen areas in agricultural education for which they believed that research was needed. Eight teacher educators, three agricultural education supervisors, six teacher education advisory council members, and two graduate students were asked to rank these areas in the order of greatest need for research. The results showed that "supervised occupational experience programs" was ranked third by the teacher educators, first by the supervisors, third by the advisory council members, and fourth by the graduate students. In the total overall rankings of the research priorities, "supervised occupational experience programs" was ranked first.

Cheek (1979) concluded from a Southern Region survey of teacher educators and state directors that more emphasis on the supervised

occupational experience program was needed. Referring to the supervised occupational experience program, Cheek summarized the problem when he stated:

It is not an optional accessory to be considered, but rather an integral part of the curriculum. Not only must we believe this, but we must also convince those with whom we work - prospective teachers, incumbent teachers, state education agency personnel, local school officials, and others - that SOEP is vital.

Supervised occupational experience programs in vocational agriculture give students the opportunities for learning through experiences in real-life activities. Through engaging in such programs students have the opportunities to apply the knowledge and skills they learn in the classroom. The programs are intended to provide students with the skills, proper work habits, and positive attitudes necessary to succeed in occupations.

According to such national leaders as Phipps, Hammonds, and Binkley, one of the major outcomes of supervised occupational experience programs should be the establishment in an occupation. Phipps (1972:187) asserts that a "comprehensive occupational experience may and should lead toward progressive establishment in farming or other occupations requiring knowledge and skill in agriculture." Binkley and Hammonds (1970:295) stressed that students' farming programs should help them become established in farming if they want to farm. If students do not want to farm, Binkley and Hammonds suggested that students experience programs in vocational agriculture should help them get started in an off-farm agricultural occupation (1970:51).

Areas in the overall vocational education delivery system for which follow-up studies can provide decision-making data should include the curriculum relevancy as assessed by former students (Gilli, 1975). Richardson and McFadden (1975) stressed that although follow-up studies should be concerned with more than just the student oriented impacts, the perceptions or opinions of former students of the vocational training they received can provide useful information for the evaluation of the high school curriculum.

In essence, supervised occupational experience programs, by providing students with these skills, work habits and attitudes, are intended to help vocational agriculture students become established in and advance in occupations upon graduation. There is a lack of evidence to support the contentions that supervised occupational experience programs are helping graduates become established in occupations.

PURPOSE OF THE STUDY

The primary purpose of this study was to provide information to be used to further document the role of the supervised occupational experience program in vocational agriculture education. Vocational agriculture teachers, supervisors, and teacher educators were expected to use the findings of this study to further provide justification for the continuance and upgrading of the supervised occupational experience program, specifically supervised farming programs.

In addition, findings of this study were also expected to be used by vocational agriculture teachers as a motivational tool in their

efforts to secure more student participation in the program. Teacher educators and state supervisors, on the other hand, may have been provided more information to use in their efforts to secure more teacher participation in the supervised occupational experience program.

PROBLEM

The problem addressed in this study was the decline in the use of supervised occupational experience programs in vocational agriculture. More evidence of the value of supervised occupational experience programs, particularly in establishment in an occupation over a period of time was needed. Also, teachers and others appeared to be losing their belief in the value of supervised occupational experience programs.

Specific objectives of the study were to determine the relationship of the quantity in a high school agricultural supervised farming program to:

1. Present employment status,
2. Present job,
3. First job,
4. Job stability,
5. Yearly income,
6. Years of education, and
7. Perceptions of the supervised occupational experience programs.

RESEARCH QUESTIONS

The following research questions were answered in the study.

1. Is there a relationship between the employment status of the former students and their Farming Program Scores?
2. Is there a relationship between the present job of the former students and their Farming Program Scores?
3. Is there a relationship between the first job of the former students and their Farming Program Scores?
4. Is there a relationship between the number of jobs held by the former students and their Farming Program Scores?
5. Is there a relationship between the yearly income of the former students and their Farming Program Scores?
6. Is there a relationship between the years of education of the former students and their Farming Program Scores?
7. Is there a relationship between the perceptions of the supervised occupational experience program held by the former students and their Farming Program Scores?

DEFINITION OF TERMS

The following definitions were used in the study.

Agriculturally Employed - the extent to which respondents indicated the use of knowledge and skills learned in agriculture in performing their duties.

Agriculturally Related Occupation - occupations requiring the use of knowledge and skills taught in the vocational agriculture curriculum.

Employment Status - whether a person is employed full time, part time, or unemployed. This will be determined by the number of hours per week a person works.

Farming Program Score - a numerical value derived from several factors which indicate the quantity in supervised farming programs.

First Job - the first job obtained after graduation from high school.

Improvement Project - an undertaking involving a series of related activities designed to improve the efficiency of a farm, the appearance or real estate value of the farm, or the comfort and convenience of the farm for the family.

Job Stability - the number of jobs held since high school graduation.

Perceptions - the process of formulating judgments based on present and past experiences.

Supervised Farming Program - the total of all production projects and farm work experience conducted by the student.

Supervised Occupational Experience Programs (SOEP) - all practical agricultural activities of educational value conducted by pupils outside of class for which systematic instruction and supervision are provided by the agriculture teachers, employers, or others.

Supplementary Project - a farm job undertaken for experience or for the development of a skill, and it is in addition to the practices in the production or improvement projects of pupils.

Yearly Income - the total number of dollars earned in 1981.

Years of Education - the number of years of education completed beyond high school.

ASSUMPTIONS

An assumption in the study was that the Farming Program Scores derived by McMillion and Auville (1976) are true measures of the quantity in a supervised farming program.

LIMITATIONS OF THE STUDY

A limitation of the study was that since the population was limited to the students studied in 1976 by McMillion and Auville, the results may be difficult to generalize beyond that population.

SUMMARY

Chapter I served to set the framework for the investigation by introducing the problem, documenting the need for the study, stating the problem and the purpose, and presenting the research questions. Need for the study was shown through Congressional mandates in the Educational Amendments of 1976, statements made by vocational education leaders, and through the annual reports on agricultural education in Virginia. The percentage of students having supervised farming

programs is steadily decreasing. More research appeared to be needed to document the role of the supervised occupational experience program in vocational agricultural education and its relationship to establishment in occupations.

Chapter 2

REVIEW OF LITERATURE

INTRODUCTION

In the review of literature pertinent information related to the purposes and procedures of this study were cited. The study was concerned with the relationship of high school supervised occupational experience programs to establishment in occupations. This chapter was divided into the following sections:

1. Learning by doing
2. The transition from home projects to supervised occupational experience programs
3. Objectives of supervised occupational experience programs
4. Related research
5. Data base study
6. Definition and general principles of perception
7. Follow-up procedure

LEARNING BY DOING

Learning through experience has long been accepted in education. Rousseau believed that "youngsters should learn directly from experience" (Meyer 1969:8). In the same context Froebel maintained that "to learn a thing in life and through doing is much more developing, cultivating, and strengthening than to learn it through the

verbal communication of ideas" (Meyer 1969:27). Along these same lines Solomon asserted that through training of the hand one would acquire some specific skill which would be useful later in life (Meyer 1969:30).

Dewey was among the first of the notable educators to apply this principle to vocational education when he stated (Dewey, 1917:362):

The only adequate training for occupations is training through occupations. The principle . . . that the educative process is its own end, and that the only sufficient preparation for later responsibilities comes by making the most immediately present life applies in full force to the vocational phases of education.

Dewey further stressed that all early preparation for vocations be indirect rather than direct and that pupils should engage in those active occupations which are indicated by the needs and interests at that time (Dewey, 1917:363). In connection with this Kilpatrick (1952:227) wrote, "in order for anything to be thus genuinely learned, that thing must be first lived; that is, it must enter functionally, in its own true character into an actual life situation."

Early vocational educators, in order to make training for occupations more efficient, also turned to the philosophy of learning by doing. Snedden called for "that kind of training which brings the worker up to the door of actual practice but not necessarily that which fits for specific occupations in all cases" (Drost, 1967:51). In this vein Prosser (Prosser and Quigley, 1949:198) expressed that "vocational education will be only as efficient in proportion as the environment in which the learner is trained is a replica of the environment in which he must subsequently work." Prosser subsequently became instrumental in including occupational experience in the vocational education curriculum.

Prosser and Allen (1925:195) stated that "effective vocational training can only be given where training jobs are carried on in the same way with the same operations, the same tools, and the same machines as in the occupation itself." Prosser and Allen (1925:211), from their eight general theories of vocational education, accumulated 17 characteristics for inclusion in an "efficient plan for vocational education." Some of these characteristics are:

1. The training environment is the working environment itself or a replica of the working environment.
2. Training is given on actual jobs and not in exercises or pseudo jobs.
3. The trainee is trained in the manipulative habits and thinking habits required in the occupation itself.

THE TRANSITION FROM HOME PROJECTS
TO SUPERVISED
OCCUPATIONAL EXPERIENCED PROGRAMS

The term "project" found its way into education very early. According to Meyer (1969:73-74) "project" was employed in the field of manual training as early as 1900 to refer to "any practical problem which involved the physical making of a project." Early agricultural educators, through the realization of the need to make the training in vocational agriculture more efficient, soon brought the term "project" into the domain of agriculture.

Development of the Home Project

Stimson (1919:32) wrote that:

In vocational agricultural education, it is coming to be accepted that the training must be such as to develop both skill and managerial ability. The competent farmer must be not only expert in the varied technique of his calling, but also a sound and progressive business manager.

The problem of providing students an education consisting of actual participation, both as manager and as worker in productive farming, simultaneously with classroom instruction was posed by Stimson (1919:35).

Schmidt (1926:28-29) sought a solution to this problem when he suggested that all subject matter that did not contribute to the aim of vocational agriculture must be eliminated. There are some specific points that must be remembered in this connection. Some of these points are (Schmidt, 1926:29-30) as follows:

1. Jobs - that is, farming activities - of the specific farming occupation for which one is being trained should become the teaching and training jobs.
2. Effective training for any occupation calls for directed participation of the learner in that occupation.
3. The training environment should be as near like the occupational environment as possible.
4. The training content must result in the acquiring of of the habits and attitudes, the skills and knowledge, the appreciations and ideals essential to success in a farming occupation.
5. The learner must be able to use and apply what is being taught.
6. Since farm jobs are natural and basic units of work in farming, they make the best lesson.

7. Special emphasis should always be put upon the specific need of the boys in the class, because in the last analysis we teach boys and not subject matter.

When Stimson was appointed director of the first vocational agriculture school in Massachusetts, the Smith School in Northampton, he developed a plan of teaching agriculture which would be efficient at a school which had neither land nor livestock. There was to be no dormitory and all school owned livestock were sold. The home farms of students living at home, and farms on which other students were found employment in the vicinity of the school, were utilized for productive work by the students admitted to the school (Stimson, 1919:36).

The plan of the Smith Agricultural School was published in 1908 describing the procedures that the students and faculty were to follow. "Thus began what has been known, since the report of the Massachusetts Board of Education on Agricultural Education published in 1911, . . . , as the Home-Project plan" (Stimson, 1919:37-38). Stimson (1919:42-45) stated that:

. . . a farming project, . . . , is a thing to be done on a farm, which, preparing to do it and carrying it out to a successful result, involves a thoroughgoing educational process.

A complete definition of a "project" as here used has three elements of something to be done: a., on a farm, b., under specific conditions and for a specific valuable result, and c., requiring a thoroughgoing education.

The Home Project of a student, under Stimson's plan, consisted of improvement projects, trial projects, and productive projects. Students had to keep records on their projects and the instructors provided supervision and related instruction (Stimson, 1919).

Other states adopted Stimson's plan very rapidly. According to True (1969:348) Louisiana began practicing the "Home-Project" plan in 1908 and Maryland in 1909 (1969:353). New York published a definite plan for home projects in 1913 which stated that "no credit is to be given for any subject in agriculture until a satisfactory project for that year has been carried out by the pupil seeking such credit" (True 1969:349). Under the New York plan a written report summing up the project had to be submitted to the teacher. The teacher had to supervise the home projects as part of his summer work (True, 1969).

From Directed Practice to Supervised
Occupational Experience Programs

Those states mentioned in the previous section paved the way for inclusion of "directed practice" in the Smith-Hughes Act, the first legislation that provided Federal funds for vocational agriculture. The Act (U.S. Congress, 1917:) stated:

That in order to receive the benefits of such appropriation ... such schools shall provide for directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year.

Moore (1979) wrote that students learned much about agriculture through the projects they carried on their home farms. Students were required to have production projects, improvement projects and perform supplementary farm practices. Students kept records and were provided on-the-farm supervision of projects. The term "supervised occupational experience program (SOEP)" was often used instead of the term "project."

Due to rapid improvements in agriculture, it was recognized that the scope of vocational agriculture needed to be broadened to include training for non-farm occupations. The Vocational Educational Act of 1963 (U.S. Congress, 1963) broadened the scope of vocational agriculture to include such training. The Act (U.S. Congress, 1963:410-411) reads:

Any amounts allotted (or appropriated) under such titles, Act, or Acts for agriculture may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupation involves work of the farm or of the farm home; and such education may be provided without directed or supervised practice on the farm.

This Act broadend the supervised occupational experience program to include part-time employment off-farm and cooperative training in vocational agriculture (Nelson and Stitt, 1978).

OBJECTIVES OF SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAMS

Leaders in agricultural education have written much in the past in support of the supervised occupational experience program. Much of their support centers around the assumption that supervised occupational experience programs aid students in becoming established in occupations. Binkley and Hammonds (1970:48) suggested that occupational experiences enable students "to follow an occupation, vocation." Phipps and Martin stressed similar views. Phipps (1972:18) stated that supervised occupational experience programs:

1. provide an avenue to satisfactory, progressive establishment in farming, or other occupations requiring knowledge and skill in agriculture, and

2. provide the opportunity to grow into farming or other occupations requiring knowledge or skill in agriculture.

Martin (1979) stated that supervised occupational experience programs help students "make a beginning in farming" and "enhances satisfactory performance in agricultural occupations in addition to farming."

Deyoe (1953) and Clouse (1981) wrote specifically of the purposes of farming programs. Deyoe (1953:15) stated that "farming programs aid in progressive establishment in farming." Clouse (1981:4) stated that "originally supervised occupational experiences in production agriculture served as a start in farming which grew to such an extent in many instances that establishment in farming became a reality after high school graduation."

Other Objectives

Although cited as being one of the major objectives of the supervised occupational experience program, leading to the establishment in occupations is not the only objective of supervised occupational experiences in vocational agriculture. Binkley and Hammonds (1970), Phipps (1972), Martin (1979), Deyoe (1953) and Clouse (1981) all listed numerous other objectives of the supervised occupational experience program. These objectives are:

1. To provide an opportunity for the development of the abilities needed for proficiency in farming (Phipps, 1972:187; Deyoe, 1953:15).
2. To provide an opportunity to earn, save, and use money (Phipps, 1972:187; Hammonds and Binkley, 1970:47; Deyoe 1953:15; Clouse, 1981).

3. To provide a desirable type of motivation and develop student interest in agriculture (Phipps, 1972:187; Deyoe, 1953:15).

4. To develop student originality, pride of ownership, initiative, self-confidence, and managerial ability (Phipps, 1972:187; Hammonds and Binkley, 1970:47; Martin, 1979:154).

5. To provide opportunities for contributing to desirable family living (Phipps 1972:187; Hammonds and Binkley, 1970:47).

6. To develop desirable habits, knowledge, understandings, appreciations, ideals, abilities, and attitudes (Phipps, 1972:187; Clouse, 1981).

7. To develop abilities in making sound decisions, making plans, making budgets, problem solving, keeping records, and putting plans into action (Phipps, 1972:187; Clouse, 1981).

8. To provide opportunities for home, and home farm improvements (Phipps, 1972:187; Deyoe, 1953:15).

9. To develop desirable relationships with parents and employers (Phipps, 1972:187; Deyoe, 1953:15).

10. To develop worthwhile attributes for the school, and community (Phipps, 1972:187; Deyoe, 1953:15; Clouse, 1981).

11. To provide occupational exploration (Deyoe, 1953:15; Clouse, 1981).

12. To develop skills and knowledge, needed for successful employment (Clouse, 1981).

13. To help students get ahead so they can be on their own (Hammonds and Binkley, 1970:47).

14. To learn how to earn more (Hammonds and Binkley, 1970:47).

15. To develop a sense of personal worth (Hammonds and Binkley, 1970:47; Clouse, 1981).

Other vocational agricultural educators have indicated similar beliefs. Burdine (1978) stated that "experience programs provide the

student with an opportunity to apply, to participate, and to observe the application of principles and practices to be learned." He further stressed that the experiences students receive "must be related and contribute to their chosen occupational objective." Woodard (1977) suggested that experience programs make it possible to provide skills necessary for students to perform and succeed on the job. McCully (1978) believed that occupational experience programs develop occupational competency.

RELATED RESEARCH

A review of the research revealed that although no studies were found that utilized a composite work experience score in relating high school work experience to establishment in occupations, there have been studies that related individual components of school work experience to establishment in occupations.

Follow-Up Studies Concerning Work Experience in Vocational Agriculture

The establishment in occupations of former vocational agriculture students is believed to be influenced by the supervised occupational experience programs they participate in while in high school. Follow-up studies indicate that such a relationship does exist.

Berkey, Kelly and Brown (1969) conducted a follow-up survey of the 1968 graduates of New York State schools who had completed two years of courses in the same specialized agricultural area. The study was

undertaken to provide a basis for the evaluation of secondary occupational education programs in agriculture in New York State. The researchers concluded from the study that:

Farm production and management graduates are more likely to enter the area for which they were trained (i.e. farming) than graduates of the other specialized areas. This may be due to actual farm work experience leading to a more mature vocational choice, equity acquired in farming leading to opportunity for self-employment, and/or opportunity for employment on the family farm (Berkey, Kelly and Brown, 1969:70).

Over a five-year period 4,631 vocational agriculture graduates from 127 Oklahoma schools were studied by Edington and Hill (1964) to determine the extent to which they were farming or employed in agribusiness. They found that the higher the "Future Farmers of America" degree achieved, the greater chance of the graduate entering farming, entering a post-secondary educational institution, and being employed. Tullock (1972) found that the achievement of Future Farmers of America degrees is positively related to the number of projects completed and the income obtained from projects.

In examining the occupational status of former Agricultural Occupational Employment Experience students in Iowa Falls, Iowa, Kruckenberg and Williams (1980:14) found that 60 percent of the former students were employed in agricultural occupations. An additional 30 percent were continuing their education beyond high school. In a more detailed study, Travis included hours of work experience as a variable in 1970 when he examined information collected from 72 young men who represented 15 selected Pennsylvania public schools that had an agricultural mechanics or an agricultural business occupational program

with released school hours. The purpose of the study was to determine "how graduates generally fared occupationally after their in-school training programs" (Travis, 1970:2). All of the respondents had completed an occupational experience program.

The major findings of the study were:

1. a total of 42 respondents either were working or had worked in a related agricultural occupation for which trained,
2. those who held training related jobs had more total hours of work experience while in school, and
3. almost 40 percent of the respondents had obtained some post high school training.

Cushman, Hill and Miller (1968) conducted an experiment in the attempt to evaluate the effectiveness of cooperative work experience in vocational agriculture and to determine the effect of the extent of work experience on educational and occupational criteria. The experimental group, those who participated in cooperative work experience, included 35 students in agricultural mechanics and 68 students in ornamental horticulture from 16 high schools located in seven states. Students from 10 high schools enrolled in similar programs without cooperative work experience were used as a comparison group. The experiment was conducted through the senior year of these students.

A critical ratio test at the .05 level indicated that a significantly higher number of the students having cooperative work experience were employed in related jobs before graduation. The number of students employed full time in related occupations six months

following graduation was also significantly higher in the cooperative work experience group at the .05 level.

Through a multiple regression analysis by Quesada and Seaver (1972), a significant, positive correlation was found between work experience and income level at the .05 level. The study was undertaken to assess the practical implications of high school vocational agriculture education in Connecticut.

Similar results were found by Tullock (1972) in a study that investigated relationships between different measures of work experience and occupational attainment. The measures of work experience used by Tullock were similar to those used by McMillion and Auville (1976) in computing Farming Program Scores for students conducting supervised farming programs in vocational agriculture.

"The major purpose of the study was to develop and test a model for collecting and analyzing information about former students of high school agriculture programs" (Tullock, 1972:45). The investigator tested for relationships between present occupational attainment as measured by socio-economic status, net income, and job satisfaction and 20 independent variables. Some of the independent variables were the number of projects completed, net income from projects, whether or not students had livestock projects, agricultural production work experience, and work experience. The sample included 254 former agriculture students from 15 Pennsylvania schools.

Tullock ran multiple regression equations, one for each of the three dependent variables, using all 20 independent variables. Each

independent variable with a student t value significance of better than the .10 level was reported. Multiple stepwise regression was continued until only variables at the .10 level remained.

The major findings of the study were:

1. there was a significant, negative correlation between income from projects and socioeconomic status,
2. income from projects positively correlated at the .01 level with present income,
3. agricultural production work experience had a negative relationship to job satisfaction,
4. work experience income had a positive relationship to job satisfaction,
5. students who had participated in work experience programs had significantly higher incomes than students who had not participated in work experience programs, and
6. socio-economic status of first job was correlated at the .01 level with income from projects.

Tullock (1972:65) concluded that "since the students with the highest project income have had the best start in farming, they are more likely to end up in an agricultural occupation."

Follow-Up Studies Concerning Work Experience in Other Vocational Areas

The follow-up studies conducted in other vocational areas concerning work experience and occupational status have been much like the studies conducted in vocational agriculture.

Haines and Ozzello (1966) followed up graduates of cooperative programs in Michigan 10 months after graduation to find out how they had fared in the labor market. The population in the study was composed of 2,957 trainees from 111 schools in Michigan who were enrolled in cooperative training programs at the time of graduation. They found that over 78 percent of the students were employed by the end of summer and 95.4 percent of the 78 percent employed were in their fields of training. They also found that 37 percent were in fields of studies related to their high school cooperative training.

In a similar study, Tuttle (1965) interviewed graduates of trade and industrial programs in Des Moines, Iowa, in order to appraise the effectiveness of cooperative training in relation to post high school training. Tuttle interviewed 135 graduates and found that 62 percent of the graduates were working at, or in areas related to their high school training.

In 1973 a follow-up study of students who completed or dropped out of work experience programs in vocational education during the years from 1965 through 1969 in New York Nassau County high schools was conducted. The purpose of the study was to determine the extent to which the jobs these students were employed in related to their work experience programs. The results of the study showed that 49 percent of the former work experience students were employed in related occupations and that 55 percent continued their education beyond high school. Students who went to work immediately after graduation were employed to a greater extent in related occupations.

Data were gathered about activities and perceptions of Oregon Cooperative work experience students and non-cooperative work experience students in vocational education programs in 1977, one year after graduation. One half of the 2,754 were former cooperative work experience students.

The major findings of this study were:

1. respondents who had been involved in work experience were more frequently employed full-time than those without work experience,
2. a significantly higher percentage of respondents with work experience were working in an occupation related to their high school program, and
3. the average monthly salaries of respondents with work experience were slightly higher than those of respondents without cooperative work experience.

Many of the same conclusions were drawn by Kingston in a 1970 study conducted to determine the present status of cooperative office education programs in New Jersey and to evaluate the effectiveness of cooperative office education. A comparison was made between cooperative office education students and office education students who did not participate in a cooperative program. All of the participants in the study graduated from New Jersey public schools in 1969. He found that:

1. cooperative office education graduates found jobs earlier,
2. four months after graduation the cooperative office education graduates held higher rank,

3. five months after graduation the cooperative office education graduates had significantly higher salaries, and

4. cooperative work experience had no effect on job stability or the number of job changes made.

Focusing on graduates of cooperative vocational programs at the high school level in Massachusetts, Herrnstadt (1979) compared the labor market experiences of former students who completed cooperative vocational, regular vocational, work study, and general academic programs. The labor market experiences of 427 students were compared six years after graduation from high school. He found that the success of graduates from cooperative vocational programs were not significantly greater than those of graduates from other programs in terms of wages, employment experiences, and unemployment experiences. He concluded that irrespective of the high school program, the amount of work experience during the high school years was a significant factor leading to success in the transition from school to the labor market.

Studies which focused on the relationship between work experience and initial job were conducted by Hlebichuck and Brown. Hlebichuck (1971) examined the relationship between secondary cooperative distributive education students and initial job. He found a positive, significant relationship between the occupational area of the student's cooperative work experience and initial job in a distributive occupation. Brown (1976) also found a significant relationship between work experience and choice of first job in a study that compared

Massachusetts students who graduated from institutions with cooperative programs to students who graduated from institutions without cooperative programs. In exploring the role of cooperative education in the career development of young adults, Brown followed up 1965, 1970, and 1974 graduates.

Righthand (1977) collected initial and current employment information from 1,637 graduates in an assessment of the distributive education program in Connecticut. The former students graduated from distributive education programs in 1965, 1968, and 1971. No significant relationship between the year of graduation and employment in related occupations was found. He did find, however, that those graduates who were employed in distributive occupations had a slightly higher salary than those employed in non-distributive occupations.

Other Studies

The following studies provide additional support for the argument that high school work experience programs contribute to the establishment in occupations of former students.

Judge study. The study was undertaken to determine relationships between five selected measures of work experiences engaged in by Michigan high school students of vocational agriculture and their relation to occupational and educational plans. The five selected measures of work experience were 1) hours of farm work experience, 2) hours of farm work experience with owned projects, 3) composite farm work experience score, 4) hours of off-farm work experience, and 5) total hours of work experience.

Judge (1963) found positive relationships between the majority of the five measures of work experience used and 1) choice between agricultural and non-agricultural occupations, 2) choice between farming and non-farm agricultural occupations, 3) certainty of occupational choice, and 4) occupational level of aspiration.

Increased amounts of farm work experience and decreased amounts of off-farm work experience were related to choice of agricultural in preference to non-agricultural occupations and choice of farming in preference to non-farm agricultural occupations. A higher level of occupational aspiration as measured by the North-Hatt scale was associated with larger amounts of farm work experience. None of the measures of work experience used were significantly related to choice between non-agricultural and non-farm agricultural occupations.

Judge found no significant relationships between any of the five measures of work experience and post high school educational plans and aspirations. A significant, positive relationship was found between farm work experience with owned projects and choice of agricultural occupations.

Yen and Healy Study. Seventy-two junior college students in Los Angeles were tested on two scales of career development. Fifty-three of the students had participated in work experience while the other 19 had not. The two scales of career development were the New Mexico Job Application Procedures Test and the New Mexico Career Development Test. To test whether persons with work experience scored higher on the

scales, data were analyzed by a one-way analysis of variance and the hierarchical method of multiple regression.

Junior college students with work experience scored significantly higher than students without work experience on knowledge of job seeking and work habits and customs. When demographic variables were included in the regression with work experience, only work experience accounted for significant differences at the .05 level in the scores (Yen and Healy, 1977:177).

Crawford study. The purpose of the study was to ascertain the factors that influenced the establishment of young farm operators in Iowa. The sample in the study included 307 young farmers 18 to 30 years old from 20 randomly selected counties.

Crawford (1969) found that 60 percent of the young farmers owned some type of livestock prior to farming. Young farmers who had been enrolled in vocational agriculture for four years derived the most benefit from their crops and livestock projects. He concluded that supervised occupational experience programs provide the young farmer with valuable experience. Crawford also found that 88.7 percent of the young farmers had been enrolled in vocational agriculture.

Perceptions by Former Students of Their High School Work Experience Programs

A review of the literature revealed that many of the follow-up studies that had been conducted concerning high school work experience programs also gathered the perceptions, opinions, or attitudes held by former students of or toward the work experiences in which they

participated. All of the studies reported that the former students felt that their high school work experience programs were beneficial to them in their present occupations.

Kruckenberg and Williams (1980) found that 100 percent of the former Agricultural Occupational Employment students they followed up in Iowa had positive attitudes toward their work experiences. Likewise, the graduates followed up by Berkey, Kelly, and Brown (1969) indicated a very high degree of satisfaction with the training they received in their agricultural work experience programs.

Travis (1970) reported that over 32 percent of the respondents in a follow-up of vocational agriculture graduates in Pennsylvania said that their occupational experience programs had a direct effect upon their acquiring further education or entrance into an occupation related to the one for which they were trained. All of the respondents felt that their occupational experience programs were of "above average" to "excellent" value to them in their occupations when measured on a scale of 1 to 4 with "4" being excellent and "1" being poor. Travis (1970:45) concluded that

. . . 99 percent of the students who participated in an occupational experience program in agriculture would be willing to do the same thing again and would recommend this type of training program to others.

In comparing New Jersey cooperative office education graduates to office education graduates without work experience, Kingston (1970) found that the cooperative office education graduates were more satisfied with their high school training. Righthand (1977) reported

that 93.7 percent of the distributive education graduates in Connecticut rated their work experience as being excellent and 85.1 percent said that they would enroll again. The findings from the 1973 follow-up study of students who completed or dropped out of work experience programs during the years from 1965 through 1969 in Nassau County, New York, also indicated that, in general, students had favorable opinions of their high school work experiences.

DATA BASE STUDY

The most closely related study to the present one is that of Martin McMillion and Martin Auville (1976) in which the Farming Program Scores were established for the persons being followed up in the present study. The same Farming Program Score that was a dependent variable in that study is an independent variable in the present study. Because that study is so vital and closely related to this one, a rather detailed report follows.

Martin McMillion and Martin Auville conducted the study to determine the factors related to the success of supervised farming programs of production agriculture students in Virginia and to identify those factors which contribute to significant variability in Farming Program Scores.

The population for the study consisted of the Virginia schools in the 1975-76 school year whose departments of vocational agriculture offered Agricultural Production. A stratified random sampling procedure was used to select schools for the study. Twenty-four

schools were selected, four from each of the six supervisory areas in Virginia. Only juniors or seniors who were students of their agricultural production teacher for the two previous years of instruction were included in the study. A total of 24 teachers and 184 students constituted the sample.

To evaluate the supervised farming programs, the value of land, buildings and equipment, labor income, and Productive Man Work Day (PMWD) units were considered. Productive Man Work Day units evaluate all agricultural enterprises according to the number of nine-hour work days required to care for each enterprise. The PMWD increase from 1974 to 1975 was considered along with the PMWD value of student's 1975 supervised farming program. Points were assigned according to the following specifications:

Value of land, buildings and equipment	1 point/\$100 investment
Labor income	1 point/\$100 income
PMWD 1975	1 point/5 PMWD units
Increase in PMWD's from 1974 to 1975	1 point/5 PMWD units

A grand total was calculated for each student to produce the Farming Program Score, the dependent variable in the study. Face validity of the scoring procedure was established by the agricultural education faculty and graduate students at Virginia Polytechnic Institute and State University.

On the basis of other studies and personal experience of the investigators, it was believed that several factors were related to the success of student farming programs. These factors were classified

into three groups: teacher factors, school situational factors, and student opportunity factors. The independent variables which were tested for relationship to Farming Program Scores are listed below.

1. The teacher variables were:

- X₁ -- Teacher age
- X₂ -- Vocational agriculture training in high school
- X₃ -- Nearness to original home location
- X₄ -- Farm experience after age twelve
- X₅ -- Professional degree held in agricultural education
- X₆ -- Major in other than agricultural education
- X₇ -- Total years of agricultural teaching experience
- X₈ -- Years of teaching experience in present department
- X₉ -- Extent to which teacher invited the local school administration to FFA and departmental activities
- X₁₀-- Extent to which teacher informed school administration of FFA and departmental activities
- X₁₁-- Hours of adult instruction by teacher
- X₁₂-- Schools having FFA alumni affiliates
- X₁₃-- Schools having advisory councils
- X₁₄-- Teachers having part-time jobs
- X₁₅-- Class time used for supervised farming instruction
- X₁₆-- Parent orientation to supervised farming programs
- X₁₇-- Assist with fairs and livestock shows
- X₁₈-- Amount of time spent on supervisory visits
- X₁₉-- Percent of student's grade dependent upon supervised farming program

X₂₀-- Average number of supervisory visits per student

2. The school situational variables were:

X₂₁-- Cooperativeness of school administration

X₂₂-- Number of agriculture teachers in present department

X₂₃-- Number of in-school classes taught

X₂₄-- Number of different class preparations

X₂₅-- Average number of students per class

X₂₆-- Senior high school enrollment

X₂₇-- Condition of school facilities (agriculture)

X₂₈-- Teachers having FFA advisory responsibility

X₂₉-- Teachers having young farmer responsibility

X₃₀-- Teachers having community cannery responsibility

X₃₁-- Teachers having adult instruction responsibility

X₃₂-- Money allotment for agriculture department

X₃₃-- Number of non-production options taught by teacher

X₃₄-- Number of non-academic school duties performed by
teacher

X₃₅-- Miles teacher lives from school

X₃₆-- Distance to students' homes

X₃₇-- Guidance counselor's cooperation with department

X₃₈-- Percent of students living in a rural area

X₃₉-- School having animal chains

X₄₀-- Schools having farm plots

X₄₁-- Schools having forestry plots

X₄₂-- School having green houses

X₄₃-- Schools having other facilities for supervised farming instruction

3. The student opportunity variables were:

X₄₄-- Student's area of residency

X₄₅-- Size of student's home farm (acres)

X₄₆-- Percent of family's total income obtained from home farm

X₄₇-- Percent of farm's operating capital obtained from sources other than home farm

X₄₈-- Parent or guardian participation in FFA departmental activities

X₄₉-- Parent or guardian having vocational agriculture training in high school

To determine which independent variables most significantly influenced the supervised farming programs of students, a Stepwise Regression Analysis was used.

Four graduate research assistants and McMillion and Auville interviewed the teachers and students and data were recorded on interview schedules. The information was gathered from four sources: 1) teacher interviews, 2) student interviews, 3) Form A.G. 8 (Final Report Form), and 4) student record books (Virginia Plans and Records).

Correlates of Farming Program Scores Found in the Study

Student Opportunity Variables. The Student Opportunity Index was made up of factors having to do with the size of the student's home farm and the cooperativeness of his parents or guardians. Conclusions

concerning the relationship of student opportunity variables to Farming Program Scores follow. The conclusions here were based on an alpha level of .01.

1. As participation of parents or guardians in activities of the agriculture department increases, the Farming Program Scores of the students increased.

2. An increase in the acreage of the home farms of students coincided with an increase in the Farming Program Scores of students in the production agriculture option.

3. As the percent of a student's family's income received from the home farm increased so too did the Farming Program Score of the production agriculture student.

4. An increasing dependence by parents on other than farm sources for operating capital coincided with a decreasing Farming Program Score by their children in the production agriculture option.

Teacher variables. Conclusions concerning the relationship of teacher variables to the Farming Program Scores of production agriculture students in Virginia are listed below.

1. Students of teachers who assisted with fairs and livestock shows had better farming programs as measured in the study than students whose teachers did not assist with fairs and livestock shows.

2. As teachers became older, especially after they moved out of the 30-40 year age category, the Farming Program Scores of their students decreased.

3. Students of teachers who studied vocational agriculture in high school had higher Farming Program Scores than students of teachers who did not study vocational agriculture as high school students.

4. Students of teachers who had parent orientations to supervised farming programs had higher Farming Program Scores than students of teachers who did not conduct parent orientations to supervised farming programs.

5. The Farming Program Scores of students were lower in schools that had advisory councils.

6. As the amount of time the teacher spent in adult instruction increased so too did the Farming Program Scores of their high school production agriculture students.

7. As the extent to which teachers informed the administration about FFA and departmental activities increased, the Farming Program Scores of their students also increased.

8. Students of teachers who had part-time jobs outside of school had lower Farming Program Scores.

Stepwise Regression of Teacher and School Situational Variables

The Stepwise Regression analysis was used to determine which teacher and/or situational variables most accurately predicted students' mean Farming Program Scores. This computation procedure selects the single variable which makes the greatest reduction in error sum of squares. Consequently, the variable entered into the equation

is the one with the greatest partial correlation with the dependent variable, and if added, would have the highest F value.

As shown in Table 1 step 1, the variable selected as the best single predictor of students' Farming Program Scores was "teacher who helped with fairs and livestock shows." This variable produced a multiple R value of .4753 and an F-ratio of 6.419. An analysis of variance test indicated that students of teachers who assisted with fairs and livestock shows had an average Farming Program Score of 16.313 as compared to 9.032 for those whose teachers did not assist with such events. An F-ratio of 18.39 was observed which was insignificant at the .01 level.

The second step of regression analysis indicated that the variable noting teachers having part-time jobs as the best complementary variable in predicting students' Farming Program Scores. With the addition of this variable, the multiple R value increased to .6635 and the F-ratio increased to 8.258. However, an analysis of variance test revealed that no significant difference existed among the Farming Program Scores of students for teachers having part-time jobs. The presence of this variable in the regression is explained by the combined effects and relationships that exist between this variable and the first variable selected. This variable had a negative relationship.

Step number 3 picked the variable indicating the extent to which teachers informed school administration of departmental activities as the next variable to predict students' Farming Program Scores. An increase in the multiple R value to .7484 was noted as well as a new F-ratio of 8.489.

Table 1

Stepwise Regression Analysis of Independent Teacher and Situational
Variables to Predict Supervised Farming Program Scores

Regression Step	Predictor variable selected	Multiple R	F-ratio
1	Teacher who assisted with fairs and livestock shows	.4753	6.419
2	*Teacher having part-time job	.6635	8.258
3	Extent to which teacher informed school administration of FFA and departmental activities	.7484	8.489
4	Teachers' vocational agriculture training in high school	.8330	10.767
5	Nearness to original home location	.8666	10.859
6	Number of non-academic school duties performed by teacher	.8885	10.622

*Denotes negative influence

Teachers having vocational agriculture training in high school was the variable selected in step 4. This variable produced a multiple R value of .8330 and an F-ratio of 10.767. This variable also was significant at the .01 level when submitted to an analysis of variance test.

In step 5, nearness to original home location was selected. The new multiple R produced was .8666 and the F-ratio increased from 10.767 to 10.859.

The variable denoting number of non-academic duties performed by the teacher was chosen in step 6. When added to the previously selected variables, a multiple R value of .8885 and an F-ratio of 10.622 was produced.

All but one variable in the regression analysis were positive predictors of students' Farming Program Scores. The variable indicating teachers having part-time jobs, which was selected in step 2, was a negative predictor.

To increase the Farming Program Scores of production agriculture students in Virginia the following recommendations were given.

1. Teachers and students should become involved in those activities which give recognition to good farming programs such as fairs and livestock shows.
2. Former vocational agriculture students should be recruited into teaching.
3. Teachers should not become involved in part-time employment which will reduce substantially their time and effort to promote good farming programs.

4. Students from farms where parents had also been vocational agriculture students and other students having high opportunity indexes as measured in this study should be attracted into the Production Agriculture Option.

DEFINITION AND GENERAL PRINCIPLES OF PERCEPTION

Since this study is also concerned with the perceptions former students have of the benefits derived from conducting supervised occupational experience programs, it is important to develop a clear understanding of the term "perception" as used in the study. Social psychology will be used as the basis for the definition of perception in this study. According to Lindesmith and Strauss (1968:3), social psychology attempts to explain the behavior of individuals in terms of the social environment. Further, it is concerned with the way individual behavior "reacts upon, shapes, and alters social structures and enters into the functioning of groups." McGrath (1964:1) defined social psychology as "the study of how human behavior is influenced by the presence, behavior, and products of other human beings, individually and collectively, past, present, and future."

Considered in this context, McGrath (1964:46) identified perception as the link between a stimulus and the mental processes of judgment, reasoning, and memory. Perception is translating the stimulus information into a meaningful experience. In this same context Hershey and Lugo (1970:206) defined perception in terms of how human beings attempt to explain how they observe the world around them.

Further, "perception is the process of gathering information by means of the senses." Kalish (1967), Kaluger and Unkovic (1969), Harrison (1972), and Hilgard et al., (1975) defined perception as the process of becoming aware of objects, relations, or qualities by means of the senses. Perception is influenced by set and prior experiences.

Considering the above definitions, perceptions, as used in this study, will be defined as the process of formulating judgments based on present and past experiences. This definition of perception points out the individuality of perception formation. Obviously, several factors have influenced the perceptions that former vocational agriculture students have formulated regarding the benefits derived from participating in supervised occupational experience programs. Although this study will make no attempt to identify and relate specific personal and social factors to the perceptions the former students have, it seems important to have a general understanding of the perception formation process.

According to Kalish (1967:52-53) certain types of perceptions are influenced by both the objective characteristics of the stimuli themselves and by the perceiver's own characteristics, such as needs, experiences, set, and some personality traits. Hershey and Lugo (1970:215) pointed out that no two people perceive events in exactly the same way. Although the same social and physical stimulation is presented, "the perception of it depends on the individual's past experiences, emotions, and motivations on the conscious and unconscious levels."

Lindesmith and Strauss (1968:147) suggested that perceptions are influenced by both the past and the future. Perception is not a single passive act; a person may observe something at one time but not perceive it until engaged in some type of activity. In addition, what is perceived depends on the type of activity. The occupation a person has may affect perceptions of a previous experience.

"Under some conditions people perceive what they want to perceive, not necessarily what is actually present in the stimulus pattern" (McGrath, 1964:47). Furthermore, people perceive what they expect and fail to perceive things that do not fit their expectations.

This literature concerning perceptions reveals the individuality and subjectivity of perceptual formation. It emphasizes that perceptions are influenced by the characteristics, needs, past and present experiences, and personality of the perceiver. The fact that the occupation of a person may affect the perception that person has of some past experience is of particular importance to this study.

FOLLOW-UP PROCEDURE

This study was a follow-up to determine the relationship between high school supervised occupational experience programs and establishment in occupations. Ary and associates (1979:302) stated that follow-up studies are concerned with investigating the subsequent development of subjects after a specified treatment or condition. Gay (1976:127) stated:

A follow-up study is conducted to determine the status of a group of interest after some period of time. . . . follow-up studies are often conducted by educational institutions for the purpose of internal or external evaluation of their instructional programs, or some aspect of it.

Best (1981:104) stated:

The follow-up study investigates individuals who have left an institution after having completed a program, a treatment, or a course of study. The study is concerned with what has happened to them, and what has been the impact upon them of the institution and its program. . . . Studies of this type enable an institution to evaluate various aspects of its program.

Richardson and McFadden (1975) posited that studying the employment patterns of vocational graduates is one way of determining the effectiveness of vocational training. Data of this type may be obtained from a follow-up study of vocational program graduates. Gilli (1975) suggested that the follow-up can be of great value in providing decision making data including the over-all value of the program to former students. Hunt (1975) concluded that the best information that can be provided to a school on its own program strengths and weaknesses is through following up of student success and failures after graduation.

Bratner (1975) stated that follow-up in vocational programs emerged long ago. "The judgments about the effectiveness of education can be made only after the results are observable." Determining how well graduates fare in the world of work is a major purpose of the follow-up. Bratner added that the results obtained from a follow-up that present evidence of program effectiveness can play a "useful role in retaining support for a program."

SUMMARY

A review of the literature revealed that learning by doing was recognized very long ago as being an important principle in all of education. John Dewey was among the first notable educators to apply this principle to vocational education. Prosser, Quigley and Allen were very early vocational educators who stressed the need to use the learning by doing principle in vocational education.

An early vocational educator in agriculture to apply this principle was Rufus Stimson. Stimson realized that in order for the farmer to be competent in producing crops and livestock and in managing his farm, an education consisting of actual participation was needed. He put this type of education into practice when he became the first director of the Smith Agricultural School in Massachusetts. He called it the Home-Project Plan because the enrollees were required to conduct productive projects on their home farms. This type of education soon spread to other states.

The Smith-Hughes Act of 1917 was the first Federal legislation passed requiring that all vocational agriculture students participate in directed or supervised practice. It was soon after this Act that the term "supervised occupational experience program" was often used instead of the term "project" to describe this type of education. In 1963 the Vocational Education Act broadened the scope of the supervised occupational experience program to include off-farm and cooperative training in vocational agriculture.

Phipps; Binkley and Hammonds; Martin; Deyoe; and Clouse all have suggested that one of the main objectives of the supervised occupational experience program is to get students established in an occupation. These vocational agriculture educators also believe that many benefits are gained by students from conducting supervised occupational experience programs that should aid them in their future occupations.

Although no studies were found that utilized a composite work experience score in relating school work experience to establishment in occupations, there were some that used the different components of work experience in determining this relationship. Judge found positive relationships between hours of farm work experience, owned projects, hours of off-farm work experience, total hours of work experience and choice of agricultural occupation, and occupational level of aspirations.

Berkey, Kelly and Brown; Cushman, Hill and Miller; Tuttle; Haines and Ozzelo; Kruckenberg; Williams; and Travis found that students tend to seek employment in fields related to their high school vocational agriculture training. Edington and Hill found that the higher the Future Farmers of America degree achieved, the greater the chance of the graduate entering farming, entering a post-secondary educational institution and being employed. Quesada and Seaver found a significant correlation between work experience in vocational agriculture and income level.

Tullock found significant positive relationships between income from projects and present income, and work experience and present income. He concluded that students with the highest income from projects will more likely end up in agricultural occupations.

In other studies, Brown and Hlebichuck found positive relationships between school work experience and choice of first job. The Oregon study found that respondents who had been involved in work experience while in high school were more frequently employed full time than those without work experience. Kingston found that work experience had no effect on the number of job changes.

Berkey, Kelly and Brown; Kruckenberg; Williams; Travis; the Nassau County study; Righthand; Tuttle; and Kingston found in their studies that students who engaged in high school work experience programs had positive attitudes toward or positive perceptions of their work experience program.

Perceptions according to the literature are influenced by present and past experiences. It was also pointed out that perceptions are focused towards the future. The literature also reveals that no two people perceive events in exactly the same way. Under some conditions people perceive what they want to perceive. Finally, it was suggested that the occupation a person has may affect perceptions of a previous experience.

This chapter also included a summary of the McMillion, Auville study followed by a description of the follow-up procedure.

Chapter 3

RESEARCH DESIGN AND METHODOLOGY

INTRODUCTION

Information used in the development of the study was presented in Chapters 1 and 2. The purpose of this chapter was to describe the population and sample, the design of the study, the instrumentation, the data collection procedure, and the statistical analysis of the data.

Because this study followed the procedures described by Ary and associates; Best; Richardson and McFadden; and Branter, it was a follow-up. This study investigated the association between the supervised occupational experience program and establishment of vocational agriculture graduates in occupations. The independent variable was the supervised occupational experience programs students participated in while attending high school. The dependent variable was the subsequent establishment in occupations of these students after graduation from high school.

POPULATION

The population for this study consisted of those former students of schools who participated in the 1976 study by McMillion and Auville.

The 184 students were enrolled in Virginia schools included in the previous study that offered the Agricultural Production option during the 1975-76 school year. Agricultural Production served over 3,000 students that year and over half conducted a supervised farming program. Only juniors and seniors who were students in agricultural production for the two previous years of instruction were included.

McMillion and Auville used a stratified random sampling procedure in which 24 schools were selected, four from each of the six supervisory areas in Virginia.

INSTRUMENTATION

A two-part questionnaire was developed by the researcher and used to collect the data in the study. Best (1981:168) stated that, "the questionnaire has unique advantages and, properly constructed and administered, it may serve as a most appropriate and useful data gathering device in a research project." The review of literature served as the basis for the items on the questionnaire.

Construction of the Instrument

One section of the questionnaire was used to obtain factual information from the former vocational agriculture students and the other section for the measurement of the former students' perceptions of the supervised occupational experience program.

The fact-gathering portion of the questionnaire was used to collect the following data from each former student:

1. Employment status
2. Present job
3. First job
4. Number of jobs held
5. Yearly income
6. Years of education

The measurement of the perceptions of the former students of the supervised occupational experience program, the second part, was on a Likert-type scale. The Likert or summated rating scale (Krech, et al., 1962) is less laborious than Thurstone scales because it eliminates the need for judges. Reliability of Likert scales is also often higher than the reliability of Thurstone scales.

The advantages of a Likert scale are that it is easy to construct and respondents prefer this type of scale to many others. Response, therefore, is usually good and fast (Oppenheim, 1966).

The Likert scale usually consists of a five-point scale containing: strongly agree (five points); agree (four points); undecided (three points); disagree (two points); and strongly disagree (one point) (Krech, et al., 1962). The respondents in this study indicated their rating by circling the response which more nearly corresponded to their true feelings about each opinion statement. The options were those listed by Krech above.

Independent and Dependent Variables

Information obtained from the former students aided the researcher in determining the relationship between high school supervised occupational experience programs and establishment in occupations.

The independent variable, the Farming Program Score, was determined by McMillion and Auville (1976). The score included the value of land, buildings and equipment, labor income, and Productive Man Work Day (PMWD) units (McMillion and Auville, 1976:22). Productive Man Work Day units evaluate all agricultural enterprises according to the number of nine-hour work days required to care for each enterprise. The increase in Productive Man Work Day units from 1974 to 1975 was considered along with the Productive Man Work Day value of the 1975 supervised farming programs of students. Points were assigned according to the following specifications:

Value of land, buildings and equipment	1 point/\$100 investment
Labor income	1 point/\$100 income
PMWD 1975	1 point/5 PMWD units
Increase in PMWD's from 1974 to 1975	1 point/5 PMWD units

A grand total was calculated for each student to produce the Farming Program Score. An interview schedule was used by McMillion and Auville to collect the data.

The dependent variables in this study were:

1. Present employment status,

2. Present job,
3. First job,
4. Number of jobs held,
5. Yearly income,
6. Years of education, and
7. Perceptions of the supervised occupational experience program.

Measurement of the Dependent Variables

In order to analyze statistically the data collected in the study for possible relationships, some of the dependent variables were quantified and some were indexed for categorization according to the following specifications:

<u>Dependent Variables</u>	<u>Index</u>
1. <u>Employment status</u>	
<u>Full-time</u> - working 30 hours or more per week-----	3
<u>Part-time</u> - working from 10 to 29 hours per week-----	2
Unemployed - working less than 10 hours per week-----	1
2. <u>Present job</u>	
<u>Employed in agriculture</u> - respondent uses the knowledge and skills learned in agriculture <u>most</u> of the time in performing present job duties-----	3
<u>Employed in agriculture related jobs</u> - respondent uses the knowledge and skills learned in agriculture <u>some</u> of the time in performing present job duties-----	2

- Employed in other occupation - respondent seldom uses knowledge and skills learned in agriculture in performing present job duties----- 1
3. First job - (measured the same as present job)
4. Number of jobs held (a whole number)
5. Yearly Income
- | | |
|----------------------------|---|
| greater than \$35,000----- | 7 |
| \$30,001 to \$35,000----- | 6 |
| \$25,001 to \$30,000----- | 5 |
| \$20,001 to \$25,000----- | 4 |
| \$15,001 to \$20,000----- | 3 |
| \$10,001 to \$15,000----- | 2 |
| \$10,000 or less----- | 1 |
6. Years of education - (a whole number)
7. Perceptions - (a summated score)

Validity. Wiersma (1975:171) defined validity as "the extent to which an instrument measures what it is supposed to measure." Nunnally (1978:86-87) stated that:

Validation always requires empirical evidence
The empirical evidence depends mainly on gathering opinions of people regarding the reasonableness of various aspects of developing and employing a measuring instrument.

Nunnally (1978:87) further stated that, ". . . there is no way to prove the validity of an instrument purely by appeal to authority, deduction from a psychological theory, or any type of measuring instrument."

A panel of experts (Appendix A) made up of agricultural teacher educators, agricultural education majors, and graduate students familiar with the vocational agriculture program were used to establish the appropriateness, clarification, and accuracy of the perception section of the instrument through content validity. Directions to the panel of experts and a "table of specifications" were used by the panel in evaluating each statement (Appendices B and C). A summary of the results are in Appendix D.

The panel was instructed first to rate each perception statement as being (1) extremely positive, (2) positive, (3) slightly positive, (4) neutral, (5) slightly negative, (6) negative, or (7) extremely negative. Means were then computed for each statement to determine whether it was positive or negative. This was done so that responses to negative statements could be reversed for statistical analysis. Secondly, panel members were instructed to check the "reject" column if they felt that statements were not appropriate for the instrument. All statements that were checked "reject" by three or more panel members were removed from the instrument. Nunnally (1978:91) stated that content validity depends primarily on the adequacy with which a specified domain of content is sampled.

Reliability. Gay (1976:92) stated that, "reliability is the degree which a measuring instrument consistently measures whatever it measures." Reliability concerns the extent to which measurements are repeatable (Nunnally, 1978:191). Nunnally also stated that a reliable instrument is one that is "stable over a variety of conditions in which

essentially the same results should be obtained." Kerlinger (1973:454) emphasized that reliability improves if the items on the measuring instrument are unambiguous, and the researcher provides clear and standard instructions. Kerlinger (1973:454-455) further emphasized that, "unless one can depend upon the results of the measurement of one's variables, one cannot, with any confidence, determine the relations between the variables."

One way of determining reliability is through the test-retest technique. Best (1981:179) stated, "reliability of questionnaires may be inferred by a second administration of the instrument, comparing the responses with those of the first." The test-retest technique was used to determine the reliability of the part of the instrument designed to obtain the perceptions of the former students of the supervised occupational experience program.

Test-retest, according to Tuckman (1972:137), "has the advantage of requiring only one form of a test but the disadvantage of being influenced by practice and memory." Borg (1981:99) pointed out this same disadvantage. He stated that:

The most critical problem in calculating this form of reliability is to determine the correct delay between the two administrations of the measure. If the retest is administered too quickly after the initial test, students will recall their responses to many of the items, which tend to produce a spuriously high reliability coefficient.

Nunnally (1978:234) suggests that test-retest scores would be more nearly independent if there is a relatively long time between testings. Nunnally suggests that there be several months between testings.

Students were selected from the agricultural education majors at Virginia Tech to establish reliability of the perception part of the instrument. Only those students who were enrolled in high school vocational agriculture programs during their junior and senior years were used.

The instrument was administered to the selected students enrolled in four agricultural education classes soon after the beginning of the winter quarter. A second administration of the instrument to those same students took place 30 days following the first. The two sets of scores were correlated utilizing the Product-Moment Correlation (Pearson r) to produce the reliability coefficient of .65 for the instrument.

DATA COLLECTION

The first step in collecting the data was locating the former vocational agriculture students to be followed up. This was accomplished by first obtaining the 1973-74 and 1974-75 Future Farmers of America membership rosters for the schools which the students attended. The membership rosters were obtained from the Future Farmers of America national headquarters in Alexandria, Virginia.

Separate lists of the students and their addresses while in high school were compiled by school. These lists and self-addressed, stamped envelopes were mailed to the respective teachers of the former students. Included with the list were cover letters from the

investigator (Appendix E) and Dr. Martin B. McMillion (Appendix F), teacher educator in agricultural education at Virginia Tech, explaining the study and encouraging the teachers to complete and return the information. A set of instructions (Appendix G) was also included with each list.

The teachers either verified the listed addresses as being valid or furnished new addresses where students had moved. Also, where possible, the teachers gave the telephone numbers of the former students. In several instances the teachers were not able to locate particular students. In these instances the teachers furnished alternate information such as the name, address, and telephone number of a friend, relative, or place of employment of the former student.

There were five schools in the study for which the names of the former students could not be identified. In these cases the teachers were mailed the data sheets used by McMillion and Auville in 1975. Included also were the 1974-75 Future Farmers of America membership rosters for the respective schools and a set of instructions (Appendix H). The teachers matched the students on the roster with their respective data sheets, wrote the names, addresses, telephone numbers or alternative information on the data sheets and returned them to the investigator.

Once the addresses of the former students were obtained, they were mailed the survey instrument (Appendix I) and a stamped envelope, addressed to the investigator.

When dealing with people there is always a problem getting potential respondents to respond to questions. Kish (1965:535-536) pointed out that a small response from early mailings may be badly biased. Mosteller (1968:118-119) suggests that some ways of increasing the response from mail questionnaires are:

1. Convince the respondent that the study is important.
2. Make the questionnaire attractive.
3. Use rewards.
4. Keep the questions clear and simple.
5. Follow up non-respondents.

In a study concerning questionnaire response, Pucel, et al., (1979) found that returns were increased if official sponsorship by a party respected by the potential respondent was enclosed.

Included with the instrument were cover letters from the investigator (Appendix J) and the teacher (Appendix K) of each former student explaining the purpose of the study and encouraging the former student to complete and return the information. On a slip of paper (Appendix L) stapled to the top of the questionnaire, the former students were told that if they responded to all the information requested they would be eligible to win an AM-FM portable radio. Also, they were told that if they responded in seven days they would be eligible to win a ten dollar Sears gift certificate. A stick of gum was included as a reward. Potential respondents were assured that their replies would be treated confidentially. However, code numbers were assigned to identify the non-respondents and for follow-up purposes.

A period of two weeks was allowed for response before a follow-up procedure was initiated. At that time, a post card reminder (Appendix M) was mailed to each former student who failed to return the questionnaires. If after 12 days no response was received, a second questionnaire, cover letter (Appendix N) and self-addressed, stamped envelope was mailed to those who had not responded. After one week a telephone call was made to each of the former students requesting them to respond. A period of five days was allowed for response after the telephone call.

A ten percent follow-up of the non-respondents was also made.

Tuckman (1978:237) recommended that:

Five to ten percent of the non-respondents should be contacted for all or critical portions of the questionnaire. This additional procedure is necessary to establish that those who have not responded are not systematically different from those who have.

A comparison of the non-respondents to the respondents was made to determine if there were systematic differences.

HYPOTHESES

Data from the questionnaires were transferred to data processing cards and verified for accuracy. The Statistical Package for the Social Sciences (SPSS) (Nie and Associates, 1975) was used in the analysis of the data collected. The analysis procedures were accomplished in accordance with Nie's (1975) SPSS manual. The computer facilities at Virginia Polytechnic Institute and State University were utilized in the analysis of the data.

Baker and Schutz (1972:111) stated:

. . . that to circumvent the problem, a hypothesis that does not state how much higher A is expected to be than B, statisticians prefer working with the "null hypothesis" which states that only a chance difference is expected to occur between the groups. Thus the null hypothesis is simply a statistical proposition which states that there is no relationship between the variables.

Ary and associates (1972) suggest that after examining the literature a tentative proposition suggested as a solution to a problem should be structured. It should be in simple form a statement of the expectations relative to a relationship between variables within the problem. Ary and associates (1972:73-74) elaborate on four purposes of the alternative or research hypothesis. Those purposes are:

1. Hypotheses provide tentative explanations of phenomena and facilitate the extension of our knowledge in an area.
2. Hypotheses provide the investigator with a relational statement that is directly testable in a research study.
3. Hypotheses provide direction to the research.
4. Hypotheses provide a framework for reporting the conclusions of the study.

Research questions numbers one through seven stated in Chapter 1 are restated here in the "null" and "alternative" form. The null and alternative hypotheses were:

H_0 1 The present employment status of the former students is independent of their Farming Program Scores.

H_0 : $O = E$

- H_{A1} The present employment status of the former students is not independent of their Farming Program Scores.
H_A: $O \neq E$
- H₀₂ The present job of the former students is independent of their Farming Program Scores.
H₀: $O = E$
- H_{A2} The present job of the former students is not independent of their Farming Program Scores.
H_A: $O \neq E$
- H₀₃ The first job of the former students is independent of their Farming Program Scores.
H₀: $O = E$
- H_{A3} The first job of the former students is not independent of their Farming Program scores.
H_A: $O \neq E$
- H₀₄ There is no relationship between the number of job changes made by the former students and their Farming Program Scores.
H₀: $p = 0$
- H_{A4} There will be a negative relationship between the number of job changes made by the former students and their Farming Program scores.
H_A: $p < 0$
- H₀₅ The yearly income of the former students is independent of their Farming Program Scores.
H₀: $O = E$
- H_{A5} The yearly income of the former students is not independent of their Farming Program Scores.
H_A: $O \neq E$

H₀₆ There is no relationship between the years of education of the former students and their Farming Program Scores.

$$H_0: p = 0$$

H_{A6} There is a positive relationship between the years of education of the former students and their Farming Program Scores.

$$H_A: p > 0$$

H₀₇ There is no relationship between the perceptions of the supervised occupational experience program held by the former students and their Farming Program scores.

$$H_0: p = 0$$

H_{A7} There is a positive relationship between the perceptions of the supervised occupational experience program held by the former students and their Farming Program Scores.

$$H_A: p > 0$$

STATISTICAL ANALYSIS

To determine which dependent variables were significantly related to the independent variable, Farming Program Score, the chi square and the Product-Moment Correlation (Pearson r) statistical methodologies were used in this study.

Nie and associates (1975:223) defined chi square (χ^2) as follows:

. . . a test of statistical significance. This is done by computing the cell frequencies which would be expected if no relationship is present between the variables given the existing row and column totals (marginals). The expected cell frequencies are then compared to the actual values found in the table.

Nie and associates (1975:280) defined the Product-Moment Correlation (Pearson r) as follows:

. . . the Pearson correlation coefficient r is used to measure the strength of relationship between two interval-level variables.

The null hypothesis numbers 1, 2, 3, and 5 were statistically tested utilizing chi square; null hypothesis numbers 4, 6, and 7 were statistically tested utilizing the Product-Moment Correlation (Pearson r).

SUMMARY

The population selected for this study consisted of the former students who participated in the 1976 study conducted by McMillion and Auville. Only juniors and seniors who were students of the same agricultural production teachers for two years were included. The students were from 24 Virginia schools that offered Agricultural Production in the 1975-76 school year. The schools were randomly selected from six geographic stratifications.

The study was a follow-up designed to gather information on a two-part questionnaire. The first part of the questionnaire was designed to obtain information concerning establishment in an occupation of the former students. The second part was designed to obtain the perceptions of the supervised occupational experience program held by the former students. The independent variable was the high school Farming Program Scores of the former students as determined in a previous study by McMillion and Auville.

The data collected was analyzed using the Statistical Package for the Social Sciences (SPSS) (Nie and associates, 1975) at Virginia Polytechnic Institute and State University. Seven of the eight research questions were restated in the "null" hypothesis form in order to conduct the statistical analysis. Chi square, and the Product-Moment Correlation (Pearson r) were used in the analysis of the data.

Chapter 4

PRESENTATION AND ANALYSIS OF DATA

This study was undertaken to determine the relationship between the supervised occupational experience programs of former vocational agriculture students and their establishment in an occupation. Another purpose of the study was to determine the perceptions of the supervised occupational experience program held by the former students.

A two-part questionnaire developed by the researcher was used in data collection. The alpha reliability coefficient for the sample was .88 on the perception portion of the instrument.

A description of the sample was included in Chapter 4. The findings of the study and the statistical procedures followed are presented in this chapter.

DESCRIPTION OF THE SAMPLE

One hundred and fifty-three (83 percent) of the 185 former vocational agriculture students representing 23 of the 24 schools used by McMillion and Auville were located. Sixty-eight percent of the former students located responded to the questionnaire. The number of former students who responded by school was placed in Table 2. A comparison of the non-respondents to the respondents showed that there were no systematic differences.

Table 2

The Number of Schools Represented in the Study and the
Number and Percentage of Respondents for each School

School	Number of Respondents	Percentage of Respondents
1. Amelia County	2	1.9
2. Bowling Green	5	4.9
3. Broadway	10	9.7
4. Brunswick County	2	1.9
5. Buffalo Gap	8	7.8
6. Carroll County	2	1.9
7. Dan River	6	5.8
8. Dinwiddie County	2	1.9
9. Forest Glen	2	1.9
10. Grayson County	4	3.9
11. Greenville	3	2.9
12. Holston	5	4.9
13. Lee Davis	8	7.8
14. Louisa County	5	4.9
15. Montevideo	7	6.8
16. Nelson County	3	2.9
17. Page County	1	1.0
18. Pulaski County	2	1.9
19. Riner	5	4.9
20. Rustburg	11	10.7
21. Rye Cove	3	2.9
22. Tunstall	5	4.9
23. Windsor	2	1.9
Total	103	100.0

The Farming Program Scores of the former students as determined by McMillion and Auville in a previous study ranged from zero to 67 with a mean of 20.068. The "Farming Program Scores" were used as the independent variable in the study.

OCCUPATIONAL ESTABLISHMENT AND
FARMING PROGRAM SCORE

The following hypotheses pertained to the variables measuring establishment in occupations.

Occupational Status

The majority of the former students were employed full time. Of the 103 respondents, 96 (93.2 percent) were employed full time, three (2.9 percent) were employed part time and four (3.9 percent) were unemployed.

H₀₁ The present employment status of the former students is independent of their Farming Program Scores.

A chi square was not computed for this hypothesis because the frequencies were not large enough to provide the necessary cell sizes. Therefore, the null hypothesis was neither rejected nor accepted.

Present Job

Of the 103 respondents 36.9 percent were employed in agriculture and 10.7 percent were employed in agriculturally related jobs. The

remainder of the respondents, 50 percent, were employed in non-agricultural jobs. A description of jobs and how they were classified was placed in Appendix O.

H₀2 The present job of the former students is independent of their Farming Program Scores.

The categories "employed in agriculture" and "employed in agriculturally related jobs" were combined to form one category because of the small number of former students employed in agriculturally related jobs. This categorization did not pose a clarification problem since in both categories knowledge and skills gained in agriculture classes were being used by the former student in performing his or her job duties.

The Farming Program Scores were divided into three categories. The lower 33 1/3 percent of the scores were categorized as "low," and the middle 33 1/3 percent as "medium," and the upper 33 1/3 percent as "high."

A chi square was computed on the nature of the present job and the Farming Program Score. Results were significant at the .05 probability level (Table 3). The null hypothesis was rejected.

The Gamma coefficient, which expresses the measure of association, between present job and Farming Program Score was .5078. This coefficient indicated that the greater the Farming Program Score of the former student, the more likely he or she was employed in agriculture.

Table 3
Chi Square for the Nature of the Present
Job of the Former Students by Their
Farming Program Scores

Farming Program Score	Number Employed in Agriculture	Number Employed in Other Occupations
High	25	9
Medium	14	21
Low	10	20
Total	49	50

$$\chi^2 = 12.254, df = 2$$

Significant at the .05 probability level

First Job

The first job of 47.6 percent of the former students was in agriculture while the first job of 8.7 percent of the former students were agriculturally related. The other 42.7 percent of the former students obtained first employment outside of agriculture.

H₀₃ The first job of the former students is independent of their Farming Program Scores.

The same procedure used with "present job" in hypothesis 2 was followed in establishing the categories for analysis. "Employed in agriculture" and "employed in agriculturally related jobs" were combined into a single category. Farming Program Scores were categorized as being low, medium and high according to the lower, middle and upper thirds.

A chi square was computed on the nature of the first job and the Farming Program Score of the students. Results were significant at the .05 probability level (Table 4). The null hypothesis was rejected.

The Gamma coefficient (measurement of association) between present job and Farming Program Score was .4201. This figure indicated that the greater the Farming Program Score of the student, the more likely his or her first job was in agriculture.

Number of Jobs Held

More than 74 percent of the former students had changed jobs since graduation. The mean number of jobs held by the respondents was 2.757. Twenty-eight percent of the former students had changed jobs twice

Table 4

Chi Square for the Nature of the First
Job of the Former Students by Their
Farming Program Scores

Farming Program Score	Number Employed in Agriculture	Number Employed in Other Occupations
High	25	10
Medium	21	15
Low	12	19
Total	58	44

$\chi^2 = 7.224$, $df = 2$

Significant at the .05 probability level

since graduation from high school or college. About 25 percent of the respondents were still employed on their first jobs. A summary of the frequencies of jobs held was reported in Table 5.

H₀₄ There is no relationship between the number jobs held by the former students and their Farming Program Scores.

The correlation coefficient between the number of jobs held by the former students and their Farming Program Scores was $r = -.027$. Since this coefficient was not statistically significant at .05 level, the null hypothesis was not rejected.

Yearly Income

Thirty-two of the respondents reported their yearly income as being between 10,001 and 15,000 dollars. Thirty percent had a yearly income between 15,001 and 25,000 dollars. Only 10.7 percent of the former students earned over 25,000 dollars a year.

H₀₅ The yearly income of the former students is independent of their Farming Program Scores.

In order for this hypothesis to be statistically analyzed, the seven categories of income level were collapsed into four. The first three categories remained the same. It was decided that since only a small number of the respondents had a yearly income greater than 25,000 dollars, they would be placed in an income level category of 20,001 dollars and above.

The Farming Program Scores were divided at the median to generate the cell sizes needed for a chi square analysis. The 50 percent of

Table 5
Frequency of Responses for the Number of Jobs
Held by the Former Students

Number of Jobs Held	Number of Responses	Percent of Responses
0	1	1.0
1	25	24.3
2	29	28.2
3	25	24.3
4	6	5.8
5	8	7.8
6	5	4.9
7	2	1.9
8	0	0
9	2	1.9
Total	103	100.1

the scores which fell below the median were labeled "low" and those scores above the median were labeled "high."

A chi square was computed on the yearly income of the former students and their Farming Program Scores. Results were statistically significant at the .05 probability level (Table 6). Therefore, the null hypothesis was rejected.

The Gamma coefficient between yearly income and Farming Program Score was .4340. Such a coefficient indicated that as the Farming Program Score of the former students increased so did their yearly income.

Years of Education

The mean years of education beyond high school was 1.213 for the respondents. The majority of the former students (55 percent) had not continued their education beyond high school. Thirty-one percent of the respondents had completed one to three years of education beyond high school while 25.6 percent had completed four to five years of formal training beyond high school. A summary of the frequency of responses was presented in Table 7.

H_0 There is no relationship between the years of education of the former students and their Farming Program Scores.

The correlation coefficient between the years of education and the Farming Program Scores of the former students was $r = .044$. Since this was not significant at the .05 level, the null hypothesis was not rejected.

Table 6

Chi Square for the Yearly Income of the
Former Students by Their Farming
Program Scores

Farming Program Score	Number Earning 10,000 Dollars or Less	Number Earning 10,001 to 15,000 Dollars	Number Earning 15,001 to 20,000 Dollars	Number Earning 20,000 Dollars and above
High	10	14	11	15
Low	21	19	7	6
Total	31	33	18	21

$\chi^2 = 9.327$, $df = 3$

Significant at the .05 probability level

PERCEPTIONS OF THE SUPERVISED
OCCUPATIONAL EXPERIENCE PROGRAM

The following is concerned with perceptions of the supervised occupational experience program held by the former students. The hypothesis dealing with perceptions was analyzed in this section.

The perception statements were summed for each respondent to produce perception scores. The scores ranged from 97 to 138 with a mean of 114.24. The highest possible perception was 140 and the lowest possible perception score was 28. A rank order summary of the perception item response frequencies and means were reported in Appendix P.

H₀₇ There is no relationship between the perceptions of the supervised occupational experience programs of the former students and their Farming Program Scores.

The correlation coefficient between the perceptions held by the former students of the supervised occupational experience program and their Farming Program Scores was $r = .08$. Since this coefficient was not statistically significant at the .05 level, the null hypothesis was not rejected.

OTHER ANALYSIS

The former students were asked to identify the component in their educational background that had the most influence on their choice of an occupation. A summary of the answers were presented in Table 8. Fifty-three (51.5 percent) identified the vocational agriculture

Table 7

Frequency of Responses for the Number of Years
of Education Completed Beyond High School by
the Former Students

Years of Education	Number of Responses	Percent of Responses
0	55	53.4
1	14	13.6
2	11	10.7
3	7	6.8
4	12	11.7
5	4	3.9
Total	103	100.1

Table 8
 Frequency Responses to Educational
 Component That Had the Most Influence
 on Choice of an Occupaton

Response	Number	Percentage
1. Vocational agriculture program	53	51.5
2. Nothing	16	15.5
3. College education	9	8.7
4. Other Vocational programs	5	4.9
5. Home farm and vocational agriculture	4	3.9
6. Home farm	3	2.9
7. Vocational agriculture and industrial arts programs	1	1.0
8. Total vocational training	1	1.0
9. Total high school program	1	1.0
10. Always wanted to be a farmer	1	1.0
11. Geometry	1	1.0
12. Income	1	1.0
13. Navy	1	1.0
14. No response	<u>6</u>	<u>5.6</u>
Total	103	100

program as having the most influence. Another 16 (15.5 percent) said that nothing in their educational background influenced their choice of an occupation. Nine (8.7 percent) said that their college education had the most influence. The remainder of the respondent gave various other answers while six gave no response.

SUMMARY

The presentation and analysis of data were provided in Chapter 4. Results of the analysis of data obtained from the questionnaire were used in determining the establishment of the former vocational agriculture students in an occupation and their perceptions of the supervised occupational experience program. Variables measuring the establishment in an occupation of the former students and the perception part of the questionnaire were tested to determine which were associated with the Farming Program Scores of the former students.

A description of the sample was presented which provided an overview of the former students and the high schools they attended.

The hypotheses were tested at the .05 level of significance. Three of the null hypothesis numbers 4, 6 and 7 were not rejected. Hypothesis numbers 2, 3, and 5 were rejected. In addition to the hypotheses tested, it was found that over 50 percent of the former students cited vocational agriculture as the entity in their educational background that had most influenced their choice of an occupation.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The first section of this Chapter contains a summary of the study. The summary is followed by a presentation of the conclusions. The third section contains the recommendations for the study.

SUMMARY OF THE STUDY

National leaders in vocational agricultural education stressed that one of the major outcomes of supervised occupational experience programs should be the establishment in an occupation. The occupation should be either in agriculture or in areas requiring knowledge and skill in agriculture. A lack of information concerning the extent to which supervised occupational experience programs lead to the establishment in an occupation was a concern. The researcher wanted to determine whether the quantity in a supervised occupational experience program was associated with establishment in an occupation. Measures of establishment in an occupation and the quantity in a supervised occupational experience program were studied to determine if the two were related.

This study analyzed the establishment in occupations of former production agriculture students in Virginia for whom Farming Program Scores had been established and collected while they were in high

school. The study also measured the perceptions of supervised occupational experience programs held by the former students.

The objectives of this study were to determine whether the supervised occupational experience programs of students were related to establishment in an occupation and to determine whether the perceptions of the supervised occupational experience program held by the former students were related to their Farming Program Scores.

The population for this study consisted of former Virginia production agriculture students who participated in a 1976 study conducted by McMillion and Auville. Eighty-three percent of the former students who participated in that study were located. Sixty-eight percent of the located former students responded to the questionnaire.

A two-part questionnaire was used in the study. The questionnaire was developed by the researcher and evaluated by a panel of experts for content validity. Reliability of the perception portion of the questionnaire was measured using the test-retest method. The reliability coefficient of the perception portion of the questionnaire was $r = .65$. The alpha reliability for the sample on the perception portion of the instrument was .88.

The questionnaires were mailed to the former students. Three follow-ups were made on the non-respondents. A post card follow-up was made followed by a second mailing of the instrument and a new cover letter. The last follow-up was a telephone call to the non-respondents.

Statistical methodologies used in analyzing the data were the chi square, and the Product-Moment Correlation (Pearson r). Chi square

was used to test hypothesis numbers 2, 3, and 5. The Product-Moment Correlation (Pearson r) was used to test hypothesis numbers 4, 6, and 7. The data were analyzed utilizing The Statistical Package for the Social Sciences (SPSS) (Nie and associates, 1975). Findings from the results of the analyses follow:

Employment Status and Farming Program Scores

Over 93 percent of the former students were employed full time and only 3.9 percent were unemployed. This result concurred somewhat with the findings of Haines and Ozzello in their 1966 study, but did not concur with the Oregon study (1977) in which a relationship was found between work experience and employment status. (Note: This hypothesis was not tested because so few were unemployed.)

Present Job and Farming Program Scores

The nature (agriculture or non-agriculture) of the present job of the former students were associated ($\text{Gamma} = .5078$) with their Farming Program Scores. Being employed in agriculture was positively related to Farming Program Scores. About 48 percent of the students were working in agriculture or agriculturally related jobs. Several other studies also found that vocational agriculture students who participated in work experience programs tend to seek employment in agriculture and agriculturally related fields. Those studies were conducted by Berkey, Kelly and Brown (1969), Cushman, Hill and Miller

(1968), Tuttle (1965), Haines and Ozzelo (1966), Kruckenberg and Williams (1980), and Travis (1972).

First Job and Farming Program Scores

An association ($\text{Gamma} = .4201$) was found between the nature of the first job of the former students and their Farming Program Scores. Being employed first in agriculture was positively associated with Farming Program Score. Over 56 percent of the former students obtained their first jobs in agriculture or agriculturally related fields. This appears to support the findings in previous studies by Brown (1976) and Hlebichuck (1971).

Number of Jobs Held and Farming Program Scores

No relationship was found between the number of jobs held by the former students and their Farming Program Scores. More than 74 percent of the former students had changed jobs at least once. Kingston (1970) reported similar findings. He concluded that work experience was not related to job stability.

Yearly Income and Farming Program Scores

There was a positive association ($\text{Gamma} = .4340$) between the yearly income of the former students and their Farming Program Scores.

This finding was consistent with that of Quesada and Seaver (1972) and Tullock (1972) who found a significant, positive correlation between work experience in vocational agriculture and income level.

Years of Education and Farming Program Scores

No relationship was found between the years of education beyond high school of the former students and their Farming Program Scores. This finding appeared to support the finding by Judge (1963). He correlated five measures of agricultural work experience and post high school educational plans and aspirations and also found no significant relationships.

Perceptions and Farming Programs Scores

Perceptions of the supervised occupational experience program held by the former students were not related to their Farming Program Scores. Nearly 100 percent of the former students had positive perceptions of the supervised occupational experience program. In their studies, Berkey, Kelly and Brown (1969), Kruckenberg and Williams (1980), Travis (1970), Nassau County (1973), Righthand (1977), Tuttle (1965), and Kingston (1970) found the same. They concluded that students who engage in high school work experience programs had positive attitudes or positive perceptions of their work experience programs.

Occupational Influence

More than 50 percent of the former students said that the entity in their educational background that most influenced their choice of an occupation was the vocational agriculture program. Another 8.7 percent of the respondents reported that their college education exerted the most influence in their choices. However, 15.5 percent said that nothing in their educational background influenced their choice of occupation.

CONCLUSIONS

The following conclusions reached by the researcher are based upon the findings. These conclusions may only be generalized to the studied population.

1. Students who participated in the supervised occupational experience program were likely to be employed full time.
2. The former students who had high Farming Program Scores were more likely employed in agriculture or agriculturally related jobs.
3. As the scope of the farming programs of the former students increased so did the likelihood of their first job being in agriculture.
4. Those former students who had high Farming Program Scores tended to change jobs just as many times as those who had low Farming Program Scores.

5. The yearly income of the former students who had high Farming Program Scores was more likely to be higher than the yearly income of those who had low Farming Program Scores.

6. Those former students who had low Farming Program Scores were just as likely to have extended their education beyond high school as those who had high Farming Program Scores.

7. Perception of the supervised occupational experience program appeared to be about the same regardless of Farming Program Scores. Former students who had high Farming Program Scores appeared to hold the same perceptions of the supervised occupational experience program as those who had low Farming Program Scores.

8. The vocational agriculture program appears to influence student choice of occupations.

9. Most importantly, relationships were found between the supervised occupational experience program and establishment in an occupation when measured in terms of the nature of the present job, the nature of the first job, and yearly income. Therefore, the supervised occupational experience programs of the former students were related to their establishment in an occupation.

RECOMMENDATIONS

The following recommendations were made based on what the researcher found.

Recommendations for Supervised Occupational Experience Program Improvement

Because the supervised occupational experience program is related to establishment in an occupation:

1. The supervised occupational experience program should be continued in vocational agriculture.
2. Vocational agriculture students should be required to participate in the supervised occupational experience program.
3. Vocational agriculture students should be encouraged to have supervised occupational experience programs large in scope.
4. Vocational agriculture teachers should aid students in expanding the scopes of their supervised occupational experience programs.
5. The results of this study should be made available to vocational agriculture teachers, teacher educators and school administrators.

Recommendations for Further Study

1. This study should be made longitudinal to determine whether relationships continue to exist over time between the high school supervised occupational experience programs of the former students and progression in occupations.
2. More studies like the one by McMillion and Auville should be conducted to gather baseline data about the supervised occupational experience programs of students, including those in cooperative education programs.

3. Follow-up studies of this type should be conducted in all of the vocational agriculture options with the use of previous data bases to determine whether relationships exist between the supervised occupational experience program and establishment in an occupation.

DISCUSSION

The following discussion presents the views of the researcher which were not necessarily supported by findings in the study.

Perhaps the very low number of the former students who were unemployed might be explained by the amount of time, six years, that had passed since their graduation from high school. Both the former students who had supervised occupational experience programs which were small in scope and those who went on to college have had the opportunity to become stable in their occupation. Had a follow-up been conducted on these former students one year after graduation, a positive relationship between work experience and full-time employment, as was found in the Oregon study (1977), may have existed. More of the former students employed full time at the end of one year may have had supervised occupational experience programs which were larger in scope than those who were employed less than full time. It is worthy here to note that at the time of this study the national unemployment rate was over nine percent while only 3.9 percent of the population in this study was unemployed.

The finding that former students who had supervised occupational experience programs large in scope sought their first and present job in agriculture or agriculturally related areas may have occurred because of a combination of reasons. It was the opinion of the researcher that the former students continued enrollment in vocational agriculture throughout their high school years because they planned to enter agricultural occupations or occupations where they would use the skills learned in vocational agriculture. Many of these former students sought and found occupational experience programs that aided them in developing the skills for those occupations while others, for whatever reasons, did not. Those who did were likely very competitive in the job market and obtained jobs in occupational areas where they would use these skills. Perhaps those former students who did not participate in the supervised occupational experience program on a sizeable scale were not competitive in agricultural occupations and, therefore, sought employment in other fields. The yearly income the former students had might have been explained along those same lines. Those who had supervised occupational experience programs that were large in scope further developed the skills learned in vocational agriculture, were able to obtain jobs in the occupational area which they were trained and were able to advance. Perhaps the former students who obtained jobs in other occupational areas, as a result of not being competitive in agricultural occupations, had to learn all new skills and were advancing more slowly. These former students may have started out as unskilled workers and received incomes commensurate with

their skills. It should be pointed out here that many of the former students who had large supervised occupational experience programs may have been in the farming business while in high school. Perhaps during the past six years, several of these farmers have increased the scope of their farming operations which might have explained their higher yearly incomes.

Because the supervised occupational experience programs did appear to contribute significantly to establishment in occupations, vocational agriculture teachers, supervisors, and school administrators should all become more involved in upgrading this portion of vocational agriculture. New ways of gaining more student participation should be explored as well as new methods of administering the supervised occupational experience program.

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APPENDICES

APPENDIX A
PANEL OF EXPERTS

PANEL OF EXPERTS

Agricultural Education
Virginia Polytechnic Institute & State University
Blacksburg, Virginia 24061

Agricultural Education
Oregon State University
Corvallis, Oregon 97331

Agricultural Education
Virginia Polytechnic Institute & State University
Blacksburg, Virginia 24061

Agricultural Education
Virginia Polytechnic Institute & State University
Blacksburg, Virginia 24061

Extension Service
Virginia Polytechnic Institute & State University
Blacksburg, Virginia 24061

APPENDIX B
DIRECTIONS TO PANEL OF EXPERTS

Instructions to Experts

1. On the enclosed survey you will find a list of statements concerning perceptions of former vocational agriculture students of the SOEP. The statements were compiled from a review of literature. The statements are in no particular order, but they range from extremely positive perceptions of the SOEP to extremely negative perceptions of the SOEP.
2. Note that there are 8 columns beside each statement. Your response in one of these columns for each statement will scale the statement somewhere between extremely positive and extremely negative. Column 8 will scale the statement as a reject.
3. Check each statement in only one column. In column number one, you would mark those statements that, in your opinion reflect an extremely positive perception of the SOEP. In column two, will be those statements that you would regard as indicating slightly less favorable than the preceding one, until you reach column number four in which you should mark those statements that show a neutral perception of the SOEP. In column number five indicate those statements which you regard as slightly negative, and so on until you reach column number seven in which you would mark only the extremely negative perception statements toward the SOEP. In column eight indicate those statements which in your opinion should be rejected because the statement is ambiguous, a duplicate or inappropriate. Your own agreement or disagreement with these statements must be disregarded.
4. Feel free to make comments on any of the perception statements. Your concerns about any of the statements are appreciated.
5. After recording your judgements, return the survey to my box in 121 Lane Hall. Thank you.

APPENDIX C
TABLE OF SPECIFICATIONS

APPENDIX D
SUMMARY OF RESULTS FROM
PANEL OF EXPERTS

MEAN RESPONSES FROM EXPERTS TO
SOEP PERCEPTION ITEM POOL

The Supervised Occupational Experience
Program (SOEP):

1. Extremely positive
2. Positive
3. Slightly positive
4. Neutral
5. Slightly negative
6. Negative
7. Extremely negative
8. Reject

<u>Statements</u>	<u>Means</u>
1. Provides the opportunity to earn, save and use money.	1.4
2. Develops record keeping abilities.	2
3. Builds self confidence.	1.6
4. Develops skills and knowledge needed in agricultural occupations.	2.5
5. Develops skills and knowledge needed in all occupations.	2.4
6. Helps students learn how to work.	1.6
7. Develops good work attitudes.	1.6
8. Motivates students.	1.4
9. Places financial burdens on students.	6.6
10. Helps students determine their interests.	2.2
11. Helps students realize their abilities.	2
12. Orients students to the world of work.	2.2
13. Helps students get started in an occupation.	1.4
14. Contributes to occupational success.	1.8
15. Enhances student willingness to accept responsibilities.	1.6
16. Helps students make occupational decisions.	1.8
17. Is not worth the time and effort students put into it.	6.8
18. Should not be a part of vocational agriculture.	2.5
19. Makes subject matter more real life.	2.2
20. Encourages students to stay in school.	1.5
21. Encourages students to become independent.	2.2
22. Improves the image of students in the community.	2.2
23. Contributes to developing maturity in students.	1.8
24. Gives meaning to the class instruction.	1.6
25. Helps students learn how to work with others.	1.8
26. Is of no use to students who are interested in non-farm occupations.	6.2
27. Is of no benefit to students while in school.	6.8
28. Is of no benefit to students after they graduate from high school.	6.8

APPENDIX E
COVER LETTER TO TEACHERS



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF VOCATIONAL & TECHNICAL EDUCATION

February 9, 1982

The SOEP has been a vital component in vocational agriculture since the passage of the Smith-Hughes Act in 1917. Currently, we are conducting a study of value to you and other educators who have an interest in vocational agriculture and the SOEP.

In the spring of 1975, Dr. McMillion or one of his graduate assistants came to your school and gathered information about the experience programs of the production agriculture students in your school at that time. In a few weeks we will collect information from those same students concerning their establishment in occupations. The purpose of the study is to find out if there is a relationship between high school SOEP and establishment in an occupation. This study is the first of its type and may be the most important SOE study that has ever been conducted. The results from this study may provide valuable evidence to administrators as well as agricultural educators for the continuous support of the SOE.

In order for the study to be a success your help is needed in obtaining the correct addresses and telephone numbers of the former students. For most of the students we were able to find the old 1975 address, however, some of them may have moved since then. In some cases the former students will need to be identified on the basis of his/her high school farming program and other data that will be provided to you. Some of the persons interviewing only wrote down parts of the names (either first or last) and we were not able to distinguish the proper name. In this case, we identified from two to four names but we need your assistance in determining the correct name. Since the situation is not the same for all of the teachers involved, we have enclosed a set of special instructions for you. The return of this information by February 24, 1982, will be greatly appreciated.

Thank you for your prompt attention to this matter. If you have any questions, please do not hesitate to write or call me at . Again, thank you very much for your help.

Sincerely,

Walter N. Taylor
 Graduate Assistant
 Agricultural Education
 322 Lane Hall

WNT:bjf

APPENDIX F
LETTER OF SUPPORT FROM
DR. McMILLION



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF VOCATIONAL & TECHNICAL EDUCATION

MEMORANDUM

TO: The Twenty-four Teachers (Schools) Who Participated in the 1975 SOEP Study in Virginia

FROM: Martin B. McMillion

SUBJECT: Addresses Needed for Study to Find Relationship of SOEP to Establishment in an Occupation

DATE: February 6, 1982

In the spring of 1975, I or one of my graduate assistants (Osborne, Arey, Auville or Goodman) came to your school to gather information about the experience programs of the production agriculture students in your school at that time. Now, Walter Taylor, who is a graduate assistant here and who taught agriculture in Botetourt County last year will collect information from those students concerning their establishment in an occupation and relate it back to the high school SOE data we gathered in 1975. I feel this can be the most interesting and perhaps the most important SOE study that has ever been conducted.

Please do everything you can to help us get the correct addresses and even telephone numbers of the former students we wish to follow up. Don't hesitate to contact former teachers or others for help. One teacher has already located all of his students, and I feel you can and will locate nearly all of yours. Walter will need a high percentage of return and he cannot get a return unless he has the correct address for his mailing.

In some of the schools, the former students will need to be identified on the basis of their farming program or other data. Some of the interviewers wrote down full names, some part of their names. Walter says I didn't use names at all when I interviewed at Dinwiddie and Windsor.

We appreciate the help.

MBM:bjf

APPENDIX G
INSTRUCTIONS TO TEACHERS
WHOSE PACKETS CONTAINED
NAMES

Instruction for Completion

On the attached sheets are the students' names for which we need your help in locating. It is important that you use all means available in this endeavor such as school records, other teachers, parents, friends and relatives of the students. Listed in the left column are the students' names, old addresses and in some cases telephone numbers. Follow the steps listed below in completing the form.

1. If the student is still living at the address on the left then write SAME in the space provided on the right. Provide a telephone number if possible.
2. If the student is no longer at the address listed on the left, place the present address and telephone number in the space provided on the right.
3. If more than one name and address are listed by a number and separated by OR, scratch through the improper name(s) and follow steps 1 and 2 above for the remaining student.
4. If there is a blank space where the name and old address should appear we were unable to identify the student. In this case, we have provided the data sheets on that student used by Dr. McMillion in 1975. Use the data to determine who that student was and go to step 2.

In the event that you are unable to find the student's current address, provide in the left column the address and telephone of a parent, friend or relative.

Use the self-addressed, stamped envelope for returning the information.

APPENDIX H
INSTRUCTIONS TO TEACHERS WHOSE
PACKETS DID NOT INCLUDE NAMES

Instructions

Enclosed are the data sheets on the students used by Dr. McMillion in 1975. There are four stapled sheets per student. Use the data on the sheets to identify the student. Also, enclosed is the 1974-1975 FFA roster for your school. This may aid you in identifying the students as well as finding their current addresses. Once you have completed this, write the name, address and telephone number of the student on the first page of his/her data sheet and return them in the self-addressed, stamped envelope.

If you were able to identify the student but not locate his/her current address, then write the name, address and telephone number of a parent, friend, or relative who can reach the student on the first page of that student's data sheet. Please indicate whose address you have given.

It is important that you use all means available in this endeavor such as school administrators, other teachers, parents, friends and relatives.

APPENDIX I
QUESTIONNAIRE

Instructions for Completion

The items in this instrument are designed to gather information about former high school vocational agriculture students in Virginia. Part I asks you to provide information concerning your past and present employment, level of income and educational experiences. In Part II you are asked to respond to statements that describe your perceptions of the Supervised Occupational Experience Program.

Part I - Please answer the following questions as accurately as possible.

1. What in your educational background had the most influence on your choice of an occupation?

Questions 2 through 3c concerns your present job.

2. How many hours a week do you work? Includes the number of self-employment hours. (check one)
- Full Time (30 or more)
- Part Time (10 to 29)
- Unemployed (less than 10)

3. What is your present occupation? (If more than one please list all)

- 3a. Give the name, address, and telephone number of the company or business where you are working. If you are self-employed give your address and telephone number. (Needed for clarification of job and duties only)

- 3b. Briefly describe your present job duties. If self-employed describe your business.

- 3c. How often do you use the knowledge and skills you learned in vocational agriculture in performing your job duties? (check one)

most of the time

some of the time

seldom

Questions 4 through 4c concerns your first job.

4. What was your first full-time job or part-time job after you completed high school?

- 4a. Give the name, address, and telephone number of the company or business where you worked. If you were self-employed give your address and telephone number. (Needed for clarification of job and duties only)

- 4b. Briefly describe the duties you performed. If you were self-employed describe your business.

- 4c. How often did you use the knowledge and skills you learned in vocational agriculture in performing your job duties? (check one)

most of the time

some of the time

seldom

5. How many jobs have you had since you completed high school? _____ (include present job)

6. How much money did you earn in 1981? (check one)
- more than \$35,000
 \$30,001 to \$35,000
 \$25,001 to \$30,000
 \$20,001 to \$25,000
 \$15,001 to \$20,000
 \$10,001 to \$15,000
 \$10,000 or less
7. How many years of education have you completed beyond high school? (include college, community college, trade, and technical schools)
- _____

Part II - Please circle the response which corresponds the closest to your true feelings about each statement concerning the Supervised Occupational Experience Program.

SA = Strongly Agree D = Disagree
 A = Agree SD = Strongly Disagree
 U = Undecided

Example: The FFA develops leadership

SA A U D SD

This person strongly agrees with the statement and so indicated by circling "SA" (Strongly Agree).

The Supervised Occupational Experience Program (SOEP):

- | | |
|---|---------------------|
| 1. Provides the opportunity to earn, save and use money. | SA A U D SD |
| 2. Develops record keeping abilities. | SA A U D SD |
| 3. Builds self confidence. | SA A U D SD |
| 4. Places financial burdens on students. | SA A U D SD |
| 5. Develops skills and knowledge needed in agricultural occupations. | SA A U D SD |
| 6. Develops skills and knowledge needed in all occupations. | SA A U D SD |
| 7. Helps students learn how to work. | SA A U D SD |
| 8. Should <u>not</u> be a part of vocational agriculture. | SA A U D SD |
| 9. Develops good work attitudes. | SA A U D SD |
| 10. Motivates students. | SA A U D SD |
| 11. Helps students determine their interests. | SA A U D SD |
| 12. Is <u>not</u> worth the time and effort students put into it. | SA A U D SD |
| 13. Helps students realize their abilities. | SA A U D SD |
| 14. Orients students to the world of work. | SA A U D SD |
| 15. Helps students get started in an occupation. | SA A U D SD |
| 16. Is of <u>no</u> use to students who are interested in non-farm occupations. | SA A U D SD |
| 17. Contributes to occupational success. | SA A U D SD |
| 18. Enhances student willingness to accept responsibilities. | SA A U D SD |
| 19. Helps students make occupational decisions. | SA A U D SD |
| 20. Is of <u>no</u> benefit to students while in school. | SA A U D SD |
| 21. Makes agriculture subject matter more real life. | SA A U D SD |
| 22. Encourages students to stay in school. | SA A U D SD |
| 23. Encourages students to become independent. | SA A U D SD |
| 24. Is of <u>no</u> benefit to students after they graduate from high school. | SA A U D SD |
| 25. Improves the image of students in the community. | SA A U D SD |
| 26. Contributes to developing maturity in students. | SA A U D SD |
| 27. Gives meaning to agriculture class instruction. | SA A U D SD |
| 28. Helps students learn how to work with others. | SA A U D SD |

APPENDIX J
COVER LETTER TO
FORMER STUDENTS



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF VOCATIONAL & TECHNICAL EDUCATION

I am conducting a study that might bring more support for the supervised occupational experience program in vocational agriculture. The study is aimed at determining whether there are relationships between a student's supervised occupational experience program and his or her establishment in an occupation.

You were selected to participate in this study because of your involvement in a previous study when you were in high school. For the results to be meaningful, it is very important that a completed response be received from you. It is also very important that you give a telephone number where I can reach you in the event that more clarifications are needed. This is not a study to evaluate your performance on your job. Furthermore, all the information you provide will be treated confidentially.

In order that the study may proceed on schedule, I would appreciate it if you complete and return the questionnaire no later than March , 1982. A stamped, addressed envelope has been enclosed for your convenience in returning the completed questionnaire.

Your assistance in this study is greatly appreciated. I look forward to your prompt reply. Enjoy a stick of gum for taking the time to assist me.

Sincerely,

Walter N. Taylor
Graduate Assistant
Agricultural Education

WNT:bjf

Enclosure

APPENDIX K
LETTER OF SUPPORT FROM
TEACHERS



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061
February 23, 1982

DIVISION OF VOCATIONAL & TECHNICAL EDUCATION

Dear Former Vocational Agriculture Student:

Some people from Virginia Tech came to our school and collected some information about your farming program or placement program when you were a junior or senior in high school. Now they want to see how that information is related to your present establishment in an occupation.

I think it is important for you to cooperate in their study by filling out the enclosed forms. I sincerely hope you will reply promptly to their request.

Sincerely,

APPENDIX L
ANNOUNCEMENT OF DRAWING

A drawing for an AM-FM PORTABLE RADIO will be held for those who fill out ALL the information and return the form. If you return the completed form within 7 days you will also be eligible for a bonus prize of a \$10.00 Sears Gift Certificate.

APPENDIX M
POST CARD REMINDER

A short time ago a questionnaire concerning your present and first occupations was mailed to you. You were selected to participate in this study because of your involvement in a previous study when you were in high school.

If you have already completed and returned it to us, please accept our sincere thanks. If not, please return it today. Because the survey has been sent to a very small group it is extremely important that yours be included regardless of your occupation if the results are to be meaningful.

In the event you did not receive the questionnaire for some reason, or if it is misplaced, please request another by calling or writing me immediately and I will mail a replacement to you. You are still eligible for the AM-FM portable radio.

Agricultural Education
Virginia Tech
Blacksburg, VA 24061

Sincerely,

Walter N. Taylor
Graduate Assistant

APPENDIX N
FOLLOW-UP LETTER



COLLEGE OF EDUCATION

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF VOCATIONAL & TECHNICAL EDUCATION

March 31, 1982

Several weeks ago I sent you a survey concerning your present and past occupations. At this time your completed survey has not yet been received.

We are conducting this study because we believe that it might bring more support for the supervised occupational experience program in vocational agriculture. The study is aimed at determining whether there are relationships between a student's supervised occupational experience program and his or her establishment in an occupation.

I am writing to you again because of the importance of your response to this study. You were selected to participate in this study because of your involvement in a previous study when you were in high school. If the results are to be meaningful it is very important that a completed response be received from you regardless of your job.

In the event that your survey has been misplaced, a replacement is enclosed. It will take you about six minutes to complete, and a return envelope is again enclosed for your convenience in returning it. Please take the brief time needed from your busy schedule to complete and mail the survey today. It will be greatly appreciated. You are still eligible to win the AM-FM Portable Radio.

Thank you for your cooperation.

Sincerely,

Walter N. Taylor
Graduate Assistant
Agricultural Education

WNT:bjf

Enclosure

APPENDIX O
CLASSIFICATIONS OF RESPONDENTS
PRESENT AND FIRST JOBS

CLASSIFICATIONS OF RESPONDENTS
PRESENT AND FIRST JOBSJobs Classified as being in Agriculture

Agricultural Cooperative Manager
Agricultural Construction Forman
Agricultural Research (crops)
Agriculture Teacher
Farm Bureau Store Owner
Farmer
Farm Hand
Farm Manager
Feed Mixer
Fertilizer Dealer
Forester
Grain Inspector
Livestock Grader
Livestock Inspector
Livestock Yard Manager
Livestock Yard Worker
Lumber Grader
Nursery Worker
Poultry Packager
Sawmill Worker
Shipping and Receiving Farm Products

APPENDIX O (continued)

Timber Dealer Repairman

Tractor and Implement Mechanic

Jobs Classified as being Agriculturally Related

Carpenter

Carpenter and Concrete Worker

Carpenter and Plumber

Grounds Keeper (other duties)

Loan Officer and Farm Management Planning

Poultry Plant Worker (Custodian and some packaging)

Welder

Wildlife Game Patches Attendant (other duties)

Jobs Classified as being in Other Areas

Automobile mechanic

Automobile Parts Counter Salesman

Auto Salvage Yard Worker

Banker

Bus Driver

Cabinet Maker

Certified Public Accountant

Cook

Cooks Helper

APPENDIX O (continued)

Clerk and Dispatcher
Clerk Typist
Cloth Doffer
Cloth Finishing Machine Operator
Custodian
Department Store Cashier
Diesel Mechanic Draftsman
Engineering Technician
Fence Erector Company Forman (yard fencing)
Fire Fighter
Floor Boy (garment factory)
Foundry Worker (crane operator)
Furnace Operator
Furniture Factor (assembly line worker)
Garment Designer
Garment Worker
General Labor (highway department)
General Worker (highway construction)
Gravure Press Operator
Grocery Store Clerk
Grocery Store Manager
Heating and Air Conditioning Serviceman
Highway Construction Equipment Maintenance

APPENDIX O (continued)

History Teacher

Ice Raker

Instant Tea Mixer

Insurance Salesman

Jet Propulsion Specialist

Joy Drill Operator

Linesman

Machine Operator (folding cartons)

Machinist

Machinist (light)

Policeman

Power Plant Maintenance Mechanic

Printer

Production Line Maintenance Mechanic (non-agriculture)

Purchasing agent (bearing company)

Retailer (tire company)

Rubber Worker

Salvage Yard Manager

Sanforizer Operator

Shipping Supervisor (non-agriculture)

Shoe Store Manager

Spinning Leadman

Stockman (department store)

APPENDIX O (continued)

Tire Builder

Truck Driver

Truck Mechanic

United States Army

United States Coast Guard

United States Marine Corps

United States Navy

Warehouseman (non-agriculture)

APPENDIX P

RANK ORDERED RESPONSE FREQUENCIES,
PERCENTAGES AND MEANS OF THE
FORMER STUDENTS TO PERCEPTION
STATEMENTS

Rank Ordered Response Frequencies, Percentages
and Means of the Former Students to Perception Statements^a

Statements	SA	A	U	D	SD	Mean ^b
The SOEP:						
c1. Is <u>not</u> worth the time and effort students put into it.	63/61.2	35/34	3/2.9	-	-	4.594
c2. Is of <u>no</u> benefit to students after they graduate from high school.	53/51.5	43/41.7	5/4.9	-	-	4.475
3. Develops skills and knowledge needed in agricultural occupations.	48/46.6	52/50.5	1/1.0	-	1/1.0	4.431
4. Develops record keeping abilities.	49/47.6	48/46.6	3/2.9	2/1.9	-	4.412
c5. Is of <u>no</u> benefit to students while in school.	47/45.6	51/49.5	3/2.9	1/1.0	-	4.412
6. Helps students learn how to work with others.	42/40.8	59/57.3	1/1.0	-	-	4.402
c7. Should <u>not</u> be a part of vocational agriculture.	53/51.5	36/35.0	11/10.7	2/1.9	-	4.737
8. Helps students learn how to work.	32/31.1	67/65.0	3/2.9	-	-	4.284
9. Builds self confidence.	34/33.0	62/60.2	6/5.8	-	-	4.275
10. Provides the opportunity to earn, save and use money.	34/33.0	62/60.2	3/2.9	3/2.9	-	4.245
11. Contributes to developing maturity in students.	24/23.3	69/67.0	9/8.7	-	-	4.147

APPENDIX P (continued)

Statements	SA	A	U	D	SD	Mean ^b
The SOEP:						
c12. Is of <u>no</u> use to students who are interested in non-farm occupations.	35/34.0	49/47.6	14/13.6	4/3.9	-	4.127
13. Enhances student willingness to accept responsibilities.	21/20.4	71/68.9	10/9.7	-	-	4.108
14. Make agriculture subject matter more real life.	19/18.4	75/72.8	7/6.8	1/1.0	-	4.098
15. Help students realize their abilities.	22/21.4	69/67.0	10/9.7	1/1.0	-	4.088
16. Develops good work attitudes.	22/21.4	66/64.1	12/11.7	1/1.0	1/1.0	4.049
17. Motivates students.	22/21.4	63/61.2	17/16.5	-	-	4.049
18. Gives meaning to agriculture class instruction.	16/15.5	75/72.5	9/8.7	-	1/1.0	4.040
19. Orients students to the world of work.	17/16.5	72/69.9	11/10.7	2/1.9	-	4.020
20. Helps students determine their interests.	17/16.5	66/64.1	17/16.5	2/1.9	-	3.961
21. Helps students make occupational decisions.	11/10.7	76/73.8	13/12.6	1/1.0	-	3.960
22. Improves the image of students in the community.	20/19.4	58/56.3	22/21.4	2/1.9	-	3.941

APPENDIX P (Continued)

Statements	SA	A	U	D	SD	Mean ^b
The SOEP:						
23. Encourages students to become independent.	17/16.5	64/62.1	16/16.5	5/4.9	-	3.912
24. Contributes to occupational success.	13/12.6	68/66.0	18/17.5	3/2.9	-	3.892
25. Helps students get started in an occupation.	12/11.7	67/65.0	20/19.4	2/1.9	-	3.881
26. Encourages students to stay in school.	18/17.5	55/53.4	23/22.3	6/5.8	-	3.833
27. Develops skills and knowledge needed in all occupations.	23/22.3	47/45.6	20/19.4	10/9.7	2/1.9	3.775
28. Places financial burdens on students.	23/22.3	43/41.7	16/15.5	10/9.7	10/9.7	3.578

^aData as reported as follows; 63/61.2, where 63 represents the number of responses and 61.2 reports the percent of total response.

^bMeans for those persons responding to the statements are based upon the following scale: Strongly Agree (SA) = 5, Agree (A) = 4, Undecided (U) = 3, Disagree (D) = 2, Strongly Disagree (SD) = 1.

^cNegative statements were reversed for computations.

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A FOLLOW-UP STUDY TO DETERMINE THE RELATIONSHIP
BETWEEN HIGH SCHOOL SUPERVISED OCCUPATIONAL EXPERIENCE
PROGRAMS IN AGRICULTURE AND ESTABLISHMENT IN OCCUPATIONS

by

Walter Nolan Taylor

(ABSTRACT)

The primary objectives of this study were to answer the following questions: Do the high school supervised occupational experience programs of vocational agriculture students contribute to establishment in an occupation? Do the perceptions of the supervised occupational experience programs held by former students relate to their supervised occupational experience programs?

The population selected for this study consisted of former Virginia production agriculture students who participated in a 1976 study conducted by Martin McMillion and Martin Auville. A total of 185 former students constituted the population.

A two-part questionnaire was used to collect data. Part I solicited information concerning establishment in occupations of the former students. Part II obtained the perceptions of the supervised occupational experience program held by the former students. One hundred fifty-three of the 185 former students were located. One hundred and three of the former students responded to the questionnaire.

The independent variable, Farming Program Score, was derived in the McMillion and Auville study. The score consisted of a numerical value

derived from several factors which indicated the quantity in supervised farming programs. Hypotheses concerning six measures of establishment in an occupation, the dependent variable, were tested. The statistical analyses used were chi square and the Product-Moment Correlation.

The major conclusions of this study were: (1) Over 93 percent of the former students were employed full time. (2) As the scope of the farming programs of the former students increased, the likelihood of their first and present job being in agriculture. (3) The yearly income of the former students who had farming programs that were large in scope were higher than the yearly incomes of those who had farming programs small in scope. (4) No relationships were found between the scope of the farming programs and the job stability nor between the scope of the farming programs and years of education. (5) Nearly 100 percent of the former students had positive perceptions of the supervised occupational experience program.

Vocational agriculture students should be encouraged to increase the scopes of their supervised occupational experience programs each year of their enrollment.