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ABSTRACT

This second annual national compilation of agricultural education research and development activities includes abstracts of studies completed from July 1, 1975, to June 30, 1976. Represented in the studies are 89 masters theses, 47 doctoral dissertations, 2 specialist papers, and 31 staff research studies. The 169 studies are arranged alphabetically by State and alphabetically by author within States. A subject index, using ERIC (Educational Resources Information Center) descriptors, is used. Each summary is presented in a three-part organizational style which includes purpose, method, and findings. The report includes the name of the author of the 1976-1977 compilation. Also included and arranged alphabetically by State are 92 studies reported in progress during 1976-1977. A table is appended which lists ED (ERIC Document) numbers for previous summaries of studies in agricultural education (1968-1974). (LAS)

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SUMMARIES OF RESEARCH
AND
DEVELOPMENT ACTIVITIES
IN
AGRICULTURAL EDUCATION,
1975 - 1976

United States of America

Compiled by

J. DAVID McCracken

Department of Agricultural Education
The Ohio State University
Columbus

1976

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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FOREWARD

THIS DOCUMENT REPRESENTS THE SECOND ANNUAL NATIONAL COMPILATION OF THIS MATERIAL. STATES NOT INCLUDED IN THIS COMPILATION ARE ENCOURAGED TO SUBMIT INFORMATION FOR SUCCEEDING ISSUES.

THIS COMPILATION OF RESEARCH AND DEVELOPMENT ACTIVITIES IN AGRICULTURAL EDUCATION INCLUDES ABSTRACTS OF 169 STUDIES COMPLETED DURING THE PERIOD JULY 1, 1975 TO JUNE 30, 1976. THIRTY-ONE OF THE COMPLETED STUDIES REPRESENT STAFF RESEARCH, 47 REPRESENT DOCTORAL THESES, TWO REPRESENT SPECIALISTS PAPERS, AND 89 REPRESENT MASTERS THESES. STUDIES ARE ARRANGED ALPHABETICALLY BY STATE AND ALPHABETICALLY BY AUTHOR WITHIN STATES. A SUBJECT INDEX, UTILIZING ERIC DESCRIPTORS, WAS PREPARED.

STUDIES REPORTED AS IN PROGRESS DURING 1976-77 WERE ALSO COMPILED. THEY ARE ARRANGED ALPHABETICALLY BY STATE. IN PROGRESS WERE 33 STAFF STUDIES, 28 DOCTORAL DISSERTATIONS AND 31 MASTERS THESES.

THE COMPILATION OF ABSTRACTS OF RESEARCH AND DEVELOPMENT ACTIVITIES IN AGRICULTURAL EDUCATION IS AN ACTIVITY OF THE RESEARCH COMMITTEE OF THE AGRICULTURAL EDUCATION DIVISION OF THE AMERICAN VOCATIONAL ASSOCIATION. ALFRED J. MANNEBACH OF THE UNIVERSITY OF CONNECTICUT HAS BEEN APPOINTED TO COMPILE THE 1976-77 REPORT.

THE LOCATION OF PREVIOUS SUMMARIES OF STUDIES COMPILED BY REGION, IS SHOWN AT THE BACK OF THIS PUBLICATION.

J. DAVID MCCrackEN

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SUMMARIES OF STUDIES, 1975-76

ALABAMA

FADDY, Vanik S. "An Evaluation of the Technical Internship in Agricultural Education at Auburn University." Staff Study, 1975, Auburn University, Auburn.

Purpose. The purpose of this study was to determine the perceptions of interns and agribusinessmen towards the technical internship in agricultural education.

Method. The findings of this report were based upon data supplied by 37 interns and 37 agribusinessmen who responded to questionnaires immediately following the internships.

Findings. Interns rated twelve characteristics of the internship using a scale of one through five representing poor to outstanding. A range of 3.47 to 4.73 occurred with six characteristics receiving mean ratings above 4.00 and six were below this level which was assigned a value of "very good". Interns perceived the internship to be a "very good", to "outstanding" procedure for improving professional, technical, and mechanical competencies required for teaching agribusiness education. This approach was considered a "very good" way to obtain occupational information for student counseling.

The importance of preliminary planning for the most effective use of the internship experience was revealed through intern response. Ratings of "very good" to "outstanding" were assigned to the suitability of agribusinesses selected, the attitude of the agribusiness personnel and the value of work assignments to the professional performance of teachers.

The narrative responses of interns were highly complimentary of the practical experience gained, personal contacts established, opportunity to use modern equipment and information obtained for use in their instructional programs.

Agribusinessmen rated eight characteristics on a five point scale yielding a range of 3.80 to 4.68. Six of these characteristics received a mean rating of 4.00 and above. Agribusinessmen were impressed with the opportunity provided them to cooperatively invest in the technical education of teachers. Involvement of the agribusinessmen in development of the intern's plan of study resulted in the creation of harmonious relationships with the elimination of barriers to communication. A majority of the businessmen reported satisfaction with the program as it was operated and pledged to cooperate again when requested.

Agribusinessmen were unanimous in declaring that the internship created no difficulties or inconveniences. Suggestions for improvement centered around consideration for seasonal timing and more thorough advanced planning by interns to involve agribusinessmen in developing the intern's plan of study. It was suggested that interns should have an understanding of basic principles, materials and procedures to better benefit from applied advanced techniques. This was especially true of nurserymen who insisted that interns should be capable of plant identification, uses and treatment.

ARIZONA

FUNKHOUSER, William A. "An Evaluation of a Training Film Designed to Develop Psychomotor Skill." Master of Agricultural Education Report, 1975, University of Arizona, Tucson.

Purpose. The purpose of this study was to investigate the effectiveness of a "school-produced," super 8mm agricultural mechanics training film designed to develop psychomotor skills when used with students of vocational agriculture in Arizona.

Method. This was essentially an experimental study involving the comparison of student performance of the skills associated with adjusting and igniting an oxygen-acetylene torch. The independent variable was a school-produced, super 8mm training film. Three groups were utilized as follows: one group observed a teacher demonstration of correct procedure, a second group observed the film only without a teacher demonstration and the third group observed a teacher demonstration plus reviewing the film. Dependent measures included: 1) elapsed time required to complete the exercise, 2) correct measurement of metal thickness, 3) selection of proper tip, 4) correct working pressures, 5) adjusting to a neutral flame, 6) proper adjustment of regulators, 7) adjustment of proper volume of acetylene after lighting, 8) accuracy to adjust acetylene volume.

Findings. There was no statistically significant difference in performance of the three groups in the first five dependent measures listed above. Both the film-only group and the film/demonstration group performed at a significantly higher level than the teacher-demonstration-only group on the last three measures.

GONZALES, Ismael. "A Follow-up Study of Graduates from the College of Agriculture, The University of Arizona, 1964-1974." Master of Science Thesis, 1976, The University of Arizona, Tucson.

Purpose. The purpose of this study was to secure information from former graduates of the College of Agriculture for the following purposes: (1) To make recommendations for improvement of the curriculum, instruction and physical facilities in the College of Agriculture at The University of Arizona and (2) to aid in counseling students relative to jobs, salaries and advanced professional preparation.

Method. A mail questionnaire sent to 1,067 former graduates was used to collect the data. Information pertinent to the graduates' (a) background, (b) occupational attainment, (c) educational attainment, (d) undergraduate program evaluation and (e) recommendations for improvement of the curriculum, instruction and physical facilities in the College of Agriculture was requested in the survey instrument. These data were reported in terms of frequencies and percentages.

Findings. Major findings of this study were as follows: Over one-half of the graduates remained in Arizona after graduation; three-fourths of the graduates had not lived on a farm or ranch, yet about fifty percent had obtained four or more years of agricultural work experience; graduates were highly satisfied with the quality of instruction, facilities and

curriculum in the College of Agriculture, but felt a need for more practical "hands on" experience; ninety-five percent of the graduates were employed in agricultural-related and non-agricultural occupations; over three-fourths of the graduates had declared a goal before entering college; eighty-three percent of the graduates participated in extracurricular activities while in college; approximately forty-five percent of the graduates were pursuing or had obtained advanced degrees; and salaries earned by graduates increased at the rate of thirteen percent per year as their experience increased.

McCORMICK, Floyd G. "Effectiveness of Instructional Units Designed to Teach Agricultural Marketing Principles, Technical Bulletin No. 219," Staff Study 1975, University of Arizona, Tucson.

Purpose. The primary purpose of this study was: (1) to develop instructional resource units, employing the principles approach and utilizing the inductive mode, to serve as a teacher reference on agricultural marketing principles and (2) to assess the effectiveness of these units by measuring the relative change in students' understanding of the principles.

Method. A quasi-experimental design involving a one-group pretest-posttest was utilized to assess the effectiveness of the prepared units during a four-year field test from 1969-73. A 55-item, multiple choice, objective-referenced examination was utilized to measure student understanding. Other variables included in the study were: academic quarter when taught, and teachers' prior training in use of the inductive mode of teaching.

Findings. Analysis of the field-test results from thirty different schools involving 427 students showed an overall increase in understanding of 51.55% from pretest to posttest. The increase in correct scores from pretest to posttest for each of the five principles included in the reference ranged from 29% to 81%. The posttest scores were greater than pretest scores by a statistically significant margin as measured by a t-test using the .001 level of probability. The differences in scores between students whose teachers had or had not received training in inductive teaching were not statistically significant. The time of the school year the units were taught had an effect upon student performance. The poorest overall performance was achieved during the fourth quarter of the academic year and the best was achieved during the first quarter.

MERRELL, M. Dean. "The Development and Evaluation of a Student Resource Reference on Animal Breeding and Reproduction for Specialized Curriculum in Vocational Agriculture in Arizona." Master of Agriculture Education Report, 1976, University of Arizona, Tucson.

Purpose. The purpose of this study was to develop and evaluate a student resource reference on animal breeding and reproduction for use in teaching specialized curricula in vocational agriculture in the state of Arizona.

Method. A list of concepts to be taught and objectives were

identified from the subject matter on animal breeding and reproduction consisting of ten major headings was developed. An evaluative instrument, consisting of sixty multiple-choice questions, was developed for measuring student understanding of animal breeding and reproduction subject matter. The post test only-control group design was used in evaluating the student resource reference. A comparison between groups receiving less than fifteen hours of instruction and groups receiving fifteen hours or more of instruction was made. A comparison was also made to determine the relationship of student age and test score.

Findings. A summary of findings from this study follows: (1) a student resource reference on animal breeding and reproduction was developed containing ten major headings and totaling 55 pages; (2) there was a statistically significant difference in student understanding of animal breeding and reproduction subject matter between the control and treatment groups; (3) the evaluative instrument was found to be an effective measure of student understanding of animal breeding and reproduction subject matter; (4) students who received fifteen or more hours of instruction; (5) there was no relationship between students age and score on the evaluative instrument.

NICHOLAS, Harley K. "The Effect of a Work Experience Program on Student Career Selection." Master of Science Thesis, 1976, University of Arizona, Tucson.

Purpose. This study was concerned with evaluating the effectiveness of a model career education work experience program in a rural Arizona high school. The work experience program provided junior and senior students the opportunity to explore occupational opportunities in actual off campus situations.

Method. To measure the effectiveness of the program, a test instrument was used prior to the actual participation and immediately afterward. The objective of the test was to measure the participant's apparent suitability to the selected occupation and degree of intent to pursue that occupation. Two years after completing the experience programs participants were contacted to determine if their occupational pursuit was related to their earlier intent as expressed after completing the work experience program.

Findings. Positive and statistically significant findings were obtained between pre and posttest results obtained concurrently with the program. Students showed a significant increase in their ability to assess suitability to an occupation after participation in the work experience program. Extended term results did not provide any statistically significant relationship between their intended career goals and actual attempts at achieving the goal after graduation.

ZURBRICK, Phillip R. "Employment Trends in Agriculture for Selected Areas of Arizona - An Update, Research Report 275," Staff Study, 1976, University of Arizona, Tucson.

Purpose. The purpose of this staff study was to: provide an estimate of occupational opportunities in agriculture by instructional program areas, identify trends in occupational opportunities and establish pertinent employment requirements for major job titles associated with Arizona agriculture.

Method. The procedure utilized in conducting this study was essentially that associated with descriptive survey research. A random sample of agricultural businesses surveyed in prior years was secured and utilized to estimate current occupational opportunities. Trends were established by comparing and contrasting data collected from the sample with data collected between 1968-72.

Findings. The total number of job opportunities requiring skill and knowledge in agriculture has increased in the State of Arizona by 20.6 percent over approximately a three year period ending in 1974. The percentage of total occupational opportunities in agriculture best served by traditional production programs has decreased to less than 50 percent. Major increases in occupational opportunities in agriculture have occurred in the area of agricultural sales and service. An inverse relationship was found between the number of production units (farms and ranches) and the level of agricultural employment. Employees were found to be more concerned with such factors as maturity and responsibility, which they associated with age than they were with competencies represented by educational levels.

CONNECTICUT

MANNEBACH, Alfred J. and LOWNDS, Barbara V. "A Survey of Employment Opportunities and Community Resources Having Implications for Programs of Vocational Agriculture in Connecticut: Phase II, Final Report" Staff Study, 1975, The University of Connecticut, Storrs.

Purpose. The purpose of the study was (1) to determine the employment opportunities for persons who have knowledge and skills in agricultural subjects and (2) to determine the community resources available to programs of vocational agriculture in Connecticut. The study was designed to enumerate job possibilities, to determine where job openings in agriculture are located, to inform farmers and agricultural firm operators of the program of vocational agriculture and to determine what resources in the community could be tapped to enrich the program of vocational agriculture offered in Connecticut.

Method. Phase I consisted of the organization, preparation and development of materials for the survey. Activities included reviewing the literature, determining the population, selecting the sample, designing the survey interview schedule and preparing the teachers of vocational agriculture to interview farmers and agricultural firm operators. Phase II of the study was designed to collect and analyze the data and to write the final report.

Findings. Outcomes of Phase I included the compilation of a Summary Review of Literature related to farm and non-farm employment in agriculture, regional listings of farms and agricultural firms; an interview schedule, an interview manual of methods and procedures to be followed, introductory letters, a summary of interview form, a brochure describing the program of vocational agriculture, and teachers of agriculture who were prepared to collect data through personal interviews.

Outcomes of Phase II included a compilation of data regarding current employment, current vacancies, replacements needed in the next five years, the projected work force in 1979, the sex of workers, minimum and maximum weekly earnings, level of experience required for entry employment, formal educational level required for beginning employment, difficulty experienced in hiring qualified workers and ways in which Connecticut agricultural employees obtain additional training. Data regarding whether or not Connecticut agricultural employers had hired vocational agriculture graduates, were familiar with the vocational agriculture program, or were familiar with the FFA were collected. In addition, data regarding what the vocational agriculture program could do for agricultural employers and what the employers could do for the program of vocational agriculture were also gathered.

Results indicated that the employment opportunities in agriculture in Connecticut are increasing at a rate of approximately three percent per year. Also, within the state a large number of resources are available which, if tapped, could be used to enrich the program of vocational agriculture offered in Connecticut.

IDAHO

GIBSON, John R. "A Study of the Techniques Used by Instructors of Selected Winners of the Lincoln Arc Welding Contest in Promoting, Financing and Constructing Major Construction Projects in the School Shop." Master of Science Thesis, 1976, University of Idaho, Moscow.

Purpose. The purposes of this study were:

1. To determine the actual methods and procedures used by successful shop instructors in promoting their student construction projects.
2. To determine what procedures were most successful in procuring construction materials for the students.
3. To determine the extent of the planning required by instructors of Lincoln Arc Welding Contest winners before these students began actual construction.
4. To recommend some procedures used by successful vocational agriculture instructors which will increase and improve the project construction program in Idaho vocational agriculture program.

Method. The data were obtained by mail questionnaires from the instructors of the winners of the agricultural division of the 1969 through 1972 Lincoln Arc Welding Contest. The questionnaire dealt mainly

with background information on the student, instructor, facilities and methods of promotion and construction. Seventy-three questionnaires were mailed to instructors, sixty-one were returned but only forty-seven, or 63 percent were considered usable.

Findings. Ninety-eight percent of all instructors responding used the home project visitation to promote the farm mechanics program. Other methods frequently used were displaying projects at banquets, open houses, fairs and articles in newspapers.

All of the instructors surveyed arranged construction projects for students who could not otherwise get a project for themselves.

Eighty-one percent of the respondents surveyed allowed students to utilize new or used materials in the fabrication of projects. Nineteen percent of the instructors required them to use new materials in project construction.

Approximately 50 percent of the instructors reported that materials were available to the student, with financing either through the school district or the FFA. The majority of those instructors sold those materials at a price higher than cost.

Ninety-eight percent of the responding instructors required planning before actual construction could start. The required plans varied from simple sketches to scaled drawings with a bill of materials.

Ninety-three percent of the instructors required all project construction to be either agricultural, home improvement, or community service.

Fifty-one percent would not allow more than two students to work on a project.

The physical facilities of the farm mechanics program, or the background of the student, had little effect in determining the departments from which Lincoln Arc Welding Contest winners originated.

The class size most common among those surveyed were those containing eleven to fifteen and sixteen to twenty students.

HOPPER, Joseph Frederick. "Status of Cooperative Vocational Education in Agriculture in the Secondary Schools of Idaho." Master of Science Thesis, 1975, University of Idaho, Moscow.

Purpose. Objectives were: (1) To determine the number and extent of cooperative vocational education programs in agriculture being offered in the secondary schools of Idaho. (2) To determine the need for cooperative vocational education in agriculture in the secondary schools of Idaho. (3) To determine how to further develop or implement cooperative vocational education in agriculture in the secondary schools of Idaho. This research included criticisms and strong points of existing cooperative vocational education programs in agriculture; the need for inservice training of teachers relative to coordination problems; and the optimum size of school and type of community to develop a cooperative vocational education program in agriculture. (4) To determine reasons why cooperative vocational education in agriculture is not being implemented by a majority of Idaho secondary schools. (5) To determine the extent of related agriculture occupation programs now being offered in many Idaho high schools.

Method. The data were obtained by the use of a mailed questionnaire that was sent to seventy-seven Idaho vocational agriculture teachers during the 1974-1975 school year. Seventy-four teachers responded to the survey.

Findings. The Idaho instructors concerned with agriculture cooperative vocational education programs believed that the students developed job-entry level skills along with a positive attitude toward the world of work. In addition, they believed that an agriculture cooperative vocational education program developed a closer relationship between the school and the community, as well as offering the student an opportunity to enter into and advance in an agricultural occupation.

Fifty-nine of the seventy-four teachers indicated that they would like to know more about on-the-job training programs in vocational agriculture and how to coordinate them with class work. Sixty-three instructors reported teaching a unit on agriculture related work experience as a regular part of the course of study in vocational agriculture.

Insufficient training stations and conflicts with the regular vocational agriculture program were the main reasons given by the teachers for not offering agriculture cooperative programs in their high schools. Instructors also indicated that their lack of understanding of the agriculture cooperative program and possibly some lack of administrative support and community interest were other reasons for not offering such a program in addition to the regular vocational agriculture program.

McCLAIN, Clifford R. "A National Study to Determine the Competencies Necessary for Initial Employment and First Level Advancement Within the Potato Production Industry." Master of Science Thesis, 1976, University of Idaho, Moscow.

Purpose. Objectives were: (1) To identify and validate the general areas of work and specific competencies needed for initial employment and first level advancement within the potato production industry as determined by a nationwide panel of industry personnel. (2) To determine the importance to employability of each identified competency as reported by a national panel of industry personnel. (3) To report the findings of this study to the National Committee on Agriculture/Agribusiness Occupational Competencies. (4) To outline a suggested course of study in potato production for a secondary vocational agriculture program, based on the findings of this study.

Method. The data was obtained by the use of a mailed questionnaire which was developed by the writer and validated by a seven-member national panel of potato experts. The questionnaire was sent to seventy-three potato production personnel representing seven of the ten top potato producing states in the United States during the spring of 1976. Fifty-five usable surveys were completed and returned.

Findings. The survey consisted of one hundred thirty-seven potato production competencies grouped within fourteen general areas of work performed in the production of potatoes. The respondents rated, on a five point scale, the relative importance of each potato production competency as it applied to initial employment requirements within the industry. A weighted mean was then determined for each competency. The highest possible weighted mean a competency could receive was a 4.00 while the lowest possible was 0.00.

There were forty-five competencies receiving a weighted mean of 3.00 or higher. There were fifty-five competencies having a weighted mean of between 2.00 and 2.99. There were thirty-seven competencies which received a weighted mean of below 2.00.

It was recommended that those competencies receiving a weighted mean of 3.00 or higher should be included in a high school vocational agriculture unit on potato production. It was further recommended that, if time were available, those competencies

receiving a weighted mean of between 2.00 and 2.99 should also be included in a course of study. Finally, it was recommended that those competencies failing to receive a weighted mean of at least 2.00 should not be included in a high school vocational agriculture potato production unit unless student interest or local potato production conditions justified such inclusion.

ILLINOIS

REYNOLDS, Carl. "A Comparison of Agricultural Education Students and Students in Non-Agricultural Education Curricula and Factors Related to Their Curriculum Choice." Doctor of Education Dissertation, 1976, University of Illinois, Urbana.

Purpose. The primary purpose of this study was to determine the characteristics of students and the factors which influenced their enrollment in the agricultural education curriculum.

Method. Differences between agricultural education majors and students in non-agricultural education curricula were compared on personal characteristics and factors related to their curriculum choices. All agricultural education students at Illinois State University and the University of Illinois were compared with a random sample of students enrolled in the other agricultural curricula. Data were collected by administering the Agricultural College Student Survey to the students in the sample. Biographical information and perceptions of the influence of curriculum choice factors, job benefits, benefits of the agriculture teaching profession, characteristics of the agriculture teacher and the teacher job market were obtained from students. Data were analyzed by analysis of variance, chi square, Pearson product-moment correlation and t-test techniques.

Findings. (1) Agricultural education majors graduated from a smaller high school and had more vocational agriculture and farm work experience than did the non-agricultural education curriculum group. More of the agricultural education students were from a farm whereas more of the non-agricultural education curriculum group were from urban areas. The proportion of males to females in both curriculum groups were similar. (2) Agricultural education students rated the degree that selected factors influenced their curriculum choice higher than did students in non-agricultural education curricula for a college instructor, college advisor, high school agriculture teacher, high school courses and job opportunities. (3) When grouped by class, juniors rated the influence of a college advisor higher than did freshmen and sophomores. Freshmen and sophomores rated the influence of high school courses higher than did seniors. Juniors rated the influence of work experience during college higher than did freshmen and sophomores. (4) The five factors rated by agricultural education students as having the highest degree of influence on curriculum choice were job opportunities, FFA experiences, courses taken in college, high school agriculture teacher and work experiences before college. The five factors rated highest by students in the non-agricultural education curriculum group were work experiences before college, job opportunities, courses taken in college, work experiences during college and father. (5) Students in agricultural education rated the degree to which they expected benefits from teaching agriculture higher for personal satisfaction, variety of work and opportunity for advancement than did non-agricultural education curriculum students. (6) Whether or not students had taken vocational agriculture in high school influenced their ratings of the degree to which benefits would be received from teaching agriculture. Those who had vocational agriculture experience rated benefits realistically; those in agricultural education who had none gave optimistic ratings; those in the non-agricultural education group who had no experience rated benefits pessimistically.

(9) Of those who took Vocational agriculture in high school, agricultural education students rated their agriculture teachers higher on knowledge of subject matter than did non-agricultural education students. (10) Students in the two curriculum groups perceived the competition for getting a job as a high school teacher for any subject similarly. (11) Agricultural education students perceived a lower level of competition for getting a job teaching agriculture than did students in the non-agricultural education group. (12) Agricultural education students made their curriculum choice later than did students in non-agricultural education curricula.

IOWA

BYLER, Bennie L. "Analysis of Factors Related to the Educational Plans of Iowa Vocational Agriculture Students." Staff Study, 1975, Iowa State University, Ames.

Purpose. The major purpose was to determine if there are differences in selected factors related to the educational plans among the following groups of high school students:

- Group 1 - Vocational agriculture students who plan to attend a postsecondary area vocational school.
- Group 2 - Vocational agriculture students who plan to attend a four-year college or university.
- Group 3 - Vocational agriculture students who plan to enter the world of work and not attend college.

Method. The population consisted of all junior and senior students enrolled in secondary vocational agriculture programs in Iowa. A sample of thirty schools was selected to participate.

The following instruments were administered to a sample of 623 students:

1. Personal, Family and Community Data Related to Education Plans.
2. Agribusiness Achievement Test by Peterson, et al.

Findings. Of the 623 students participating in the study, 26.8 percent planned to attend a postsecondary area vocational school; 17.3 percent planned to attend a four-year college or university; and 55.9 percent planned to enter the world of work upon graduation from high school. The three student groups differed significantly for 30 of the 34 personal, family and community variables studied.

Students who planned to attend a four-year college or university received significantly higher Agribusiness Achievement Test scores for the following areas of agriculture:

1. Animal Science
2. Plant and Soil Science
3. Agricultural Mechanics
4. Agricultural Management

Students who planned to attend an area vocational school scored significantly higher on these tests than did students who planned to enter the world of work and not attend college.

CARTER, Richard Ira. "Professional Competencies Needed and Possessed by Beginning Teacher Educators in Agricultural Education." Doctor of Philosophy Dissertation, 1976, Iowa State University, Ames.

Purpose. The major purpose was to identify the professional competencies needed by beginning teacher educators who were employed as assistant professors in agricultural education.

Method. A stratified random sample was selected of the following groups: Teacher educators who had completed their doctorate since January 1, 1971; doctoral students who were pursuing a doctorate in agricultural education; and head teacher educators.

Respondents in the sample were asked to rate their perceptions of both the degree of competence needed and possessed by beginning teacher educators in agricultural education for each of the 114 competencies listed in the questionnaire.

Findings. Beginning teacher educators in agricultural education, as perceived by respondents, needed at least an average degree of competence in performing all of the professional competencies included in the questionnaire. In addition, beginning teacher educators needed a high degree of competence in performing 87 of the competencies and a very high degree of competence in 14 of the competencies. Respondents recognized that beginning teacher educators possessed at least an average degree of competence in 112 of the 114 competencies; however, there were only nine competencies in which beginning teacher educators possessed a high degree of competence. The subgroups were in basic agreement in their perceptions of the degrees of competence needed and possessed by beginning teacher educators in the listed competencies.

The discrepancy between the degree of competence needed and the degree of competence possessed for each of the competencies was examined and 26 competencies which had the greatest discrepancy were identified. Fourteen of these 26 competencies were competencies which related to the area of instruction.

GLIEM, Joseph A. "Effectiveness of a Student Reference in Teaching Safety to High School Vocational Agriculture Students." Doctor of Philosophy, 1976, Iowa State University, Ames.

Purpose. The purpose of this study was to evaluate the effectiveness of a student reference in teaching ladder safety in agricultural mechanics to high school sophomore students enrolled in vocational agriculture. The study evaluated the effectiveness of the student reference in terms of the following dependent variables: 1) student performance on a cognitive test, 2) the number of other safety references used by the teacher, 3) the amount of preparation time used by the teacher, 4) the amount of time needed to teach the safety unit, and 5) the amount of time students spent outside of class on the ladder safety unit. The independent variable that was manipulated in the study was the extent to which teachers and students had access to the student reference. The three levels of the independent variable were as follows: 1) both teachers and students received the student reference, 2) the teachers only received the student reference, and 3) neither the teachers nor the students received

the student reference.

Method. The design used in this study was the posttest-only control group design. Intact classes of sophomore students enrolled in vocational agriculture were used as the experimental units. Thirty schools having sophomore vocational agriculture classes were randomly selected to participate in the study. The assignment of these experimental units to experimental groups was done randomly. The treatment levels (student reference to teachers and students, student reference to teachers only, and the control group where neither the teachers nor the students received the student reference) were then randomly assigned to the three experimental groups.

The data collected on the subjects in each treatment group were averaged to obtain a mean measure for each group. The scores and other data from these treatment groups were then collapsed and the resulting mean measures of the different treatment levels were used for statistical analysis using a one-way analysis of variance.

Findings. The results of the study revealed the following findings: 1) students performed about the same on a cognitive posttest on ladder safety; 2) the time spent by teachers in preparing to teach the safety unit did not differ significantly; 3) the amount of class time used in teaching the ladder safety unit did not vary significantly; 4) the number of safety references used by teachers in preparing for and teaching the safety unit was approximately the same, and 5) student time spent outside of class studying on the ladder safety unit did not vary significantly among treatment levels.

HAYE, Winston. "A Model for a Leadership Development Component of Vocational Agriculture Programs in Jamaica." Doctor of Philosophy Dissertation, 1976, Iowa State University, Ames.

Purpose. The primary purpose of this study was to develop a leadership development model for the vocational agriculture programs in Jamaica. This model was developed using the Future Farmers of America (FFA) organization as a pattern. There were two assumptions made for this study; (1) that successful leadership development activities can be transported from the United States and adopted in Jamaican schools, (2) that Jamaica's existing philosophy for vocational agriculture should be revised to include aims and purposes to develop leadership skills.

Method. The researcher visited the office of the Ministry of Education located in Kingston, Jamaica. A list of the schools equipped with vocational agriculture teachers was obtained from one of the agricultural education officers. This list contained forty schools throughout the Island. From this population, a stratified random sample of twelve schools was selected. The administrators selected for the study were the individuals who head the various institutions. The vocational agriculture teachers were those who head the vocational agriculture departments in the schools. An attitude scale consisting of seventy-five leadership activities was administered to the selected teachers and administrators. Interview schedules were used to collect personal and situational data.

Findings. Both teachers and administrators had a favorable attitude towards all of the leadership learning activities studied. All seventy-five activities studied could become an integral part of the vocational agriculture programs in Jamaica.

Significant differences were observed between the attitude of teachers and administrators on three of the nine categories of leadership learning activities studied namely; earnings, savings and investment, scholarship and public relations.

There were no significant differences observed between the attitude of teachers and administrators among six of the nine categories of leadership learning activities studied namely; conduct of meetings, supervised occupational experience, leadership community service, recreation and cooperation. Both teachers and administrators gave activities related to supervised occupational experience their highest ratings. Activities related to public relations were given the lowest rating by both teachers and administrators.

KAAS, Duane A. "Comparisons of Alternative Methods of Teaching Plant Material Identification in Selected Schools of Iowa." Doctor of Philosophy Thesis, 1976, Iowa State University, Ames.

Purpose. The main purpose of this study was to determine the effectiveness of selected techniques in teaching ornamental plant identification to secondary school students enrolled in vocational agriculture.

Method. Eight secondary schools in Iowa that offered horticulture as part of their vocational agriculture curriculum were selected by the investigator. Two schools were assigned to each of the four treatments involved: audio-tutorial, filmstrip and script, greenhouse facility and lecture-discussion (control). Data were collected by means of pretest and posttest evaluation over students ability to identify ornamental plants and answer questions dealing with plant characteristics and horticultural terminology. Further demographic data were gathered through the use of student and instructor survey forms. Since schools were the sampled units, school means were computed and used as the basis for analysis. The statistical procedures used on the data included analysis of variance, stepwise regression, analysis of covariance, product moment correlation, and t-test.

Findings. It was concluded from the findings of this study that instructional media can be utilized in the absence of live plant specimens to teach the competency of plant material identification with satisfactory results. The outcome of this study also suggested that the media approach to educational instruction achieved better results when used in conjunction with teaching lab skills than with factual information in the classroom. Due to significant relationships between teacher and program variables, and student achievement, it was further suggested that instructors in ornamental horticulture at the secondary school level be provided with inservice education and assistance in program planning in order to broaden their present scope of knowledge in the field of horticulture.

SILLETTO, Thomas A. "Implications for Agricultural Safety Education Programs as Identified by Iowa Farm Accident Survey." Doctor of Philosophy Dissertation, 1976, Iowa State University, Ames.

Purpose. The major purpose was to identify Iowa farm accidents and determine educational implications for the agricultural population through the use of the National Safety Council's Standardized Farm Accident Survey.

Method. Twenty-four counties were randomly selected to participate in the study. County extension directors solicited volunteer interviewers and assigned a 12-farm area to each interviewer. Data were reported for 3161 farms by 273 interviewers. The data were analyzed through use of means, chi-square, and t-test.

Findings. There were 558 accidents and 38 illnesses during the year. Two fatalities were reported. One accident occurred per 5.66 farms and an average of 9.68 days were lost from normal activities due to accidents. The highest accident rate was found for youth of 15 years of age or less. Most of the accidents involving youth occurred during leisure activities. There were significantly more accidents of persons of age group 45-64 than expected. Dairy and hog farms were found to be the site of significantly more accidents than expected. May and August were months of the year with significantly more accidents than expected and midmorning and midafternoon were hours of the day with significantly more accidents than expected. Persons working with machines had significantly more accidents during the first hour of work than expected. Legs, fingers, feet and head were injured significantly more than expected when considered with other parts of the body. Women were injured significantly more than expected during leisure hours. When the percentage of slips and falls accidents were compared to 11.6 percent, commonly found in other states, a significant difference was found.

INDIANA

COPEL, Marvin. "Predictability of Career Choices of High School Seniors." Doctor of Philosophy Dissertation, 1975, Purdue University, Lafayette.

Purpose. The purpose of this study was to determine if high school graduates were entering into the career choices they had predicted as seniors. Specific attention was directed toward the career choices which individuals made as high school seniors, and a comparison was made to the actual occupations entered by these people four years later. The population was limited to the 1969 high school graduates in three Central Indiana public high schools.

Method. The research design selected for use was the survey method for data collection. Data from a 1969 Indiana Vocational Technical College Survey administered to the population was compared to these high school graduates four years later.

Five research questions were developed to investigate the accuracy of high school seniors predicting their occupational choice. The five research questions were: 1) What were the characteristics of selected 1969 high school graduates of three Central Indiana high schools? 2) What changes occurred between 1969 and 1973 in proportions of these high school seniors planning to seek employment or continuing their education? 3) At what stage in their career development process did these graduates first become interested in and decide on their career choice? 4) What differences existed between the present employment status of the 1969 high school graduates and their reported career choices made as seniors in high school? 5) Where were the 1969 graduates employed in relation to geographic locale?

Findings. There was little significant difference between the characteristics of the high school graduates when they were seniors compared to four years later.

Employment plans were altered drastically while post-secondary educational plans remained fairly constant. Graduates were more definite in their vocational or professional plans as it related to employment than they had been as high school seniors.

There was a difference between the time the student became interested in a vocation and the time the student chose a vocation. The high school graduates, four years after graduation, made career decisions which were more stable. The study sample.

of high school graduates reported that the primary influences on their career choice were, first, their own efforts and, second, the efforts of their relatives, and not the counseling by high school counselors.

Fewer graduates aspired to the "white collar" occupations selected in 1969 as high school seniors, while more found employment in "blue collar" occupations than selected this level as high school seniors.

More individuals were employed closer to their home than forecasted. A significantly greater number of graduates selected no preference in employment locale than when they were seniors.

There were variations between the career choice perceptions of high school seniors and actual employment four years later.

HOWELL, David. "Identification of the Occupational Competencies Needed In the Area of Agri-chemicals." Staff Study, 1976, Purdue University, West Lafayette.

Purpose. The major purpose of this study was to identify and validate competencies for occupations in the agri-chemical sales and service industry in mid-management, technical and skilled levels of employment.

Method. A survey instrument was developed for conducting a task survey in the following agri-chemical occupations: Manager, Sales Clerk, Service Mechanic, Field Technician, Trouble Shooter, Warehouse Man and Applicator.

A random sample of twenty counties was identified in the State of Indiana with four agri-chemical businesses interviewed in each county. A personal interview was conducted by a project staff member with an employee in a particular agri-chemical occupation. The employee was asked to rate sixty task statements as to their importance in relation to his occupation. Data was also collected by mailing questionnaires using the same instrument from agri-chemical businesses in the States of Ohio, Wisconsin, South Dakota and Iowa. A weighted mean was determined for each of the competencies.

Findings. It was found that in most cases, employees of agri-chemical businesses enter the business as an applicator and gradually increase their skills in other areas. Because of the small size of most businesses (five employees or fewer) employees performed skills in all job categories and specialization was limited. This suggests that high school programs prepare students to enter agri-chemical businesses as applicators but also to work in as many categories as possible.

LILJEDAHL, J. B., HAMILTON, W. H. and others. "Production of Agricultural Safety Materials." Staff Study, 1976, U.S. Department of Labor and Purdue University, West Lafayette.

Purpose. The major purpose was to provide extension, vocational agriculture, and other agricultural workers with educational materials on agricultural safety such as movies, slides, pamphlets and lesson plans.

Method. Each state was contacted for copies of their educational materials relating to agricultural safety. Where suitable materials were located, permission was obtained to use them. Where materials were not available, they were written. Lesson plans were written and field tested for a number of the written materials.

Findings. The written materials were effective in increasing student knowledge about safety topics with highly significant differences between pre and post test results in nearly all units tested.

Materials produced in the project were: fifty-six pamphlets, twelve lesson plans, one movie, seven slide sets, twenty alert bulletins and a bibliography of safety materials.

RICHARDSON, William. "Development of Instructional Materials for Use by Indiana Vocational Teachers in Teaching Leadership and Character Development to Youth in Indiana." Staff Study, 1976, Purdue University, West Lafayette.

Purpose. This project used the Three Stage Model of Instruction to coordinate the development of 13 units of leadership instruction designed for use by high school vocational educators. The objectives of the project were to: (1) Identify important leadership skills and character traits; (2) Categorize these skills into broad topical areas; (3) Identify existing relevant leadership materials; (4) Develop a three-stage instructional package for each topical area; (5) Develop a teacher manual for each three-stage instructional package; (6) Field test and revise the materials.

Method. Review of the leadership literature and categorization of leadership skills by the project staff and advisory committee resulted in the identification of the following thirteen important areas of leader and group member skills: 1) introduction to leadership, 2) planning and initiating, 3) parliamentary procedure, 4) developing group goals, 5) levels of leadership in a group, 6) skills of a group leader, 7) personal characteristics of a group leader, 8) skills of a group member, 9) developing group cohesiveness, 10) effective committees, 11) communication skills, 12) internal operations of a group, and 13) outcomes of leadership.

A separate three-stage leadership unit was developed for each of the thirteen leadership areas. The units were pilot tested at a two-day leadership conference involving 74 young leaders and were found to be effective.

The field test consisted of a pretest-posttest, control-group design. The field test sample consisted of 24 classrooms enrolling 550 vocational high school students.

Findings. Evaluation results were presented for Stages One, Two, and Three of the leadership units: Stage One results indicated that students who studied the leadership materials mastered significantly more factual information than students in the control group.

Stage Two results indicated that students who participated in the small group simulations received generally higher leadership ratings from teachers than students in the control group.

Stage Three results showed that students who studied the leadership materials viewed the ideal leader as being more considerate than students in the control group.

RICHARDSON, William B. "Development of a Statewide System for Follow-Up Vocational Graduates that has Implementation for Usage by Local Education Agencies." Staff Study, 1976, Purdue University, West Lafayette.

Purpose. This project was designed to develop instrumentation and methodologies to be used in a systematic follow-up program by local schools. In addition, the project was to develop a method for summarizing the data obtained by the follow-up. Finally, the project provided a mechanism for tracing local school personnel in the usage of the system.

Method. This project developed a statewide follow-up system for vocational graduates. An advisory committee was appointed to guide the staff in the selection of instruments and methodologies. Four local schools were used as pilot centers to test instruments and methodologies developed. Job performance as assessed by the student and by the employer was obtained. Perception of guidance and placement assistance was secured as well as an interview with a sample of guidance personnel at the local level. A handbook was developed which provides an interpretation of the data. Workshops were held for state staff personnel so that they could implement the system.

Findings. The primary outcomes of this project were the development and field testing of instruments and methodologies that could be utilized in a statewide system for follow-up of vocational graduates. The unique aspects of the proposed projects were the system for summarization of the data workshops to train local personnel in the usage of the data. Also, the project varied from the traditional and obtained the students' perception of guidance and placement.

RICHARDSON, William B., KLINE, E., & WHITE, Thomas R. "Generalizable Evaluation Model for Vocational Teacher Education Programs in Indiana." Staff Study, Purdue University and Indiana University, West Lafayette and Bloomington.

Purpose. The intense interest in the evaluation of vocational teacher education resulted in a project designed to develop a model whereby the vocational teacher education program could be evaluated. The model was to be functional on a statewide basis and generalizable to all vocational teacher education programs. In addition, the project gathered preliminary process and product data in order to 1) provide an indication of instrument design and 2) determine the feasibility of ultimate implementation of the model.

Method. Specific functions were assigned to the individual institutions thereby providing a division of the total tasks and accountability. Together, however, the project staff developed a conceptual basis for the model and cooperated throughout the project by meeting frequently and sharing materials developed.

Specific procedures were: 1) selection of an advisory committee representative of producer and user groups; 2) identification of the model components; 3) development of teacher education goals (functions); 4) validation of the goals by the advisory committee; 5) development of objectives; 6) validation of objectives by the advisory committee; 7) development of process and product criteria; 8) validation of criteria by the advisory committee; 9) development of preliminary instruments for a single goal; 10) collection of preliminary data; 11) dissemination of the model through a statewide conference; and 12) production of a final report.

Findings. As a result of the project, there is now a generalizable model for evaluating vocational teacher education which is based on the following premises: 1) vocational teacher education is a statewide effort; 2) institutions of higher education are the primary providers of vocational teacher education; 3) expectations for vocational teacher education can be divided into mission areas of instruction, research and development, and service; 4) mission areas can be linearly subdivided into goals (functions), objectives and criteria; and 5) criteria measurement will result in information needed to make program improvement decisions in vocational teacher education. The major product of the project is, therefore, a model, along with its conceptual basis, for evaluating vocational teacher education and a suggested implementation plan. Included in the model are missions, goals, objectives, and criteria which are inclusive of vocational teacher education.

WARFEL, Larry Gale. Experimental "Use of Visual Aids in Teaching Parliamentary Procedure to Greenhand FFA Members at State Leadership Camps." Doctor of Philosophy Dissertation, 1976, Purdue University, West Lafayette.

Purpose. In this study the investigator analyzed parliamentary procedure instruction taught by a traditional or (control) lecture-demonstration method compared to an experimental method of lecture-filmstrip. The investigator also evaluated the relationship between participation and leadership behaviors as reported by the participants' vocational agriculture teachers in a follow-up study.

Method. The study was based on 225 individuals who attended the 1975 FFA Orientation Camps. There were 113 students in the control group and 112 in the experimental group.

A pre-test, post-test control group design was used to test the first hypothesis using a 30 item multiple choice parliamentary procedure test instrument.

The data from the post-test scores were analyzed by a t-test. The Guttman split-halves mode reliability estimate and item to total score on the test correlations were used to assess the reliability of the test and the items within the test.

Findings. The t-test results for the post-test comparisons were not statistically significant at the .05 level indicating that the groups were very similar. There was no significant difference in achievement on the parliamentary procedure test.

Six months after the initial study the participants were evaluated by their vocational agriculture instructor on ten measures of leadership participation; FFA membership, committee participation, creed contest participation, chapter meeting discussion, chapter meeting contest, public speaking contest participation, judging contest participation, officer or assistant officer participation and classroom discussion. Chi square analysis found no significant difference between the control and experimental groups.

MICHIGAN

TROTTER, Eugene and HASBEY, Patsy L. "Assessment of Agriculture and Natural Resources Instructional Materials Utilization at the Elementary level in Michigan." Staff Study, 1976, Michigan State University, East Lansing.

Purpose. The purpose of this research study was to determine whether elementary teachers in the State of Michigan integrate principles and practices of agriculture and natural resources into their on-going curriculum and if they do, how they do it. The objectives of the study were as follows:

1. Determine teacher awareness of the educational services provided by selected agriculture and natural resources groups, associations and other appropriate sources.
2. Determine teacher utilization of educational services from selected agriculture and natural resources groups, associations and other sources.
3. Determine instructional materials received by teachers from selected agriculture and natural resources groups, associations and other sources.
4. Determine subject areas in which teachers integrate agriculture and natural resources instructional materials.
5. Informally assess teacher attitudes and opinions toward integrating agriculture and natural resources into the on-going curriculum.

Method. A questionnaire was devised for the purpose of testing research objectives. Data were collected by research personnel from 350 (a response rate of 75.27%) elementary teachers in 30 public schools during an on-site, regularly scheduled faculty meeting. All school districts in the State of Michigan fall into one of five community types: rural, town, city, urban fringe and metropolitan core. The five community types served as a basis for population stratification. The sampling fraction $f=1/20$ was uniformly applied across strata so that probability of selection was proportionate to size.

The Statistical Package in the Social Sciences (SPSS) was employed for computer analyses. Data were analyzed by individual stratum and as an aggregate population. Frequencies were tabulated and the chi-square tests of homogeneity and independence were calculated. Post hoc procedures were applied when appropriate.

Findings. Analyses of the data indicates that elementary teachers in the survey sample are not significantly aware of agriculture and natural resources groups, associations and other appropriate sources of instructional materials. In general, it was concluded that the appropriate sources of agriculture and natural resources instructional materials have not made themselves and their services known to elementary teachers. It was further concluded that elementary teachers have not sought out these organizations as sources of instructional materials. Elementary teachers appeared to be receptive towards the concept of infusing agriculture and natural resources principles and practices into their ongoing curriculum.

MISSISSIPPI

BONNER, Jimmy. "Competencies Needed by Future Farmer of America Advisors in Mississippi." Master of Science Thesis, 1976, Mississippi State University, Mississippi State.

Purpose. The overall purpose of this investigation was to identify the competencies needed by Future Farmer of America advisors in Mississippi. Secondary considerations of this study were to compare the perceived importance of these competencies with various levels of biographical and FFA program information.

Method. Seventy-eight FFA advisors in Mississippi were selected as the sample by employing the systematic-list sampling method. Data were collected from the sample through mailed questionnaires. Statistical analyses were computations of means, frequencies and percentages. Hand tabulations were conducted.

Findings. It was found that the 108 competencies were perceived as being needed to some degree. It was found that sixty-six competency statements were perceived as being needed much or to a greater degree.

Findings of the comparison of variations in biographical and FFA program information with the perceived importance of competencies indicated that age, race, number of members enrolled in the FFA program and type of school where the FFA program is located appeared to have negligible effect on the perceived importance of competencies.

It was found that tenure, educational level, number of years of FFA membership in high school, percentage of vocational agriculture students enrolled in the FFA, type of area where the FFA program is located and the perceived importance of the FFA program to the vocational agriculture program appeared to have some influence on the perceived importance of competencies.

Respondents who were FFA members four years or more in high school rated competencies higher than respondents of other levels.

Those respondents with eighty-six to 100 percent of vocational agriculture students enrolled in the FFA ranked competencies higher than respondents with smaller percentages enrolled.

Urban and rural farm respondents ranked competencies higher than did respondents in suburban and rural nonfarm areas.

Increasing perceived importance of the FFA to the vocational agriculture program was accompanied by higher ranking of competencies.

BROWN, Ronald; CROSS, Jimmy; BONNER, Jimmy. "Career Orientation for High School Student Leaders in Agricultural Occupations, Final Report." Staff Study, 1976, Mississippi State University, Mississippi State.

Purpose. The purpose of this project was to familiarize secondary school students with career opportunities in agriculture and the requirements for these careers and to help them present career information programs at their home schools. Selected high school vocational agriculture students were involved in an extensive session at Mississippi State University. These students were involved in career orientation activities to increase their awareness of occupations available in agriculture.

Method. An advisory committee was used in selecting students and consultants. Forty-five students were selected and registered representing eighteen schools.

In Phase I, participants met as a group and in three sub-groups for completing the "Agricultural Occupations Knowledge Test" as a pretest and gaining familiarity with the audio-visual materials, hands-on experiences and printed materials.

The "Agricultural Occupations Knowledge Test" was administered as a post-test.

Phase II involved supervising, assisting and following-up the students and their teachers. Assistance was provided in helping them implement agricultural career orientation programs in their home schools with extensive use of local resource persons, tours, demonstrations, field-trips, and audio-visual presentations.

Findings. An evaluation form consisting of sixteen statements was completed by the students. Responses indicated that the students were introduced to new agricultural occupations, new and different career information, and that their awareness of careers and their requisites was increased.

Agricultural agencies were contacted 187 times by thirty-four schools during the project.

Thirty-three schools indicated they contacted agricultural businesses in the continuation of this project on a local level a total of 261 times.

Twenty-five schools reported agricultural resource persons and guest speakers were used in this project on a local level.

Filmstrips, slides, films, and other instructional materials provided were used a total of seventy-five times by thirty-eight schools in conducting their programs.

BROWN, Ronald; FAULKENBERY, David; and AINSWORTH, Ted. "Improving Methods, Techniques, and Materials of Safety Instruction." Staff Study, 1976; Mississippi State University, Mississippi State.

Purpose. The overall objective of this project was to involve approximately twenty-five secondary and/or post secondary teachers of agricultural mechanics in an in-service education program designed to improve the quality of instruction, supervision, and administration relative to safety in agricultural mechanics laboratories.

Method: To accomplish these objectives, the project was designed in three phases - project organization and resource development, group training and individualized instruction.

In Phase I, the project staff, with the assistance of safety and health consultants, identified and summarized occupational safety and health information essential to teachers of vocational agriculture. Materials found to be useful in this project were developed and/or purchased.

In Phase II, the project staff and resource persons determined the safety hazards which seemed to be most common in agricultural mechanics laboratories. This information served as a basis for the intensive group training sessions which were focused on safety knowledge and skills needed by agricultural mechanics instructors.

In Phase III, the project staff and/or resource persons visited the agricultural mechanics laboratories. The laboratories were surveyed and suggestions were made so that safety hazards could be alleviated, if possible. Individualized instruction was given to the participating agricultural mechanics teachers to help each develop an effective safety program and to insure that facilities and equipment met acceptable safety standards.

Findings. The major results and conclusions of this project are:

1. The agricultural mechanics instructors who participated showed a professional concern for the safety of their students and themselves.
2. The participants, at the end of the project, were rated as being able and willing to successfully prepare, organize, implement, and evaluate comprehensive safety programs.
3. Most of the participants corrected many safety hazards which were identified in their laboratories. An average of twenty-six safety hazards were identified in each laboratory.
4. Many safety hazards were common to a majority of the laboratories which were inspected.
5. A majority of the hazards identified were ones which could be remedied in a relatively inexpensive manner. With the exception of facilities for spray painting, most laboratories could be made safe at a cost of less than \$150 for materials. This is in contrast to the belief held by many teachers.

CHEATHAM, Danny. "A 4-H Youth Workers Competency Study." Master of Science Thesis, 1976, Mississippi State University, Mississippi State.

Purpose. The purpose of this investigation was to determine the competencies, as perceived by Extension workers, necessary for the successful operation of a 4-H program. It further dealt with determining the degree of necessity of each competency, determining at what stage in the Extension 4-H Youth Agent's career the competencies should be learned.

Method. Data were collected through a mailed questionnaire which was prepared by an extensive review of literature, consultation with other Extension professionals and youth agencies, and the personal experience of the researcher. Both random and total sampling were used in selection of the respondents. There were 146 Extension workers responding to the survey, which consisted of a ninety-five percent return.

The computations used in this study consisted of determining mean, frequency, percent, ranking within category, and overall ranking.

Findings. These analyses of data revealed that 144 competencies out of the original 157 were rated need much (3.000) or higher, while sixty of these competencies received a rating of 3.500 (half-way between need much and essential) or higher. It was further found that the competencies that made up the administrative, communication and program execution categories were consistently ranked higher by the respondents, while evaluation and resource development competencies were consistently ranked lower. The remaining categories: program planning, staffing, and teaching were perceived by the respondents as generally being equal in value for the success of an Extension 4-H program.

The investigation further revealed that the volunteer 4-H leader should only be involved in performing approximately thirty-one percent of the competencies, while the Youth Agent should be partially responsible for performing almost all of the competencies in this study.

The investigation also revealed that an overwhelming majority of the competencies analyzed in this study should be acquired during some type of in-service or on the job training.

FAULKENBERY, David. "An Investigation of Vocational Agriculture Teacher's Opinions of and Use of Citizens Advisory Councils." Master of Science Thesis, 1976, Mississippi State University, Mississippi State.

Purpose. This investigation deals with an analysis of the vocational agriculture teacher's opinion of and use of citizens advisory councils in the state of Mississippi.

Method. Data were collected from 79 vocational agriculture teachers via mailed questionnaires. These vocational agriculture teachers were selected using the random selection method.

The analyses performed on the data were the computation of percentages, frequency distribution, mean, chi square and analysis of variance.

Findings. These analyses of data revealed that 72 percent of the vocational agriculture teachers had a citizens advisory council. Of the 28 percent of the participants who did not have a citizens advisory council, some of the reasons were: the county board of education serves the same purpose; new program, not organized yet; and the vocational agriculture teacher did not understand the purpose of the citizens advisory council.

The average number of meetings of the citizens advisory council was found to be about two meetings per year with an average number of five members per council.

Almost eighteen percent of the citizens advisory councils had a constitution. When this variable was grouped with the independent variables, characteristics of the area proved to be a significant factor. The analysis also revealed that almost forty-three percent of the citizens advisory councils kept minutes of the meetings.

Twenty-five activities of the citizens advisory council were analyzed concerning their involvement in these activities. A mean was obtained, from a one to five scale, for these activities concerning their benefit to the vocational agriculture programs. Some of the activities the citizens advisory councils were involved in were: assisting in the evaluating of my program, with a mean of 3.3; making recommendations relative to program development, with a mean of 3.0; and influencing people, with a mean of 3.3.

OREN, John W. "Career Preparation Programs for Potential Agribusinessmen, Agricultural Agency Employees and Agriculture Teachers." Staff Study, 1976, Mississippi State University, Mississippi State.

Purpose. The purpose of this developmental project was to develop and implement specialized career preparation programs in agriculture.

Method. The project involved identifying three school systems which needed additional education in agriculture beyond what was currently being provided and developing instructional programs to meet these needs. Seven specialized career preparation teachers were employed. The teachers were involved in in-service training to develop competencies needed in the specialized areas. Each teacher developed a detailed program of study for the specialized areas. Staffing and scheduling patterns were followed to allow the teachers to rotate between nearby schools so that schools with insufficient enrollment for a full-time teacher could have specialized instruction on a part-time basis.

Findings. The products of the project included detailed course outlines, new and improved laboratory facilities, and specialized career preparation programs in agriculture.

MISSOURI

CARLILE, Robert B. "Method of Teaching Agricultural Mechanical Skills to the Educable Mentally Retarded." Doctor of Philosophy Dissertation, 1975, University of Missouri, Columbia.

Purpose. The purpose of this study was to examine the effectiveness of a sequentially oriented teaching method as compared with a more traditional method of teaching entry-level tractor mechanic's helper skills to educable mentally retarded students. Furthermore, to ascertain whether or not time of day for offering instruction had any differential effect on learning.

Method. The population for the experiment consisted of twenty-seven males enrolled in a Farm Machinery Operation Course. All students had chronological ages of fifteen to twenty years and were classified as an educable mentally retarded.

A 2 x 2 factorial design was used to test the two methods of instruction in two different time frames using two different instructional units. Analysis of variance was used to compare the results to determine if there was a significant difference between the experimental and standard teaching method used in the study. In addition, Fisher's LSD test was used to make paired comparisons among the means of the significant F values and to find the source of the effects of the interaction between the teaching method and time of day for offering instruction.

Findings. 1. Students could be taught at least one of the cognitive and psychomotor skills required to become a tractor mechanic's helper.

2. A significantly higher level of learning cognitive information in the morning and psychomotor skills in either morning or afternoon resulted when using the experimental teaching method as compared to the standard teaching method.

3. Cognitive learning was significantly greater in the morning for the experimental teaching method in comparison to the standard teaching method.

4. There was a significant interaction between teaching methods and time of day for offering instruction directed to cognitive learning. However, there was no interaction found between teaching methods and time of day for offering instruction directed to psychomotor learning.

HOFF, William W. "Attitudes Toward the Energy Crisis Among Selected Agricultural Groups." Doctor of Education, 1976. University of Missouri, Columbia.

Purpose. The study was designed to assess the attitudes of vocational agriculture students, their parents, vocational agriculture teachers, and energy experts toward the energy crisis in production agriculture.

Method. The population of this study included vocational agriculture students, their parents, vocational agriculture teachers, and energy experts. Thirty teachers were randomly selected to participate in the study. Students and parents were randomly selected in each department. The survey instrument contained 43 statements on selected issues and subjects on the energy shortage as it related to production agriculture. The instrument utilized a Likert type five point scale of strongly agree, agree, undecided, disagree and strongly disagree. The scoring for favorable statements was high to low (5, 4, 3, 2, 1) and reversed for unfavorable statements.

A principal component factor analysis with a varimax rotation was used to identify factors and create eigenvalues. Factor scores were computed for each respondent for each factor with an eigenvalue of 1.0 or more.

A one-way analysis of variance was used to test each factor for significant differences. Posteriori comparisons were made using a multiple comparisons procedure called the "Least significant differences" test (Fishers' LSD).

Findings. Factor analysis revealed 15 factors with an eigenvalue of 1.0 or more which accounted for 63.6 percent of the variances. The one-way analysis of variance identified seven factors with significant F values.

Eight research hypotheses were rejected. Two hypotheses were not rejected. Significant differences in attitude toward the energy crisis in production agriculture were found among and between the selected agricultural groups. The responses of laymen (students, parents, and teachers) were significantly different toward the energy crisis issues studied than the panel of energy experts. Location on Missouri, size of farm, and type of farm influenced the responses of students and parents. Location in Missouri or years of teaching experience did not influence the attitudes of teachers toward energy crisis issues.

STEWART, Bob R., GLOTFELTY, David and KANAKARAJ D. "Interaction Analysis in the Simulated Teaching vs. the Student Teaching Situation." Staff Study, 1975, University of Missouri, Columbia.

Purpose. The focal point for this study became the identification of an approach to measuring interaction in the classroom and the determination of the effectiveness of the simulated teaching experience.

Method. A review of available interaction analysis systems was conducted and the system developed by N. A. Flanders was selected for use in the study. A method of tabulating and recording information was then developed and a unit of instruction on interaction analysis was developed and used in a preservice teacher education course for agricultural education majors. The final phase of the project involved the collecting and analyzing of data from simulated and student teaching activities. During the course of the project, ten students completed tapes in both the simulated and actual student teaching setting.

Findings. The small number of students posed a problem in drawing conclusions for this aspect of the project. However, it was observed that the procedures used in the study did have benefits for student teachers. It was recommended that additional data be collected to provide a basis for answering the questions concerning the relationship between interaction in the simulated teaching and student teaching setting.

MONTANA

EGAN, Charles Evans. "An Analysis of the Procedures and Attitudes of Participants in 4-H Beef Projects in Stillwater County." Master of Science Professional Paper, 1976, Montana State University, Bozeman.

Purpose. The purpose of this study is to determine how 4-H members select, manage, evaluate and show 4-H market and breeding beef projects in Stillwater County and how parents and leaders involved in the 4-H beef project view these facets of the project.

Method. A questionnaire was designed to cover the planning, selection, nutrition, care and handling, records system and final project evaluation of the 4-H market and breeding beef projects in Stillwater County. The questionnaire was developed with the help of the 4-H beef committee. The questionnaire was tested with a group familiar with the 4-H beef program. The instrument was sent to 198 persons including leaders, leader-parents, and members.

Findings. Results of the study indicate members plan their projects on an annual basis with selection of animals guided by personal research as well as influence of others. Nutritional aspects of the feeding period were set up according to feed available and past experience. Data suggests program emphasis should encourage long range planning that would involve family members, leaders, and extension agents to promote further experience and knowledge for the 4-H member. Educational programs integrated into existing activities that stress research findings in genetics, nutrition and management would help members increase skill throughout the total project experience.

LANTIS, Daniel. "An Examination of Summer Programs of Vocational Agriculture in Montana." Master of Science Professional Paper, 1975, Montana State University, Bozeman.

Purpose. Objectives were to: 1) Determine summer employment status of vo-ag teachers, 2) evaluate the importance of summer program to the overall program, 3) plan for accountability of summer programs, 4) ascertain time spent on summer activities, 5) identify perceptions of vo-ag teachers and administrators toward program activities.

Method. Data for the study were collected from the 1974-75 Montana Education Directory, the State Supervisor of Agricultural Education and a mail questionnaire to Montana vocational agriculture teachers and to school administrators. Length of summer employment was the dependent variable; independent variables were teacher activities, and teacher and administrator perceptions.

Findings. Sixty percent of the teachers were employed at least eleven months. 2) Over three-fourths of the teachers reported having no set work schedule. 3) Almost two-thirds of the teachers were paid a regular teaching salary on extended contract. 4) Longer summer employment contributes to the overall program by: a) more visitations completed, b) more awards received by FFA members, c) more teacher time supervising occupational experience projects. 5) Teachers held an average of 2.2 planning meetings and submitted an average of 3.1 reports per summer. 6) Thirty-five percent of the time was spent on supervisory activities. 7) Teachers rated "hold FFA meetings" the most important summer activity. 8) Program management was rated most important to overall program development by teachers and administrators. 9) Teachers rated public relations least important. 10) Teacher-administrator perceptions differed on work schedules, planning meetings and reports required.

NEBRASKA

DILLON, Roy D. "An Analysis of Selected Factors Influencing the Use Of Time by 40 Vocational Agriculture Teachers in Nebraska." Staff Study, Department of Agricultural Education, 1976, University of Nebraska, Lincoln.

Purpose. To systematically record how Nebraska vocational agriculture teachers utilized their time for one year, and to make comparisons of mean hours worked, on selected independent variables.

Method. Forty vocational agriculture teachers kept a record of the time they spent for one year, in twenty-seven categories. These data were recorded in 1/4 hour blocks. Mean difference tests were run on eighteen different independent variables, to determine whether significant differences existed between or among groups. Analysis of variance tests were also run for each of the twenty-seven duty categories, over each of the eighteen independent variables.

Findings. Mean hours worked per month for the forty teachers was 221, with an annual mean of 2,652 hours. Thirty-one percent of their time was devoted to planning and teaching day agriculture classes; eleven percent to counseling and advising students; eight percent to curriculum planning; six percent to supervising occupational experience programs; and the remaining forty-four percent to the other twenty-three duty categories. Teacher age, professional association officership, holding a part-time job, and using a school vehicle, showed significant differences among teachers studied. Significant differences were also found in specific duty category tests within several of the independent variables.

DOUGLASS, R.L., HORNER, J.T., and HOOVER, T.L. - "Combining the Computer and Flanders' Interaction Analysis to Prepare Better Teachers." Staff Study, 1976, University of Nebraska, Lincoln.

Purpose. To modify and combine Flanders Interaction Analysis Category System (FIAC) with computer to provide immediate feedback for improvement of student teachers.

Method. An experimental study was made to examine the effectiveness of the system through controlled procedures. Then a pilot study was made to focus on the practicality of applying the system in a "real-life" situation in vocational agriculture. The experimental study designed to focus on determining whether or not the system did help naive students change their teaching behavior. Each student completed three short

teaching episodes. An observer scored the teaching performances and instructed the computer to process the data and display the results on a desk monitor. Alongside the students objective level, the computer feed-back displayed five different ratios: Teacher Response Ratio (TRR), Teacher Question Ratio (TQR), Pupil Invitation Ratio, (PIR), Percent of Teacher Talk (TT), and Percent of Student Talk (ST). The pilot study represented students in their professional semester of vocational teacher education, in the Department of Agricultural Education, placed in schools throughout the State of Nebraska. This necessitated data processing with a remote terminal up to 300 miles from the computer via long distance telephone service to and from the computer.

Findings. Evidence shows that the system can help effect significant changes in teaching behavior toward the goals which were determined to represent a desirable model of teaching. The student teachers favored using the system and believed that there should have been more opportunities to utilize the feed-back. When used in a real life situation, the biggest out-of-pocket cost item was the use of the telephone for long distance transmission. The approximate costs of the computer programs for both studies was \$5.00 per hour. Aside from the telephone problem, no other technical difficulties were encountered which had a bearing on the completion of the studies.

Combining the computer and Flanders' Interaction Analysis can, in fact, assist student teachers in vocational programs to improve their teaching performance, based upon immediate, objective feedback data.

NEW YORK

DEYO, Willian. "A Census-Based Clustering System for Career Education." Master of Arts Thesis, 1976, Cornell University, Ithaca.

Purpose. The purpose was to develop a system for providing information about all types of occupations that would enable teachers and counselors to present the most information about those occupations which are likely to provide employment for the most students. It is assumed that the largest occupations will generally employ the most students since the majority of job openings result from the replacement of workers who leave occupations.

Method. The Bureau of the Census report "Detailed Occupation of Employed Persons by Detailed Industry and Sex: 1970" was analyzed to determine which one of a total of 15 types of industries provided employment for the most workers in each of 385 occupational titles or categories representing our entire labor force. Lists were then developed for each of the 15 industry clusters listing in order of size those occupations for which that industry proved to be the major employer. The total number of people employed in all industries was included for each occupation as well as an indication as to whether or not more than half of the workers were concentrated within the major employing industry cluster.

Findings. The 35 largest occupations employ more than half of the workers in our nation. For nearly three-fourths of the occupations, the majority of the workers tend to be concentrated within their major employing industry cluster. A table indicating the percentage of the labor force employed in each industry cluster is provided as a guide for determining the proportion of class time to devote to the study of each industry. For example, since the two manufacturing clusters employ 26 percent of our labor force, approximately one quarter of the course should be devoted to how a product is produced and the contribution of each occupation, revealing promotion routes.

LEGACY, James W. "Identifying Technical Teacher Competencies in Agricultural and Occupational Education." Doctor of Philosophy Thesis, 1976, Cornell University, Ithaca.

Purpose. The purpose of this study was to (1) evaluate the usefulness of Functions-task analysis data for writing behavioral statements of technical occupational skill and knowledge, (2) to determine if the occupational skill and knowledge essential for teaching differs from the skill and knowledge essential for workers, and (3) to propose a system for utilizing behavioral statements within a competency based teacher education program of preservice teacher training in agriculture.

Method. Following a task analysis of farm businesses in New York State, a competency outline was prepared for teaching farm production and management (FPM). The dairy production competency "Raising Youngstock" was selected for the investigation. A list of 62 behavioral statements of skill and knowledge (tasks) was mailed for need level identification to a sample of 40 teachers and 46 dairymen. A total of 83 or 97% of the sample returned the questionnaire. In rating knowledges and skills, the study participants assigned one of a four level scale of need to each of the 62 task statements.

Findings. Sixty of the 62 tasks were rated as useful to the performance of the test competency. This accomplished the first purpose of the study and established the Functions-task analysis procedure as a method of identifying behavioral task statements.

Measurement of teacher-worker difference was accomplished by dividing the four unit scale into two parts. The mode or most frequently identified need level was the statistical measure used to indicate teacher-worker difference. A two unit need scale was created by combining need levels one and two, and three and four. For 53 of the 62 tasks, teachers identified the same need level as established by the workers.

There were nine tasks which teachers identified at a three-four need mode, while workers established a one-two need mode or vice versa. This result suggested that on a two point scale of more important-less important, workers and teachers identified a common need level.

However, of the 44 commonly identified more important tasks, 30 were (with significance at .05) more frequently identified at level four, essential, by teachers. Of the remaining more important tasks, nine were more frequently identified as essential by teachers, two were assigned identical frequencies, and three were more frequently, but not significantly, identified as more essential by workers.

An analysis of variance supported the findings of teacher-worker difference. The findings were (1) that teachers and workers identified a similar set of tasks as useful to the test competency, while (2) teachers more frequently identified both skills and knowledges as essential.

The conclusions applied to the study's suggested CBTE paradigm were, (1) that based on measured differences, teachers should establish teacher preparation competencies and (2) that task analysis is a valid procedure for developing competency tasks lists. In addition to proposing methods for determining teacher competencies, the study outlined a procedure for testing competencies. The test included a written test of randomly selected knowledge questions, with a practical demonstration of technical skills. The test proposed credit for pre-college learning, allowed for individual differences, and provided a basis for performance evaluation.

It was concluded that since teacher-worker needs differ, teacher determination of the technical components of a competency based teacher education program is essential.

TOM, Frederick K.T. and CUSHMAN, Harold D. "The Cornell Diagnostic Observation and Reporting System for Student Description of College Teaching." Staff Study, 1975, Cornell University, Ithaca.

Purpose. The purpose was to develop a practical diagnostic observation and reporting system for student description of college teaching. This imposed upon the research team the task of synthesizing three vital components: (1) an instrument that students can use to describe the teaching behaviors of an instructor in terms of variables related to student achievement; (2) a means for ascertaining student achievement in a given class section; and (3) a "stand alone" computerized technique for summarizing feedback to the instructor appropriate for the diagnosis of her or his strengths and weaknesses and the prescription of appropriate remedies.

Method. At Cornell University 120 professors participated in identifying seven general teaching objectives considered satisfactory for describing the objectives considered satisfactory for describing the objectives of undergraduate courses. In addition, data were collected from 402 instructors and 12,792 students at ten colleges of agriculture in the Northeast to determine the correlations between the presence of 45 low-inference teaching behaviors and the degree of student achievement as measured by students' ratings of their progress on each of the seven general teaching objectives used in the study.

Findings. The findings show that 28 specific, low-inference, observable teaching behaviors correlated at the level of .48 or higher with student achievement on one or more of the general teaching objectives and were classified by the researchers as effective at the college level.

Four main products were generated by the study: an Instructor Form, a Student Form, a computer Instructor's Printout, and the required computer programs for use in processing the data on standard electronic equipment. Administrators and professors interested in the improvement of college teaching will find these products to have implications for meaningful staff development programs. Similarly, researchers seeking to validate competencies for inclusion in a competency-based teacher preparation program will find the rationale and methodology used in this study of benefit.

VILLACIS, Fabio Milton. "A Procedural Model for Job Analysis in The Agricultural Sector of Venezuela." Doctor of Philosophy Thesis, 1976, Cornell University, Ithaca.

Purpose. The purpose was to develop a procedural model for conducting job analysis in the agricultural sector of Venezuela and to test the model in one livestock and two crop occupations in Venezuela, i.e., a swine breeder, a coffee processor and a peanut grower.

The objectives of the study are:

1. To identify tasks and to collect, organize and present detailed information on (a) the factors considered to be the general physical and mental traits required by the worker to perform the tasks, and (b) a description of the location, environment and conditions of the job. This information could be a useful source for educational application including guidance and orientation for prospective workers.
2. To develop a strategy for broadening the current classification of agricultural jobs in the Venezuelan Dictionary of Occupational Titles, by identifying existing jobs which are not recorded in the D.O.T. or jobs which are recorded but not correctly described.

Method. The procedural model developed is a continuous sequence of organized events: developing instruments and procedures, designing strategies for implementation, data validation, and analysis and organization of data collected. Direct observation of the worker performing the job was combined with the use of personal interviews. Validation with regard to how the job is being done was provided by supervisors of the worker and experts. Specialists made observations with regard to how the job should be done.

Findings. Job analysis in the agricultural sector through direct observation is feasible and functional. It provides useful information which when recorded and organized in a particular form facilitates the work of educators or technicians engaged in job classification and job evaluation.

Critical aspects of the study are the sampling procedures and the validation of the information collected. Particular attention should be given to the need for well-structured definitions of terms for similar studies.

NORTH DAKOTA

CHRISTMAN, Quentin Edwin. "Methods Used by 1972-74 State Superior (Or Gold) Award FFA Chapters In North and South Dakota, Minnesota and Montana In Financing Chapter Activities and In Using Chapter Funds." Master of Science Colloquium Paper, 1975, North Dakota State University, Fargo.

Purpose. The major purpose was to determine and evaluate methods used by 1972-74 Superior Award FFA Chapters in Minnesota, Montana, North Dakota and South Dakota to finance chapter activities and in using chapter funds. The specific objectives were: 1) To determine the kinds of activities most frequently used by chapters to finance their programs; 2) to appraise the financial effectiveness of selected activities used by chapters in financing their programs; 3) to appraise the educational values to members of selected activities used by chapters in financing their programs; 4) to determine the kinds of activities to which chapter funds were most frequently committed; 5) to determine the selected practices and procedures most frequently used by chapters in handling chapter funds.

Method. The sample consisted of 113 chapters who received the Superior Award one or more times during the 1972-74 period. A direct mail questionnaire completed by advisors of Superior Award Chapters supplied information for the study. Evaluations by chapter advisors using the fund raising activities were based on a scale ranging from a numerical value of 5 for appraisals of high value to a value of 1 for appraisals of no value. Data concerning the study were analyzed and presented to attain the specific objectives of the study.

Findings. Fund raising used most frequently by 35 percent or more of the Superior Award chapters were sales activities. Four of the six most frequently used fund raising methods were sales activities.

Fruit sales and general sales activities were ranked as the two most financially effective activities to raise chapter funds based on the mean scores as evaluated by chapter advisors.

Chapter businesses such as chapter farms and/or greenhouses were considered by advisors as the fund raising activity having the most educational value to chapter members. Fruit sales and general sales activities ranked second and third as having the

next most educational value to members.

Parent member banquets and chapter awards were rated as the most important activities to receive financial support with chapter funds as appraised by chapter advisors.

More than 70 percent of the chapters reported using the fifteen selected practices and/or procedures in handling chapter funds.

It is recommended that chapter advisors give more thought and instructional time to make chapter fund raising activities more educational by utilizing methods to teach concepts in selling and salesmanship, product knowledge, advertising and human relations.

HANSON, Gunder Robert. "A History of the Specialty Crops Program of the Detroit Lakes Area Vocational-Technical Institute and a Study to Determine Attitudes of Farmers Enrolled Toward Selected Aspects of the Program." Master of Science Colloquium Paper, 1974, North Dakota State University, Fargo.

Purpose. The major purpose was to determine attitudes toward the educational program and selected characteristics of farmers who were or had been enrolled in the Specialty Crops Program of the Detroit Lakes Area Vocational-Technical Institute as of June 30, 1973.

Method. To secure information needed for attaining the objectives of the study, two questionnaires were prepared. One was designed to secure information from farmers currently (June 30, 1973) enrolled in the Specialty Crops Program of the Detroit Lakes Area Vocational-Technical Institute. A second questionnaire was used to gain information from farmers who had been enrolled but were no longer active in the program. School records revealed a total of seventy-three farmers who had been or were currently enrolled since the program was originated in January of 1967. The questionnaires with an accompanying cover letter and a return addressed, stamped envelope were mailed to the selected farmers and followed up by personal and telephone contacts. Data from fifty-seven usable questionnaires returned were used for the findings of the study.

Farmers who expressed an interest in improving their proficiency in the production of small fruits (principally strawberries and raspberries) and/or the production of garden vegetables for commercial purposes by attending three or more classes per year and who had received on-the-farm instruction associated with the program, were considered enrollees in the Specialty Crops Program.

Findings. (1) The majority of the farmers enrolled in the Specialty Crops Program were middle aged men living on small farms with large families. (2) Over 90 percent (92.1 percent) of the farmers in the Detroit Lakes area who were involved in the Specialty Crops Program operate small units utilizing family labor for the purpose of supplementing their income. (3) The instructional program in Specialty Crops offered by the Detroit Lakes Area Vocational-Technical Institute has been adequate to meet the needs of farmers enrolled. In future planning of the Specialty Crops Program, the emphasis on on-the-farm instruction should be increased with some decreased emphasis on classroom instruction. (4) The desirability of the Detroit Lakes Area Vocational-Technical Institute making specialized equipment available on a loan basis to enrollees in the Specialty Crops Program was questionable. (5) Most of the farmers who had dropped out of the Specialty Crops Program did so for reasons other than those relating to the relevancy of the instructional program.

LUFFT, Vernon D. "Accessibility and Frequency of Use of Selected Audio-Visual Equipment by North Dakota Vocational Agriculture Teachers." Staff Study, 1976, North Dakota State University, Fargo.

Purpose. The purpose of this study was to utilize data concerning the accessibility and use of audio-visual equipment by local Vocational Agriculture teachers in North Dakota for purposes of planning Agricultural Education 404 - Instructional Media in Teaching Agriculture.

Specific objectives identified to meet the purpose were as follows: (1) To determine what audio-visual equipment is available in schools for use by local Vocational Agriculture teachers. (2) To determine the frequency which local Vocational Agriculture teachers use available audio-visual equipment.

Method. A survey questionnaire was developed utilizing questionnaires from a previous study. The survey questionnaire along with a cover letter and self-addressed stamped envelope was sent to each secondary, post-secondary, and adult Vocational Agriculture instructor in North Dakota. Non-respondents to this questionnaire were mailed a follow-up. The two mailings produced 106 returns or an 83.5 percent response.

Responses to the questionnaire items were recorded and tabulated by a work-study student in the Agricultural Education Department. Tables were prepared and frequencies and their percentages were recorded for use in reporting the results.

Findings. Most audio-visual equipment items are found in the school systems in North Dakota and are at least "sometimes accessible" for use by local Vocational Agriculture teachers. Items that are most often not owned and are unavailable for use are 8mm movie cameras, 16 mm movie cameras, and overhead projectors.

Audio-visual equipment that is used most often by local Vocational Agriculture teachers include the overhead projector, spirit process duplicators, copying machines, and mounted projection screens. Items that are found in the schools but are least often used are opaque projectors, portable projection screens, reel to reel tape recorders, and video-tape machines.

OHIO

ALVAREZ-QUINTERO, Moises. "Evaluation of Rural Development Programs In Developing Countries: An Appraisal of Supervised Credit Programs." Doctor of Philosophy Dissertation, 1975, The Ohio State University, Columbus.

Purpose. The major purpose of this study was to provide additional understanding in the interpretation of supervised credit programs used as an instrument for the development of the rural areas of developing countries. This study described the criteria under which supervised credit programs have been established, implemented, and evaluated.

Method. The analysis of the appropriateness of the criteria used in evaluating this type of program was made by using as a frame of reference, the purposes, goals and assumptions of a social action program. An appraisal of the interpretation of supervised credit programs and the identification of the role of such programs in rural development strategies is important because programs have been continued or discontinued on the basis of the information available in the evaluation studies. The shift from one developmental approach to another may be a costly enterprise that the poor countries cannot

afford to pay.

Findings. The study found that most writers of supervised credit programs agree that the programs' activities are for social promotion which have equilibrated educational objectives with adequate finance and are concerned with a special target population, whose capabilities and personal characteristics are more important than their economic characteristics.

The most common criteria used as indicator of the supervised credit program's performance are in terms of increased productivity, income, rate of interest, credit delinquency, capital formation and use of technology. There is a lack of well established set of criteria concerning the constituents of a successful supervised credit program. These criteria seem to be absent from the program objectives as well as from the evaluation studies reviewed.

It was found that only three out of fifteen factors mentioned as limitators of the supervised credit can be considered as non-institutional factors: (1) misuse of credit by the farmers; (2) loan delinquency and (3) educational characteristics of the farmers.

The review of the literature in the evaluation of social action programs showed that evaluation research is still at the stage of empirical generalization due to the lack of communication or diffusion of evaluation results, the lack of theoretical orientation in the evaluation studies, impossibility of replicability and lack of general agreement among evaluators concerning the status of the evaluation studies.

Although evaluation studies are made for multiple purposes, the most acceptable one is to provide evidence on which to base decisions about maintaining, institutionalizing and expanding successful programs and modifying or abandoning unsuccessful ones.

The most apparent methodological drawbacks in evaluating a social action program are: (1) conceptualization, (2) the use of research designs which do not control extraneous variables, (3) measurement, and (4) interpretation of the results.

An analysis of three evaluation models shows that a system approach model appeared to be the most convenient in evaluating a supervised credit program, given the complexity of and the large number of variables to deal with in that type of program.

ANDERSON, Lawrence G. Jr. "The Needs and Scope of The Ohio Grape Industry," Master of Science Thesis, 1975, The Ohio State University, Columbus.

Purpose. The purpose of this study was to describe the Ohio grape situation in terms of acreage, age of plantings, variety, methods of marketing and harvesting, growers sources of information and management problems.

Method. Names of Ohio grape growers were secured from county extension agents, grape processors and growers. A mail questionnaire was used to collect data. Telephone calls were made to non-respondents to collect information. Hand tabulation was used to summarize data.

Findings. The center of Ohio's grape growing industry was in northern Ohio in eight counties adjacent to Lake Erie. New plantings were made predominantly in Southern Ohio with varieties of the French Hybrid type. Concord was the predominant grape variety. Most grapes were machine harvested and sold to juice, jams or jellies processors. Weed control was the most serious vineyard management problem and growers most frequently

used extension service publications as a source of information.

BENDER, Ralph E. "The 1975 Occupations of Recent Graduates of Vocational Agriculture in Ohio." Staff Study, 1975: The Ohio State University, Columbus.

Purpose. The purpose was to identify the occupations of one and five-year graduates of vocational agriculture in Ohio as of March 1, 1975.

Method. A survey included 1845 students representing 72 departments selected at random from the 15 supervisory districts of vocational agriculture in Ohio.

Findings. Thirty-six per cent of the graduates out of school one year and the same percentage of those out of school five years were farming. Twenty-four per cent of the first year graduates and 20 per cent of the five year graduates were engaged in non-farm agricultural occupations. The percentage of graduates involved in non-agricultural work was 27 for those out of school one year and 37 for those out five years. Thirteen per cent of the graduates out of school one year were in college or technical schools. Five per cent of the first year graduates were unemployed as compared to 2.5 per cent of the five year graduates who were unemployed.

BYRD, John Rickey. "Tasks Performed By 4-H Program Assistants as Perceived By Georgia 4-H Extension Agents, 4-H Program Assistants and Volunteer Leaders." Doctor of Philosophy Dissertation, 1976, The Ohio State University, Columbus.

Purpose. The study was designed to: (1) identify the tasks perceived as appropriate for the development of the role position of the 4-H program assistant, (2) identify the tasks perceived as being performed by the 4-H program assistant, (3) compare the perception of persons occupying the three positions to determine the consensus among the positions, (4) determine the relationship between years of service, age, sex, years of formal education and location of residents (rural and urban) and the mean scores of tasks identified as appropriate for the role of the 4-H program assistant.

Method. Data were collected by mailed questionnaires from 38 extension agents with 4-H responsibility, 47 4-H program assistants and 82 4-H volunteer leaders who were located in counties that employ 4-H program assistants on a yearly basis during 1975 and 1976. A two-part questionnaire was used. Part I was designed to collect information about the respondents' (1) years of service, (2) age, (3) sex, (4) years of formal education and (5) location of residence. Part II was designed to secure data on task appropriateness and to determine the percentage of program assistants that were presently performing the tasks.

Findings. Considerable disagreement was found within the Cooperative Extension Service as to the categorization of tasks performed by 4-H program assistants into functional categories.

The years of formal education of the 4-H program assistants was higher than would be expected for a person who was not professionally trained.

Extension agents with 4-H responsibility, 4-H program assistants and 4-H volunteer leaders had a high level of consensus on the appropriateness and on the percentage of tasks being performed by the 4-H program assistant.

There tended to be consensus in perception of appropriateness when analyzing the tasks by each positional groups' (1) years of service, (2) age, (3) location of residence and (4) years of formal education.

There tended to be consensus in perception of appropriateness of tasks of 4-H program assistants when analyzing the tasks by sex of the 4-H program assistants and 4-H volunteer leaders.

Extension agents with 4-H responsibility tended to vary significantly on task appropriateness of 4-H program assistants when analyzed by extension agents' sex.

Extension agents with 4-H responsibility, 4-H program assistants and 4-H volunteer leaders were not in consensus on task appropriateness for 4-H program assistants in areas of (1) program evaluation and determining program objectives, (2) communication between the program assistants and the local citizens, volunteer leaders and extension agents and (3) availability of resources for the 4-H program.

CLARK, Charles. "An Analysis of Factors Influencing the Response Times of Rural Volunteer Emergency Ambulance Services." Master of Science Thesis, 1976, The Ohio State University, Columbus.

Purpose. The subject of this research study was the determination of factors which influenced the response time of rural, volunteer emergency ambulance services (EAS) in rural Ohio.

Method. A total of 33 volunteer EAS's located in 8 rural Ohio counties were the subjects of this study of the response time of ambulance services. A theoretical research model was established to ascertain response time. It was divided into 2 components (delay time - elapsed time from the receipt of the call until ambulance is enroute, and travel out time - elapsed time from when the ambulance is enroute until it arrives at the scene.) Data collection was conducted in two parts. Information regarding equipment, personnel, ambulance crew policies, travel conditions, community support and the benefits enjoyed by squadmen was collected and field interviews conducted with the 33 leaders of the sampled EAS's. The EAS's reported information regarding the emergency ambulance calls which they experienced during the period August 1 to September 15, 1975. Descriptive statistics were used to give visibility to the characteristics of the EAS's and regression analysis was performed to describe variations in delay time and travel out time.

Findings. Most of the EAS's surveyed indicated that their service areas followed a township or a combination of township and village boundaries. The average number of squadmen serving the 33 EAS's was 25.7. Seventy per cent of the services were using women squadmen. Forty-seven per cent of the EAS's used previously organized designated teams as squadmen to respond to the call to the ambulance. Fifty-three per cent of the EAS's used radio pagers or monitors to alert squadmen. The average number of ambulances per EAS was 1.6, with 70 per cent of the units using a van type ambulance less than three years old as their primary vehicle. Eighty per cent of the EAS's reported having a squadroom or loungeroom in their station house. A total of 407 usable "squad run reports" were returned by 73 per cent of the 33 EAS's. Twenty-four of the units averaged 17 calls during the six week period. Twelve EAS units had less than one call per week. The average reported delay time was 3.35 minutes and the average travel out time was 5.11 minutes. The average distance traveled by the last squadman to reach and man the ambulance was 1.12 miles, and the average distance traveled to the scene was 5.11 miles. A multiple regression analysis of selected factors related to response time revealed that approximately 60 per cent of the variation of the delay time could

be explained by the following factors: (1) the distance from the last squadman to man the ambulance traveled, (2) the number of radio monitors per ten squadmen, (3) the utilization of the team response, (4) the number of firebar telephones per ten squadmen, and (5) the number of squadmen serving the EAS.

ERPELDING, Lawrence H., Jr. "Status of Post-Secondary Education in Agriculture, Agribusiness, Natural Resources and Environmental Occupations, 1976." Staff Study, 1976, The Ohio State University, Columbus.

Purpose. To determine the status of post-secondary programs in agriculture, agribusiness, natural resources and environmental occupations in the United States and Puerto Rico in terms of teachers, programs and students. The data collected were to constitute a tool administrators could utilize in making programmatic decisions.

Method. Department chairmen in post-secondary institutions offering one and two year programs in agriculture, agribusiness, natural resources and environmental occupations were surveyed to determine the number of teachers employed, types of curricula offered, and student enrollment. Data were assembled showing the number of full and part-time teachers, the types and numbers of curricula, students enrolled in each program, extent of adult education offerings, and number of curriculum related student organizations.

Findings. The 1976 data showed record high numbers of programs offered and students enrolled in agriculture, agribusiness, natural resources and environmental occupations in post-secondary education of less than baccalaureate degree. Programs number 1,467 in 1976 which represented an addition of 133 compared to the previous year. Student enrollment was reported as 71,067 an increase of 16,639 or 30% from 1975.

Department chairmen stated 1,749 full-time faculty were employed in 1976. This number represented an increase of 174 fully employed instructional personnel when contrasted to the 1975 report. Part-time faculty employment grew from 1,118 in 1975 to 1,171 in 1976.

Of the 451 institutions offering less than baccalaureate post-secondary education in agriculture, agribusiness, natural resources and environmental occupations, 39% provided curriculum-based student organization. Adult education programs were offered in 34 of the 451 institutions.

HAMPSON, Michael N. "Leadership and Personal Development Competencies Needed in Agricultural Occupations As Identified by Agricultural Leaders in Ohio." Master of Science Thesis, 1976, The Ohio State University, Columbus.

Purpose. The purpose was to identify the leadership and personal development competencies needed in agricultural occupations as identified by agricultural leaders in Ohio. The major questions investigated were: (1) What leadership and personal development competencies are performed at the management, mid-management, and labor categories as identified by agricultural leaders in Ohio? (2) What is the degree of importance of specific leadership and personal development competencies as identified by agricultural leaders in Ohio? (3) Which leadership and personal development competencies should be included in the vocational agriculture curriculum?

Method. Data were collected by mail questionnaire from 210 agricultural leaders in the management, mid-management, and labor level of agricultural occupations. These individuals were designated as leaders by a random sample of vocational agriculture teachers. An advisory committee of vocational educators was utilized to select the leadership and personal development competencies in the study which should be recommended for inclusion into the vocational agriculture curriculum.

Findings. The performance and level of importance of 153 competencies were obtained from agricultural leaders at the management, mid-management, and labor occupational levels. One hundred thirty-one leadership and personal development competencies were identified for inclusion into the vocational agriculture curriculum. The leadership and personal development competencies performed in FFA activities, which were included in this study, were performed and perceived as important by agricultural leaders. The personal development competencies generally were rated higher in performance and importance as compared to the leadership competencies in the study. Performance and importance ratings were not always directly related. Several competencies with high performance ratings did not receive high importance ratings. The reverse of this situation also occurred. A vocational education curriculum in agriculture must include leadership and personal development competencies if it is to meet the needs of the student and the community.

HOUSEHOLDER, Larry, MCGHEE, Max B., and ROEDIGER, Roger. "Curriculum Development Basic to the Training of Individuals for Employment in Agribusiness, Natural Resources, and Environmental Protection, Final Report." Staff Study, 1976, Department of Agricultural Education, The Ohio State University, Columbus.

Purpose. The major goal of the curriculum guide development phase of the project was to develop ten curriculum guides in agribusiness, natural resources, and environmental protection for use by teacher educators, administrators, guidance counselors, and classroom teachers. The major goals of the field test phase of the project were to describe the procedures used in the various states for disseminating the curriculum guides; to describe how teachers use the curriculum guides in making instructional decisions; to describe teachers' reactions to the adequacy and usefulness of the curriculum guides; and to compare the achievement of students taught by teachers using the guides with the achievement of students taught by teachers who did not use the curriculum guides.

Method. Following the identification of the major occupational categories in agribusiness, natural resources, and environmental protection and a review of existing curriculum materials, ten curriculum guides were developed by the project staff at The Ohio State University and through a sub-contract with personnel at Eastern Illinois University. Formative evaluation of the curriculum guides was accomplished through reviews by consultants and advisory committees of teachers, curriculum specialists, and industry personnel. Follow-up questionnaires were sent to 104 persons from 48 states who had attended a national conference to disseminate the guides. Field test data were obtained from 35 teachers of kindergarten through grade 9 and 137 vocational agriculture teachers. Criterion-referenced tests were developed for use in assessing student achievement.

Findings. Ten curriculum guides pertaining to agribusiness, natural resources, and environmental protection were developed: Career Awareness (grades K-6); Career Exploration (grades 7-9); and career preparation guides (grades 10-12) for Agricultural Production, Agricultural Supplies and Services, Agricultural Equipment and Mechanics, Agricultural Products (Food Processing), Ornamental Horticulture, Agricultural Resources, Forestry, and Environmental Protection.

The follow-up survey of dissemination conference participants indicated that a wide range of dissemination activities was carried out with in-service workshops as the most frequently reported activity.

The reactions of teachers in grades K through 9 to the curriculum guides were generally favorable. These teachers reported that the guides were used to the greatest extent and had the most value for determining behavioral outcomes desired, selecting content, and selecting student activities. Teachers in grades K through 9 indicated a preference for instructional materials to teach from rather than curriculum guides for planning. An overwhelming majority of the vocational agriculture teachers indicated that the career preparation guides were technically correct and followed a format that was desirable for use in planning programs rather than for developing teaching plans.

The field test results indicated few significant relationships between the extent to which the curriculum guides were used and student achievement on the criterion-referenced tests. The only relationship found to be significant was that vocational agriculture teachers who valued the curriculum guides higher had classes with higher achievement on the criterion referenced tests. There was no significant difference in the achievement of students taught by vocational agriculture teachers using the curriculum guides when compared to the achievement of students taught by teachers not using the curriculum guides.

JENKINS, David D. "Inventory of Professional In-Service Training Needs." Ohio Cooperative Extension Service. Staff Study, 1975, The Ohio State University, Columbus.

Purpose. The effectiveness of the Cooperative Extension Service depends to a great measure on the abilities and skills of its professionals. The purpose of this study was to identify the professional and technical in-service education needs of Cooperative Extension faculty.

Method. All Cooperative Extension faculty were mailed a survey. Each individual was asked to indicate written responses under four major technical program areas and five educational methodology areas.

Findings. Two-hundred and twenty-five Extension faculty responded and reflected written comments under two major topics; namely, (1) needs for technical subject matter training, and (2) needs for organizing, maintaining and communicating effective Extension faculty with respect for help in technical subject matter. Two-hundred and forty responses were given by the Extension faculty which expressed need for help in Extension programming, organization and leadership.

Agricultural agents expressed needs for help, primarily in soil fertility, agronomic practices, management and marketing economics, and pesticide management and disease control.

Home economists wanted updated information, new developments and changes in Extension family living programs. Basically, they expressed a need for help in foods and nutrition, housing and furnishings, and natural energy resources and environmental use. Additionally, needs were expressed for help in emphasizing programs focused on the role of women in a changing society.

Establishing effective advisor education programs, working with older youth and planning and organizing 4-H programs were expressed most frequently as important training needs by professionals working with youth programs.

Extension faculty expressed a need for help in working with community leaders on policies and practices related to land use planning, EPA, and solid waste disposal.

Several Extension faculty continued to express a need for help in managing, administering and supervising programs and personnel.

KIRVEN, Dennis M. "Identifying and Obtaining Local Financial Resources for Urban Cooperative Extension Services." Master of Science Thesis, 1976, The Ohio State University, Columbus.

Purpose. The study was designed to: (1) identify kinds and sizes of local funding sources used; (2) determine procedures and/or factors utilized by county directors to obtain local funds; (3) determine procedures and/or factors utilized by local public officials and other funding agencies in allocation of funds for urban Cooperative Extension Services in Extension's North Central Region.

Method. Using an interview schedule, data were collected from county directors, local public officials, and other local funding agencies in fifteen metropolitan areas in Illinois, Iowa, Indiana, Michigan, Minnesota, Missouri, Nebraska, and Wisconsin.

Findings. Major findings of this study showed: (1) County directors in the metropolitan areas studied adhered to state and county procedural requirements on budget determination but placed considerable emphasis on the following Procedures and Factors: developing close personal relationships with local public officials and their supportive staff; involving local Extension staff in budget determination; providing adequate justification information on all Extension programs and funds utilized in the conduct of programs; and giving local public officials credit for their support of Extension efforts. (2) Extensive joint funding of staff salaries between state/federal funds and local county public funds for Extension was apparent in the urban counties studied. (3) State/federal funds were used to employ considerably more professional staff, dramatically more paraprofessional staff, and slightly more support staff than amounts expended from local county public fund budgets for these personnel items. (4) Mandated support of Extension did provide some funding security, but it was not a panacea, especially where specific dollar maximum or minimum limits were set without sufficient latitude to provide for spiraling inflation and rapidly increasing program demands.

KRISS, Christopher Jan. "Evaluation of An Audio-Visual Carrel Used as An Educational Aid For the Study of Plant Material." Master of Science Thesis, 1976, The Ohio State University, Columbus.

Purpose. The purpose of this study was to determine if an audio-visual carrel increased students' ability in Horticulture 232 at The Ohio State University to identify plant material in the Maples (Acer) and Oak (Quercus) groups, when compared with similar students in the same class who did not receive the audio-visual treatment. The study tested the following hypotheses:

The students in Horticulture 232 for the Winter Quarter of 1976 who were randomly assigned to use an audio-visual carrel on plant identification for the Maple (Acer) and Oak (Quercus) groups will score significantly higher on the posttest than students in the same class who did not receive the audio-visual treatment.

It was further hypothesized that a large percentage of the students in the experimental group who received the audio-visual treatment would indicate on a questionnaire that the carrel increased their ability to identify plants in the Maple (Acer) and Oak (Quercus) groups of plants which they were responsible to learn during the research period and that the audio-visual carrel was easy for them to operate and understand.

Method. The population for this study consisted of students who were enrolled in Horticulture 232 for the Winter of 1976. Students were randomly assigned to two different groups, the control and the experimental groups. Students in the experimental group received the audio-visual carrel treatment, while the students in the control group did not.

The posttest scores received by the students served as the statistical unit of analysis except when testing the second hypothesis. The results of the questionnaire were used to test this hypothesis.

Findings. The results of this study indicated that although the adjusted posttest scores received by the experimental group were slightly higher than the adjusted posttest scores for the control group, the difference was not statistically significant.

The attitudes of the students who had received the audio-visual carrel treatment were as follows: (1) They felt the audio-visual carrel increased their ability to identify plants. (2) They felt that more audio-visual carrels should be developed to aid students in the study of plant material. (3) The students who used the audio-visual carrel felt that it was easy to operate and understand.

In summary, the results of the analysis of hypothesis one indicated that the hypothesis could not be supported. The results of the analysis of hypothesis two supported the hypothesis.

McCRACKEN, J. David. "Status of Preservice Teacher Education in Agriculture, Central Region." Staff Study, 1976, The Ohio State University, Columbus.

Purpose. The purpose of this was to examine the status and potential of the components of preservice teacher education.

Method. A questionnaire was developed and reviewed by peers in the Department of Agricultural Education at The Ohio State University. Data were collected from all institutions preparing vocational agriculture teachers in the Central Region. Data were summarized in tables.

Findings. Weeks of student teaching ranged from six to sixteen with a median of eight. Weeks of early experience ranged from none to nine with a median of one. Quarter hours of technical agriculture required ranged from 54 to 82.5 with a median of 75. The median quarter hours of on-campus course work offered in agricultural education was nine. The median hours credit for education and psychology courses was 13.5. Quarter hours required for graduation ranged from 180 to 204.

McCRACKEN, J. David, and NEWCOMB, L. H: "Inservice Education of Vocational Agriculture Teachers on New Curricular Materials for Adult Class Instruction." Staff Study, 1975, The Ohio State University, Columbus.

Purpose. The purpose of the project was to train vocational agriculture teachers in the use of improved instructional units in adult and young farmer education. Twenty teachers were trained in the development of instructional units for adult and young farmer education; twenty units were prepared and disseminated to 350 teachers of production agriculture and farm management.

Method. Units needing to be developed were identified by the project staff in concert with the state young farmer council. Teachers with substantive expertise were then recruited to be trained in the preparation of the identified units. The project staff trained the teachers in the procedures to follow in developing the units and assisted in revising all units. The units were then field tested by the original developer and one additional teacher. Final revisions were then made based on field-test data, and the units were distributed at the annual agriculture teachers conference.

Findings. Twenty-two field tested instructional units were developed for use in adult and young farmer education by vocational agriculture teachers in Ohio. Approximately 350 teachers of production agriculture and farm management were trained in the utilization of the instructional units.

McCRACKEN, J. David and YODER, Edgar P. "Determination of a Common Core of Basic Skills for Agribusiness and Natural Resources." Staff Study, 1975, The Ohio State University, Columbus.

Purpose. To identify a common core of basic skills in agricultural occupations, a project was conducted with objectives to develop: (1) an initial inventory of tasks performed by workers in 28 selected occupations, (2) an occupational survey report of tasks performed by workers in the selected occupations, (3) tasks common to all occupational areas, and (4) recommendations for use of the common tasks to improve educational programs.

Method. Occupational surveys were completed for the: (1) dairy farmer, (2) swine farmer, (3) beef farmer, (4) horse farm hand, (5) grain farmer, (6) forage producer, (7) commercial vegetable producer, (8) farm manager (owner-operator), (9) feed salesman, (10) feed mill worker, (11) bulk fertilizer plant worker, (12) chemical application equipment operator, (13) animal health assistant, (14) agricultural-industrial equipment mechanic, (15) agricultural-industrial equipment set-up and delivery man, (16) agricultural-industrial equipment partsman, (17) tree service worker, (18) floral designer, (19) greenhouse worker, (20) retail landscape and garden center salesman, (21) horticultural firm equipment mechanic (small gas engines), (22) park worker, (23) buildings and grounds foreman, (24) soil conservation aide, (25) sawmill worker, (26) all-round logger, (27) meat cutter, and (28) dairy plant worker.

Findings. A common core of basic skills was established within each of four taxonomy areas: agricultural production; agricultural business, supply and service; agricultural mechanics; and horticulture. It was concluded that establishment of a common core of basic skills across all agricultural occupations was not supported by the data from this study.

MILLER, Raymond Allen. "An Assessment Of The Agriculture, Home Economics, And Natural Resources Living Learning-Academic Assistance Program at The Ohio State University." Doctor of Philosophy Dissertation, 1976, The Ohio State University, Columbus.

Purpose. The purposes of the study were to describe the Agriculture, Natural Resources and Home Economics Living Learning Program in Norton-Scott Houses at The Ohio State University, to assess the programming, staffing and facilities, and to assess the academic performance of the participants.

Method. A stratified systematic random sample of first quarter participants from Autumn 1971 to Autumn 1974 was selected as the treatment group. A group of agriculture, home economics and natural resources students who lived in similar residence halls served as the control group. The non-equivalent control group design was used in this study.

Data used were provided through questionnaire responses from the program participants. They were asked to provide factual information to describe the program and to respond on a Likert-type scale to a series of value judgments on programming, staffing and facilities of the program. Academic data were collected from the college office records for both treatment groups. This data included grades in selected courses, point hour averages, number of hours attempted first and third quarters, academic standing at the end of one and three quarters, and number of quarters completed the first year. Antecedent data, such as ACT composite scores, predicted third quarter GPA percentiles, quality points on high school mathematics, high school class rank percentiles, and mathematics and English placement levels, were collected and compared to determine differences between the two groups.

Findings. The findings indicated most participants lived in Norton-Scott because of the opportunity to live with students of similar interests and the tutorial help provided. The program did provide a setting where participants could discuss course work and gain new information from sharing experiences with other participants. Participants were appreciative of faculty support.

Academic Assistance participants used the mathematics tutorial help more than the chemistry assistance. Most participants indicated they could have used the assistance available more than they did.

Response to the programming, staffing and facilities statements indicated the participants were generally pleased with these three phases of the program. They were generally satisfied with the College involvement, faculty friends, student assistants, resident advisors and facilities. Communication channels among participants, hall director and the College office need to be more open. Significantly more Academic Assistance Program participants indicated a computer assisted instruction terminal should be installed in the halls. A vast majority of the participants were supportive of the continuation of the program.

No differences on antecedent data were found between the two groups. Participants completed significantly more credit hours the first quarter, more were in good standing after one and three quarters, and fewer participants had withdrawn from college by the end of one and three quarters. No significant differences were found in overall grade point performance or in individual courses analyzed with the exception of English 100, in which the Academic Assistance Program participants achieved a significantly higher mean grade point average.

MOORE, Gary Elwood. "Assessment of the Teaching Effectiveness of Entry-Level Teachers Of Vocational Agriculture Holding Four-Year Provisional Teaching Certificates and One-Year Vocational Teaching Certificates." Doctor of Philosophy Degree, 1975, The Ohio State University, Columbus.

Purpose. The purpose of this study was to determine if there was a difference in the teaching effectiveness of entry-level four-year provisionally certified and one year vocationally certified teachers of vocational agriculture in Ohio.

Method. Three measures of teaching effectiveness were collected on twenty-eight entry-level teachers of vocational agriculture. These measures were (1) the performance of each teacher on a teaching performance test, (2) high school students' evaluation of each teacher, and (3) teacher educators evaluation of each teacher.

Fifteen entry-level one-year vocationally certified teachers (individuals recruited from agricultural business and industries to teach high school vocational agriculture who do not have the traditional four year college degrees in Agricultural Education) were randomly selected from among a group of 32 teachers who were enrolled in a four week teacher preparation workshop at The Ohio State University during August of 1974. These teachers were assigned a 30 minute lesson with specific behavioral objectives to teach a group of high school students during the last week in August. The high school students were selected through a multi-stage sampling technique from schools with vocational agriculture departments within a 25 mile radius of The Ohio State University. After each teacher taught his lesson, the students were given a posttest over the lesson. The scores on the posttest were compared with the pretest scores of a comparable group of high school students.

As each teacher taught, he was video taped. The video tapes were reviewed by an expert in the Observational System For Instructional Analysis who classified the teaching behaviors of each teacher.

During the school year, each teacher was rated by his supervising teacher educator and by the students he was teaching. These evaluations were collected in March of 1975.

Findings. The findings revealed there were statistically significant differences between entry-level four-year provisionally certified and one-year vocationally certified teachers on the teaching performance test, teacher educator ratings, and teaching behaviors. The entry-level four-year provisionally certified teachers performed better on the teaching performance test and were rated higher by the teacher educators. The teaching behaviors of the entry-level four-year provisionally certified teachers were more indirective than the entry-level one-year vocationally certified teachers. There were no significant differences between the two groups of teachers as rated by high school students.

ROEDIGER, Roger Dean. "Teachers' Ratings of Instructional Materials for Three Program Areas of Vocational Agriculture in Ohio." Doctor of Philosophy dissertation, 1975, The Ohio State University, Columbus.

The major purpose of the study was to describe teachers' ratings of ten students manuals published by the Ohio Agricultural Education Curriculum Materials Service. Other objectives were to describe factors which teachers consider to enhance the dissemination of instructional materials; to identify subject matter areas where teachers have inadequate instructional materials; and to describe relationships between selected teacher characteristics and their responses to questions about type of instructional

materials preferred, value of procedures for learning about new instructional materials, and the sources used for securing instructional materials.

Data were collected by mail questionnaire. Replies were received from 158 (81 percent) of 195 high school teachers of vocational agriculture in the sample. Sixty were teachers of production agriculture, 55 were teachers of agricultural business, and 43 were teachers of horticulture. A total of 118 of the teachers had one of the ten manuals available and rated the manuals on 16 characteristics.

Teachers generally indicated favorable ratings for the following specific characteristics of the manuals: the scope of subject matter content; level of writing; necessity for related references; ratio of "why" information to "how" information; use of pictorial content; organization of major topics; use of student activities; and use of the student objectives. For three characteristics of student manuals, a substantial percentage of teachers recommended changes. The teachers indicated that manuals should have more clearly defined occupational competencies; more provision for student self-evaluation; and an increased availability of related overhead projection transparencies.

The two methods teachers most preferred for learning about new materials were a special day in the district for reviewing materials and display of materials at the annual teachers conference. The three sources most frequently used by teachers for learning about materials were the catalog of Ohio materials, Agricultural Extension Service publication lists, and the catalog "Tools for Teaching" published by the Ohio Agricultural Education Curriculum Materials Service.

Forty percent or more of the teachers rated the available instructional materials as inadequate for teaching 27 of 74 subject matter topics in production agriculture, 22 of 51 subject matter topics in agricultural business, and 3 of 27 horticultural subject matter topics.

In general, there were no relationships between the characteristics of teachers that were investigated and the type of instructional material preferred, value of five means for learning about new materials, and whether each of eight sources of instructional materials was or was not used.

ROHRBACH, Keith Vincent. "Manpower and Competency Needs of Sub-Managerial Personnel In The Food Processing Industry of Franklin County, Ohio." Doctor of Philosophy Dissertation, 1975, The Ohio State University, Columbus.

Purpose. The purpose of this study was to describe selected characteristics of sub-managerial manpower and competencies in the food processing industry of Franklin County, Ohio, relevant to justifying and planning a high school vocational agricultural products (food processing) program.

Method. Two questionnaires were developed and pilot-tested. The first was designed to help measure sub-managerial employment opportunities, determine the existence and nature of firm-sponsored group training programs, and describe selected characteristics of sub-managerial occupations. The second was developed to obtain ratings of the importance of certain technical, business operations, and interpersonal relations competencies being held by beginning sub-managerial employees. Questions regarding employment/advancement potential of persons holding competencies rated important and cooperative occupational experience placement potential were also included.

The population of the study was the collection of 74 food manufacturing establishments in Franklin County whose principal activity was to convert or alter predominantly agricultural products into human foods. Each establishment was assigned to one of eight commodity areas according to its principal products.

Responses to the manpower questionnaire were received from 25 (66 percent) principal officers, while responses to the competency questionnaire were received from 28 (76 percent) principal officers.

Findings. The manpower findings revealed an annual turnover rate of 29 percent and an annual work force growth rate of 4 percent. The majority of respondents indicated that their firm considered "references" an employment requirement, but 36 percent of the remaining respondents indicated that their firm had "no uniform employment requirements." On an industry-wide basis, mean starting and maximum wages were \$2.91 and \$4.35 per hour, respectively. The meat commodity area firms had the greatest difference between starting and maximum wages with \$2.00 and \$7.33, respectively. Twenty-two (88 percent) respondents indicated their firms did not have group training programs for continuing employees. Of nine factors, "importance of employee's job to successful company operation," "skills required for successful job performance," "personal qualities of new employee," and "safety hazards associated with new employee's job" most influenced the amount of on-the-job training needed by new employees. Seniority, technical skills, and supervisory skills most influenced wages paid.

The competency findings revealed that interpersonal relations competencies generally were rated most important. Ratings of technical and business operations competencies varied, but the lowest ratings were received by competencies regarding operation of certain types of food processing equipment.

Thirteen of the 109 competencies were rated at least average importance by all respondents. Forty-three competencies were designated commodity-related, since respondents in one commodity area rated them very important or essential while respondents in another commodity area rated them not applicable or little importance.

The technical functions, in descending industry-wide relative importance, were as follows: sanitation, finished product handling, raw products and ingredients, packaging, quality control, and processing operations.

All respondents indicated that a high school graduate, who possessed all of the competencies each rated average importance to essential, would be more likely to be employed and eventually gain supervisory responsibilities than persons presently seeking employment in their firms.

Half of the respondents indicated that they were interested in cooperating with a vocational program teacher to provide occupational experience to one or more students.

SOMMERS, John T. "Applying the Reputational Method in Identifying Potential Volunteer Leaders of Youth." Master of Science Thesis, 1975, The Ohio State University, Columbus.

Purpose. The purpose of this study was to employ and evaluate the reputational method as a way of identifying volunteer youth leaders and simultaneously determining major youth problems in a community. This study was designed to assist professional youth leaders and their staffs in locating volunteer youth leaders that would be willing to work with youth groups in solving community youth problems that are within the scope.

of youth organizations' objectives.

Method. An agriculturally oriented county seat community of 12,000 people was selected as a site for administering the reputational method of identifying leaders. The community was divided into four quadrants. Sixteen male and female, youth and adult informants were selected and interviewed and asked to identify major problems of 9 to 19 year old youth in the community. Also, they were asked to give the names of individuals whom they felt they would like to have as leaders of youth groups in solving the problems mentioned. Knowledgeables, those individuals mentioned two or more times by informants, were interviewed. Seventeen persons were identified and then asked to indicate what they felt the youth problems to be and to identify potential youth leaders to work on the problem. Following the accumulation of the problems mentioned by the informants and knowledgeable into 17 categories, the primary nominees were interviewed. Primary nominees were those individuals who were mentioned two or more times by the knowledgeable. The primary nominees were asked to give an importance rating of and a preference rating for working with youth on each of the major problems. They were also asked if they would be interested or willing to lead a youth group in working with youth problems. A chi square test was applied to determine significant association between the importance of youth problems and preference in working with problems and selected background variables, including occupation, education, organizational involvement, adult or youth status, age, length of residence in the community, family income, sex, race and area of residence.

Findings. A total of 143 different individuals were mentioned by the informants and knowledgeable as possible volunteer leaders for youth groups. Seventeen persons were designated as primary nominees. Characteristically, the primary nominees tended to be older than the knowledgeable and younger than the informants. Educational level of the primary nominees tended to be higher than that of the informants and knowledgeable. Primary nominees tended to be persons with professional employment and incomes over \$20,000. The informants and knowledgeable tended to be employed in more variety of occupations and had lower family incomes. The five most important problems as seen by the primary nominees included: (1) alcohol and drug abuse, (2) developing a positive self image, (3) poor communication in the home, (4) lack of activities for leisure time, and (5) poor supervision, guidance and discipline in the home. The problem areas in which primary nominees preferred to work with youth groups in resolving were: (1) developing a positive self image, (2) establishing recreational facilities, (3) helping students to meet needs of their school programs, (4) enjoying leisure time activities, and (5) helping with supervision, guidance and discipline in the home. The use of the reputational method, as a way of identifying leaders, resulted in several individuals being identified as possible leaders of youth in the community and it took a relatively small amount of time to administer.

STARLING, John T. "Farm Business Analysis Report of Programs Conducted by Teachers of Vocational Agriculture." Staff Study. 1975, The Ohio State University, Columbus.

Purpose. To provide teachers of agricultural production course with some averages, relative to certain efficiency factors, which they can use in teaching classes in agricultural production to make them more realistic.

Method. Ohio teachers who were conducting Farm Business Planning and Analysis programs submitted 419 farm business summaries for computer analysis. Averages of several selected measures of performance from the farm business analyses were used to secure the data for this study.

Findings. Some of the major findings of this study were: (1) The average capital investment per farm was \$181,992.00, an increase of nearly \$20,000.00 over 1974. (2) The investment in land increased approximately \$12,000 over 1974 and there was a substantial increase in investment in machinery and equipment. (3) The average gross income per farm was \$76,756.00 which was a decrease of \$6,000.00 from 1974. (4) Increases in overhead and variable costs resulted in a reduced net farm income per farm of approximately \$10,000.00. (5) The average unpaid operator and family labor income was \$11,600.00. (6) 1975 was a good year for swine producers. Swine breeding enterprises realized \$15.05 management income and profit per cwt. pork produced while swine feeders realized a management income and profit of \$6.13 per cwt. of pork produced. (7) Beef feeding was improved over 1974 with some feeders realizing a profit however overall Ohio beef cattle feeders showed a \$1.79 management income and profit per cwt. beef produced. (8) In the dairy summary pounds of 3.5% milk sold per cow, milk production cost per cwt., returns per dollar feed fed and feed cost per cwt. milk were most favorable in the 91-115 cow herd size. (9) Crop farmers realized a good profit in 1975, however, there was a lot of variation in the amount of profit largely due to price variations and when the crop was marketed.

STUCKEY, Ronald Jay. "Relationships of Factors Associated With Applicants From the College of Agriculture and Home Economics Who Were And Were Not Admitted to the College of Veterinary Medicine." Master of Science Thesis, 1976, The Ohio State University, Columbus.

Purpose. To describe the characteristics of the applicants from the College of Agriculture and Home Economics who were and were not admitted to the College of Veterinary Medicine at The Ohio State University for the 1975-76 academic year. The second purpose was to examine the relationship between applicants who were and were not admitted to the College of Veterinary Medicine and a number of additional variables, i.e., cumulative point hour ratio, point hour ratio for preprofessional science courses, score on Veterinary Aptitude Test, the average number of hours taken per quarter, the courses selected from the list of selected courses, and the grades received in the selected courses.

Method. All students enrolled in the College of Agriculture and Home Economics who applied to the College of Veterinary Medicine were assigned to one of two groups: admitted or not admitted. All thirty-nine applicants who were admitted comprised one group. The second group consisted of every fifth student who applied but was not admitted.

The design for the study was ex post facto. Students' academic records were analyzed in order to collect the data needed on the independent variables. In addition, data were collected regarding sex, degree status, transfer status, departmental major, academic program, number of hours completed, and cumulative point hour ratio.

Data were then analyzed for purposes of describing the investigated characteristics, and determine the correlations being investigated.

Findings. Students who were and were not admitted to the College of Veterinary Medicine were very similar with respect to demographic characteristics. There was a positive relationship between cumulative point hour ratio, point hour ratio for pre-professional science courses, score on the Veterinary Aptitude Test, number of hours averaged per quarter, grades received in selected courses and whether or not the applicant was admitted to the College of Veterinary Medicine.

There were no significant relationships in the elective courses selected and

whether or not the applicant was admitted to the College of Veterinary Medicine.

SYMONS, William Benjamin. "Pencil and Paper and Operational Performance Tests As Measures of Student Mastery for Small Engine Instruction." Doctor of Philosophy Dissertation, 1975, The Ohio State University, Columbus.

Purpose. The major purpose of this study was to determine the relationship between student scores on a pencil and paper test and their scores on an operational performance test. Subsidiary purposes of this study were to determine the relationship between scores on the non-manipulative portion of the operational performance test and scores on the pencil and paper test; and the effect of scores of administering the pencil and paper test after the operational performance test and that of administering the operational performance test after the pencil and paper test.

Method. The eleventh grade students of four randomly selected agricultural industrial equipment and service curriculums were tested with an operational performance test and a pencil and paper test. Each class of students was divided so that one-half received the pencil and paper test first while the other half received the operational performance test first.

Findings. There was a high correlation coefficient of .69 significant at the .01 level for student scores on the operational performance test and the pencil and paper test. A significant relationship at the .05 level was not found to exist between the non-manipulative portions of the operational performance test and the pencil and paper test.

No significant difference in test scores at the .05 level appeared in relation to the order in which the tests were administered, no matter whether the pencil and paper tests or the operational performance tests were given first.

It was concluded that as tests of student mastery of instruction in small gasoline engines in agricultural industrial equipment courses where considerable experience is a part of instruction, the pencil and paper test and the operational performance test appear equally suitable as summative evaluation instruments.

VAUGHN, Paul Ray. "Factors Related to the Success of New Mexico Vocational Agriculture Teachers as FFA Advisors." Doctor of Philosophy Dissertation, 1976, The Ohio State University, Columbus.

Purpose. The study was designed to: (1) identify competencies in which a New Mexico vocational agriculture teacher's perceived level of proficiency is related to the degree of success of his FFA chapter, (2) identify characteristics possessed by New Mexico vocational agriculture teachers which show a significant relationship between that characteristic and the degree of success of the teacher's FFA chapter, and (3) identify characteristics possessed by New Mexico vocational agriculture teachers which show a significant relationship between that characteristic and the teacher's perceived level of proficiency in advising and supervising FFA activities.

Method. Data were collected by mailed questionnaires from 82 of the 84 vocational agriculture teachers who taught in public secondary schools in New Mexico during the 1974-1975 school year. In order to identify advisors with varying degrees of success in advising and supervising FFA activities, the teachers were divided into three groups based upon a chapter rating scale predetermined by the National FFA Organization and

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the New Mexico State FFA Association. Part I of the instrument was designed to collect descriptive information about the teachers. Part II of the instrument was designed to secure data regarding a teacher's perceived level of proficiency in 29 student organizational competencies which had been identified in an earlier study conducted at The Center for Vocational and Technical Education at The Ohio State University.

Findings. It was found that when other factors were held constant, there tended to be no significant relationship between a teacher's perceived degree of proficiency in the 29 student organizational competencies utilized in the study and the degree of success of his FFA chapter.

Teachers who had participated to a high degree in either Alpha Tau Alpha or Collegiate FFA tended to advise FFA chapters that were more successful than teachers who had participated to lower degrees in either Alpha Tau Alpha or Collegiate FFA.

A teacher's degree of participation in either Alpha Tau Alpha or Collegiate FFA, his perceived level of proficiency in advising and supervising FFA activities, his degree of assistance with FFA activities during student teaching experience, and the size of the community where his vocational agriculture department was located accounted for approximately 12 percent of the total variance in the degree of success of the teacher's FFA chapter. No significant proportion of the variance in a teacher's perceived proficiency in advising and supervising FFA activities could be accounted for by any combination of the variables included in the study.

WAKTOLA, Aregay. "Assessment of the Development, Diffusion and Adoption of Package of Agricultural Innovations in Chilalo, Ethiopia." Doctor of Philosophy Dissertation, 1975, The Ohio State University, Columbus.

Purpose. This study was designed to find answers for three key questions concerning the Chilalo Agricultural Development Unit (CADU). The questions were: (1) To what extent were the package of innovations designed to promote rural development in Chilalo on target and progressing toward the intended goals? (2) What changes have been brought about among peasant farmers participating in the package programs with respect to their adoption behavior? (3) What variables are closely associated with the adoption of technological innovations under the conditions of Chilalo?

Method. A random sample of 210 farmers drawn from a population of participants in the 1971-72 CADU credit program was investigated to achieve the purposes of the study. The primary data were gathered through personal interviews of the farmers included in the sample. Information was also obtained from Extension agents, supervisors and Department/Division/Section heads. Relevant CADU documents were thoroughly examined to gather pertinent data.

The dependent variable used in this study was adoption of agricultural innovations and practices advanced by the Project to promote the production of wheat and barley in the Chilalo area.

Three hypotheses were formulated, based on the objectives of the study. They are: (1) there is no relationship between selected characteristics of farmers and diffusion of innovations, (2) there is a positive relationship between diffusion of innovations and adoption behavior of farmers and (3) there is no relationship between selected characteristics of farmers and their adoption behavior. Zero-order correlations were used in testing these hypotheses. Multiple regression analysis was also performed to see how the variance of the dependent variable is explained by the combined effects of the independent variables.

Findings. The diffusion strategy was heavily inclined toward the use of model farmers as channels of communication for the transfer of technology to the regular farmers. However the regular farmers were found to favor direct contacts with Extension agents and made little use of the facilities of the model farmers.

Provision of economic incentives was among the elements of economic and social development sought by CADU. Participation of farmers in this regard was quite substantial. Along this line intensive effort was made to mobilize the target population for cooperation and integration of activities but final outcomes were not realized on account of institutional constraints.

Among the independent variables considered in the study, 13 were found to explain 56 percent of the variance in the adoption of improved agricultural innovations and practices in Chilalo. The main contributors were (1) attendance at cooperative meetings, (2) number of wives, (3) locality, (4) farmers' visits of Extension centers, (5) ethnic background and (6) traditionalism.

WOLF, Thomas J. "The Relationship Between Units of Vocational Agriculture Completed in High School and Academic Achievement and Persistency in the College of Agriculture and Home Economics." Master of Science Degree, 1976, The Ohio State University, Columbus.

Purpose. The major purpose of the study was to answer this question: What is the relationship between the number of units of vocational agriculture completed in high school and students' achievement and persistency in the College of Agriculture and Home Economics at The Ohio State University? The following research hypotheses were derived from the literature: college achievement of students who study vocational agriculture in high school will be equal to that of students who did not study vocational agriculture in high school, and a higher percentage of students completing vocational agriculture in high school will graduate from college than students with no vocational agriculture.

Method. Records were analyzed for students entering The Ohio State University in the autumn quarters of 1968 and 1969. The samples consisted of 305 students who entered in 1968 and 130 students in 1969. The design of the study was ex post facto. The major independent variable was units of vocational agriculture completed in high school. Control variables used in the analyses were units of high school credits in college preparatory courses (English, government, mathematics, science, foreign language, and business), high school rank, ACT percentile score, and mathematics placement level. Measures of achievement were final grade point average, grade point average in major, and grade point average in the following categories of courses: social science; mathematics; biological science; humanities; and physical science. Measures of persistency were percentage of students graduating and number of quarters attended. Multiple regression analysis procedures were used.

Findings. Students who studied vocational agriculture in high school did not complete as many college preparatory courses as students who did not enroll in vocational agriculture. Also students who completed vocational agriculture in high school had lower ACT percentile scores than students who had not studied vocational agriculture. When controlling for differences in ACT percentile scores, units of college preparatory courses completed in high school, high school rank, and mathematics placement level, it was found that academic achievement in college by students who enrolled in vocational agriculture in high school was not different from the academic achievement of students who had not completed vocational agriculture in high school. High school rank was the most significant variable in explaining variation in the measures of academic achieve-

ment when other variables were controlled using multiple regression analysis. The persistency of students who did not study vocational agriculture in high school was not significantly different from those who completed vocational agriculture in high school for either the percentage of students graduating from college or the number of quarters attended.

YODER, Edgar. "A Cost-Effectiveness Analysis of Selected Public School Vocational Education Programs." Doctor of Philosophy Dissertation, 1976, The Ohio State University, Columbus.

Purpose. The purpose of the study was to assess the cost-effectiveness and efficiency of vocational agribusiness, horticulture, and production agriculture/farm management programs offered in local high schools and area vocational centers. The specific objectives were to: (1) identify the monetary and non-monetary benefits accruing to program graduates; (2) identify factors that were associated with those monetary and non-monetary benefits; and (3) determine the costs of the vocational education programs.

Method. The sample for the study was identified through a combination of stratified random sampling and multi-stage random sampling techniques. The sample consisted of 224 graduates representing 33 classroom units from nine school districts in Ohio. Information regarding the graduates and the programs was collected by mail questionnaire and personal review from the following sources: (1) the graduates; (2) pupil personnel files; (3) financial records of local boards of education; and (4) the PRIDE cost analysis reports compiled by the Ohio Department of Education. Data were analyzed using frequencies, means, and multiple regression techniques. The study represented descriptive - ex post facto research; therefore, the non-equivalent control group design was used for analysis purposes.

Findings. Examination of the data revealed that local high school and area vocational center students from the vocational agriculture programs included in this study were "comparable" in regard to socio-economic background and academic grades, aptitudinal scores, and intelligence scores.

There were no significant differences between the program graduates from area vocational centers and local comprehensive high schools regarding the following indices of non-monetary benefits: (1) the amount of time required to secure the initial full-time job after graduation from high school; (2) the graduates' perceptions of how related their jobs were to the vocational programs completed; (3) the graduates' perceptions of how well they were prepared for their jobs by completion of the vocational programs; (4) the degree of overall job satisfaction; (5) the amount of job level progression; (6) the degree of job stability experienced; and (7) the degree of involvement in community activities. The findings revealed that graduates from area vocational centers had been unemployed for a slightly greater percentage of their time since graduation from high school than had their counterparts from local high schools.

Regarding the monetary benefits, graduates from local high schools initially earned \$86 (gross earnings) more per month on their first jobs after graduation than did area vocational center graduates. Graduates from local high schools reported gross earnings averaging \$775 per month for their current job as compared to \$654 per month for area vocational center graduates. In neither case was this a statistically significant difference.

Analysis of the cost data revealed there was a significant difference between the annual per pupil costs for the vocational programs in local high schools and area

vocational centers. Per pupil costs for the local high school programs averaged \$921 per year as compared to \$1,336 per year for the area vocational center programs.

Consideration of the monetary benefits and program costs within a cost/benefit analysis framework indicated the investment of funds in the vocational agriculture programs at both the local and the area vocational school was economically efficient.

OKLAHOMA

ABDI, Abdullahi Abdurahman. "A Proposed Extension Program Development Model With Implication for Somalia." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. This study was undertaken for the purpose of determining those characteristics of an effective program development process that might have relevance in designing a feasible method to serve as a guide that can be used by extension workers of the Ministry of Agriculture at all levels of extension work.

Method. Review of literature, observational visits and interviews did all contribute to the task of securing information needed for the study.

Findings. This study revealed that program development must be considered a continuous educational process which culminates in bringing about continuous improvement in rural life. It was established that the most productive programs are those that spring from and are developed with local people, thus gaining the advantage of diverse ideas and experiences. It was further determined that when a general framework is formulated for the program planning effort and responsibilities of the planning group are discussed and agreed upon and when cooperative relationships are developed and maintained within the group and with other organizations, the effectiveness of the extension program is substantially maximized. The successful program needs to be sustained through continued evaluation and careful monitoring of both individual and group performances.

AHN, Woo-seung. "Proposed Topics for a Program in Vocational Agriculture for Young Adult Farmers in Korea." Doctor of Education Dissertation, 1975, Oklahoma State University, Stillwater.

Purpose. This study was an attempt to identify, describe, and evaluate the various educational programs in vocational agriculture for young adult farmers in the United States in order to provide an information base for proposing topics for an educational program for young adult farmers in Korea including suggestions for organizing and conducting young farmer associations. Data from nine selected states in the United States were analyzed to form a basis for the proposed topics.

Method. A questionnaire regarding 60 educational topics for young farmer programs was sent to agricultural educators in Korea to get their opinions concerning those topics.

Findings. The study revealed that of the states reporting provided education for young adult farmers in the United States. Of the 27 states where instructional programs were indicated, 18 were reported to have state young farmer associations. However, there were eight states that reported they have no educational programs for young adult farmers. Data showed that nine states recommended educational topics for

young farmer programs. Livestock educational topics dealing with feeding, breeding, health, marketing and management concepts were suggested most frequently by most states. Topics concerned with insects, diseases, chemicals, and fertilizer for crop production were suggested by several states. Farm business management topics such as record keeping, financing, and taxes and farm mechanics topics such as farm machinery, electrification, fuels, and welding were offered by most states. Also, educational topics such as home improvement, family living, fruit production, and wildlife conservation were recommended by most states for young adult farmers. The questionnaire consisted of 60 educational topics chosen from those recommended by the different states and from topics especially suitable to Korea. Most of the topics were rated generally favorable for young adult farmers in Korea by the Korean agricultural educators.

ALNASSAR, Saleh Nassar. "Suggested Guidelines for Training Extension Personnel Which Might be Adaptable to the Functions of the College of Agriculture." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to set up a workable guideline for training extension personnel that might be adaptable to Saudi Arabia conditions.

Method. A thorough search of the literature and study of the United States Extension programs was conducted to develop the guidelines.

Findings. Results of this study reveal conclusions which might be used as guidelines for training extension personnel in Saudi Arabia. (1) The extension training program should be directed toward definite purposes or objectives. (2) The extension training must be designed to prepare extension personnel to give leadership to the solution of current agricultural problems. (3) The extension training program must be designed to meet the needs of extension workers, rural people, as well as the objectives of extension service in the country. (4) In addition to the technical field, the extension workers should have good understanding in certain areas of knowledge which are designed to meet the needs of the individuals as well as the needs of the rural people concerned.

ANGKASITH, Pongsak. "Attitudes of the Students Toward Agricultural Education in Higher Education in the College of Agriculture." Master of Science Thesis, 1974, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was (1) to discover if a significant difference exists between junior and senior students and among those who upon graduation from the College of Agriculture, plan to pursue five different types of occupations.

Method. The study was limited to students enrolled in the college during the year 1973-1974, comprising a total of 44 students, 22 juniors and 22 seniors. These students were administered a questionnaire.

Findings. The distribution of students according to year in school and according to occupational choice revealed that more juniors chose farming and ranching than any other occupation, while the choice of seniors was equally divided between farming and ranching, agricultural business, and agricultural extension. Students were fairly well satisfied with the quality of instruction and the effectiveness of the instructional methods. No significant differences were discovered between juniors and seniors except for "stimulation of the instruction" and "availability to student." In both items seniors perceived them to be more effective and desirable than did juniors. The difference was

found significant at the 0.05 level. A list of scores pertaining to texts and materials produced two significant statements: relevance and ease of understanding. Again seniors scored the items significantly higher than did juniors. The conclusion was drawn that efforts to improve relationships between instructors and students might prove fruitful, especially for juniors. Specific items in which increased efforts may be needed are (1) some improvement in selection of texts and materials, (2) increased use and better selection of audio-visuals, (3) increased use of field, (4) improvement of instructor stimulation and motivation.

ANGKASITH, Pongsak. "An Evaluation of the Agricultural Education Program at Oklahoma State University by International Students Graduating During the Period 1960 to 1976." Doctor of Education Dissertation, 1976, Oklahoma State University, Stillwater.

Purpose. The purpose of the study was to determine the relative effectiveness of selected aspects of the graduate program in Agricultural Education at Oklahoma State University in terms of knowledge gained and learning experiences received by international students completing a program of advanced studies; using as a basis student perception of program effectiveness, particularly as directed toward their recognition of assistance provided for further development of their professional careers.

Method. Responses were secured from international students of 15 countries and were considered representative of the total 22 different countries from which graduating students came. The population was made up of all international student graduates of the period 1960 to 1976 and from which a selective sampling was made. Student respondents were divided into two groups, the first group, comprising the greater majority, those having returned to their home countries and a second, very much smaller group, who are still residing in the United States.

Findings. As a whole, the respondents indicated the Agricultural Education Department at Oklahoma State University had accomplished an outstanding job in serving international students. They felt the program as well structured and had the flexibility needed to serve both American and international students engaged in advanced studies. None of the 71 items within the six categories were rated lower than "satisfactory" with the large majority rated "good" or above. Respondents did, however, point out some items which they felt could well be improved. Among these were (1) keeping students well informed concerning academic rules and regulations, (2) departmental administrative role in student functions and activities, (3) rapport of departmental secretarial staff with students and (4) administrative flexibility in meeting student needs. Responses as to the questionnaire section relating to courses and reference materials revealed students as feeling that some improvement could be made in (1) relevance of courses and materials, (2) adequacy of courses in meeting specific needs of international students. In terms of the categories, Advisement and Counseling and Instructors and Instruction, all items were judged by respondents as being good or above. In the category of non-academic activities, with 14 items presented for appraisal, only three were indicated as possibly needing some improvement, (1) financial aids program, (2) classroom and reading room facilities and (3) student organizations.

ARTHUR, Charles B. "An Evaluation of the Missouri Adult Farming Cooperative Programs and Their Influence on Those Enrolled." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to ascertain what benefits and influences

the adult students derived from the Farm Cooperative Programs in Southwest Missouri.

Method. This study was limited to the members of the five Farm Cooperative Programs in southwest Missouri. The programs included in the study were: Birch Tree, Houston, Mountain Grove, Poplar Bluff, and West Plains. A questionnaire to determine the adult students' reactions to the benefits and curriculum were found through suggestions and refinement by the Agricultural Education staff and the adult instructors of the Farm Cooperative Programs. These questionnaires were sent to the adult students of the five Farm Cooperative Programs. One hundred twenty questionnaires were returned from the five programs. The data obtained from the questionnaires were tabulated and expressed as percentages.

Findings. The adult students responding were operating an average of 190 acres and had been engaged in farming five years or less. An overall summary of the findings showed that the adult students received the highest degree of benefit from the encouragement to try new practices. The curriculum was felt to be beneficial, however, they expressed a desire for a wider scope of instruction. The respondents as a whole felt their economic status had not changed as a result of the Farm Cooperative Programs although they were able to expand their total farm operation because of the Program. The most important practice that the adult students derived from the Farm Cooperative Program was the ability to keep a better and more accurate set of records.

ARTHUR, Nolan Lee. "An Assessment of Selected Aspects of Academic Preparation as Perceived by a Group of Transfer Students Graduating From Oklahoma State University." Doctor of Education Dissertation, 1975, Oklahoma State University, Stillwater.

Purpose. An effort was made to determine how transfer students who were recent graduates of the College of Agriculture at Oklahoma State University perceived their academic preparation.

Method. A total of 116 graduates who completed their B.S. degrees in 1973 and 1974 at Oklahoma State University were included in the study. These graduates represented all departments in the College of Agriculture with the exception of Entomology and Plant Pathology. A total of 110 (94.8 percent) returned their completed questionnaires.

The questionnaire was divided into two parts. The first part concerned junior college preparation for upper division work at Oklahoma State University and was divided into five sections: (1) General Curriculum, (2) Agricultural Curriculum, (3) Advisement, (4) Articulation, and (5) Activities. The second part concerned Oklahoma State University preparation for a vocation and was divided into the same five sections as for the junior colleges. Graduates were asked to respond as to their perceived value of each area.

Findings. In general, the respondents indicated that their junior college general curriculum and agricultural curriculum courses had adequately prepared them for upper division work at Oklahoma State University. They also indicated that the general curriculum courses at Oklahoma State University were adequately preparing them for their vocations, the agricultural curriculum courses were more than adequate in their preparation.

Respondents felt advisement at the junior college level was adequate, but indicated weaknesses in the areas of major selection and career development. However, at Oklahoma State University, they indicated that advisement was more than adequate in all areas.

Both types of institutions are doing an adequate job in assisting students with the transfer process.

BEFECADU, Yoseph. "A Systems Approach to Curriculum Development and Instruction for Occupational Education in Ethiopia." Doctor of Education Dissertation, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of this study is to develop a model for a systems approach in curriculum development and instruction for occupational education in Ethiopia.

Method. Fundamental theories, principles, and procedures of systems approach are reviewed to provide a theoretical framework for developing the model. This review includes systems theory, the application of systems approach in education and the interrelationship of the major components of an occupational curriculum and instructional process. The design technique and operation of a systems approach in curriculum development and instruction is presented and discussed.

Findings. Systems theory and systems approach design technique provide the framework for the development of the proposed model of curriculum development and instruction in occupational education in Ethiopia. The components of the curriculum and instructional model identified are: the mission statement; the statement of needs; and the determination of program requirements and alternatives in system analysis. The selection of program development strategy (ies); the implementation of these strategy (ies); and the evaluation of the program constitute system synthesis.

Simulation of the model is provided for clarification of the systems operation by describing a hypothetical path through the model.

BEGZAD, Dastagir Qul. "Extension as Adult Education in Selected Nations With Recommendations for Improving Better Instruction for Agricultural Learning Groups in Afghanistan." Master of Science Report, 1975, Oklahoma State University, Stillwater.

Purpose. The study was developed to clarify the concept and to describe the objectives, principles, functions and philosophy of Extension in the hope of providing interest and motivation to professional workers in Agricultural Extension. In addition, an attempt was made to provide information concerning program planning, staff training for administrators, program planners, and evaluators in Extension work. Furthermore, it was considered desirable to briefly introduce the Agricultural Extension of Afghanistan in its organizational structure.

Method. This study attempted to review, compare, and analyze the functions, objectives, principles, philosophy and organization of Extension work in the United States and some selected nations.

Findings. This study first provided information to enable the Extension staffs of Afghanistan to learn more about Extension work; and, second, it developed a recommended plan and program of work for promoting Extension work in the country to meet the needs, interests, and objectives of rural people.

CASTELLUCIS, Richard Lee. "Employee Training Needs, Plans and Commitments of Selected Oklahoma Businesses." Doctor of Education Dissertation, 1976, Oklahoma State University, Stillwater.

Purpose. The major purpose of this study was to identify the educational requirements, plans and programs of selected Oklahoma businesses.

Method. This was accomplished through the use of a questionnaire. Personal interviews, mailings and an intensive telephone survey were conducted. The geographic areas surveyed were Oklahoma City and Tulsa, Oklahoma. Training directors who were members of the American Society for Training and Development (ASTD) were contacted solely. A total of fifty-two contacts were made. The data was compiled using group consensus to determine the overall requirements, plans and programs as well as requirements, plans and programs for each geographic area surveyed.

Findings. The types of training required as well as methods of training were indicated by this study. The educational plans and programs were shown to favor in-house training. Safety training ranked very high as did new technical or skill training. The study showed a high degree of agreement between large companies (more than 500 employees) and small companies (less than 500 employees) as to the type of training required by their employees. In dollar expenditures the small companies seemed to be investing a higher per employee dollar in training programs. There was an indication of little willingness on the part of the companies to assist a community college or technical school in establishing training programs for employees of the companies.

CHEW, Van Miller. "Planning an Ideal Vocational Agriculture Building for Glencoe High School Using a Survey of Vocational Agriculture Facilities of Schools in Lincoln, Logan, Noble, Pawnee, and Payne Counties, Oklahoma, With Particular Reference to Agricultural Mechanics." Master of Science Report, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of this study were to gather information from schools offering vocational agriculture in the five-county area.

Method. Data were gathered from 25 of the 27 schools by a questionnaire and interview. The physical plants of each vocational agriculture facility in Payne, Lincoln, Logan, Pawnee, and Noble counties were of major emphasis in the study.

Findings. The average number of students per department was 48. The average age was 9.52 years. In most schools the classrooms were considered adequate in size. Twenty-two of the 25 departments had a teacher office and 14 had access to a storage area. It was noted that 20 percent did not have restrooms within the facilities. Comments from the respondents indicated that an adequate wash basin could help eliminate loss of time at the end of skill development sessions. Agricultural mechanics shop facilities were not considered adequate in older structures in terms of free work floor space per student. Newer facilities had an average of 106 square feet free work space per student. The majority reported shops were adequate in electrical wiring, tool display, tool storage, power tools, and work bench space. The trend in new construction is a manufactured steel type building with shop having a longer dimension than older facilities. Patios were reported by 60 percent of the schools. Very few departments had surfaced, enclosed, and covered patios. Comments of respondents indicated that patios should have sufficient power outlets. Ninety-two percent reported that classroom and shop were attached.

CHOOMNOOM, Cherdasak. "A Proposed Model for the Adult Education Program in Thailand." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of the study was to design a Model for furthering adult education in Thailand.

Method. A thorough study was made of adult education programs in the United States through an exhaustive review of literature. Personal interviews were made with twelve directors and twenty-two teachers of adult education classes of several types in Oklahoma. Judgments were obtained by students as to relative effectiveness of selected structure and practices in adult education and their feasibility for application in Thailand. From the (1) review of literature, (2) interviews with directors and teachers, and (3) responses of professional educators and Thai students a model for further improvement of adult education was developed.

Findings. In keeping with the final analyses of judgments eight components considered necessary or highly desirable for consideration in furthering adult education were identified: (1) Establish and maintain an Advisory Committee; (2) Coping with student-related problems; (3) Coping with teacher-related problems; (4) Recruitment and Certification of adult education teachers; (5) Financing programs; (6) Structure and development of programs; (7) Assistance to adult students to obtain and retain jobs after completion of training; (8) Articulation between programs of adult basic education and adult vocational education.

For each component a listing of suitable "approaches" was developed. Relationships between each component and "approaches" were reflected in the final design of the model.

CRUZ, Adeltrudis Manuel. "The Development of a Proposed Occupational Training Information System (OTIS) for the Philippines." Doctor of Education Dissertation, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose and scope of this study was to develop an occupational training information system for use in the Philippines.

Method. The first phase of this research reviewed the existing occupational training information system in five states in the United States. The second phase attempted to describe the proposed occupational training information system for the Philippines. And to make this study more justifiable, a questionnaire was developed and distributed to a jury of 30 key people in the Philippines. The responses received were tabulated and tables were set up depicting the results. Percentages and frequency counts were used to present the information gathered.

Findings. The occupational training information system was found to be an effective planning tool. It could facilitate organization of information pertinent to making important decisions for allocating assistance, administering programs for education and determining suitable jobs.

The occupational training information system with components in manpower supply, manpower demand, interfacing, data dissemination, placement and follow-up could be implemented in the Philippines to have a basis for identifying activities significant to manpower development and utilization. This system would have direct bearing on determining manpower supply and manpower demand or types and number of job opportunities available and on assisting and assessing the status of trained individuals.

Ninety-seven percent of the jury of respondents completed the questionnaire. Out of this percentage, 86 percent indicated that the value of the occupational training information system for the Philippines was very favorable and 14 percent indicated favorable response with no one indicating unfavorable response. A majority of the respondents indicated that the occupational training information system for the Philippines would be supported financially and politically.

ELLIOTT, Glen William. "Attitudes Toward Student Teaching of 1972-1973 Agricultural Education Graduates Who Are Teaching as Compared to Those Who Are Not." Master of Science Report, 1975, Oklahoma State University, Stillwater.

Purpose. This report was to summarize research done on the Agricultural Education graduates of the academic year 1972-1973, and their attitudes toward the student teaching experience and their preparation for teaching.

Method. A questionnaire was developed and mailed out to the two groups of participants. The two groups' mean scores and cumulative total as assigned by the respondents were figured numerically for each of several questions. The mean score assigned was presumed to be an indicant of the respondent's perceptions of the value of the program.

Findings. Of the 51 participants, 22 were teaching and 29 were employed elsewhere. Analysis of the findings indicated that in most cases there was not a great deal of difference between the groups responses. It was found that usually the two groups responses fell into the same category. However, it was found that overall, the teaching graduates rated the various parts of their preparation and student teaching at a higher level than did the non-teaching graduates.

FORD, Roy David Sr. "The Nature and Extent of Similar Educational Activities Engaged in By Cooperative Extension Agents and Teachers of Vocational Agriculture in Kansas." Master of Science Report, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to determine the nature and extent of similar educational activities engaged in by Cooperative Extension Agents and teachers of Vocational Agriculture in Kansas and to make recommendations that could be beneficial to both agencies.

Method. All vocational agriculture instructors and all Cooperative Extension personnel in Kansas were sent a questionnaire.

Findings. Indications are that the attitude of some respondents could be improved by more contact between them. Time difference of events was mentioned most as the cause for lack of joint activities. Scheduling conflict, personality differences, subjective publicity, and possible indifference all had an effect on cooperation between the agencies.

FOURTNER, Gary Earl. "Comparisons of Teacher Perceptions of Selected Aspects Associated with Young Farmer Chapters Continuing in and Dropping Out of the Oklahoma Young Farmer Association." Master of Science Report, 1974, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to compare teacher perceptions of the young farmer organization by those with chapters remaining in and those with chapters dropping out of the organization.

Method. A list of active and inactive Oklahoma Young Farmer Chapters was obtained from the Oklahoma State Department of Vocational and Technical Education in March, 1974. The population for this study was the 38 active young farmer chapters and the 31 inactive young farmer chapters that had been chartered from the beginning of the Oklahoma Young Farmer Association in 1969 to 1972. Data were collected with a questionnaire formulated by the writer to find out why some chapters were continuing with their programs while others were becoming inactive. A questionnaire was mailed during September, 1974. If the respondent did not answer promptly, another questionnaire was sent by certified mail.

Findings. The major findings concerning young farmer programs were: (1) Continuing chapter advisors felt more strongly than did dropout advisors that the young farmer chapters benefited the community, (2) dropout advisors felt that they had to sponsor more activities than time allowed, (3) both groups felt that advisors community activities interfered with meetings; (4) continuing advisors felt more strongly that older adults felt out of place at meetings, and (5) both groups used the same methods to advertise meetings. Both the continuing chapters and the dropout chapters agreed on some of the statements and others from conclusions.

GAAYA, Abdallah. "Instructional Components of a Proposed Pre-Service Educational Program for Agricultural Extension Agents at the National Institute of Agronomy in Tunisia. Doctor of Education Dissertation, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to develop instructional components of a proposed pre-service extension training program for agricultural field extension workers in Tunisia.

Method. In order to accomplish this achievement, two major objectives were attempted: (1) To identify basic units of instruction now offered in preliminary extension courses by universities in the United States. (2) To develop selected units of instruction, in terms of behavioral objectives in areas identified as commonly used in the universities covered by the survey.

Data related to the first objective were gathered from 13 Land-grant State Universities distributed throughout the U.S.A. To meet the second objective a thorough review of literature was accomplished. Both quantitative and qualitative assessments were used in selecting and compiling a basic theoretical framework for reference in developing the instructional components of the proposed program.

Findings. Analysis of data showed that the major five units of instruction most used in preliminary courses offered in extension education were: (1) General concepts of leadership and group action, adult learning, and extension education; (2) the adoption process; (3) the communication process; (4) the extension teaching methods; and (5) the extension program development.

In order to improve the agricultural extension training programs in Tunisia,

it was recommended that: (1) the legitimizing authorities recognize the necessity of a basic course in agricultural extension if sound extension pre-service training is the paramount objective of the National Institute of Agronomy in Tunisia. (2) The five developed units of instruction should be translated into French and be a part of the curriculum of senior students majoring in Agronomy. (3) After the first year of implementation, the suggested units must be evaluated and subject to suggestions and adaptation to local conditions for future improvement in conception and administration. (4) Additional units of instruction and/or more recent and complementary information of the course continues through the years.

GBENJO, Soladoye Oludaisi. "The Effectiveness of the Oklahoma FFA Agricultural Mechanics Interscholastic Contest with Implications to Nigeria." Master of Science Thesis, 1976, Oklahoma State University, Stillwater.

Purpose. The major purpose of this study was to identify and compare selected educational benefits and opportunities resulting from participation in the Oklahoma FFA agricultural mechanics contest as perceived by students and teachers of vocational agriculture. Efforts were made to determine if the educational benefits resulting from competition created significant contributions to effective learning and how the contributions could be adapted to the Nigerian educational system.

Method. Data were collected by means of mailed questionnaires and personal visits. Twenty-five vocational agriculture teachers and fifty-three vocational agriculture students from the five Oklahoma vocational agriculture supervisory districts responded to the survey.

Findings. When respondents were asked to compare student participants with non-participants, they generally agreed that student contestants at the Oklahoma FFA interscholastic contest (1) Learn all agricultural mechanics skills tested for in the contest more completely. (2) Produce higher percentages of uniform welds with arc and oxyacetylene equipment. (3) Make higher scores on problem solving. (4) Receive more of a challenge for skill development, and (5) Provide teachers with useful information for the purpose of evaluation of the agricultural mechanics curriculum. Respondents disagreed that student contestants at the Oklahoma FFA agricultural mechanics contest: (1) make lower scores on written examinations, (2) have weaker agricultural production programs, (3) are more prone to drop out of school, and (4) are less aware of the world of work and its requirements than non-contestants. In view of the above, the author concluded that the use of the FFA organization as a integral part of vocational agriculture was of immense benefits to agricultural education in particular and the school system in general. The author strongly suggested that contests involving competitions should be introduced at the local, state, and national levels in the Nigerian educational system.

GIFFORD, Jimmy Leonard. "The Present and Desired Involvement of Teachers, Supervisors, and Teacher Educators in Selected Aspects of Vocational Agriculture Programs as Perceived by the Respective Groups." Doctor of Education Dissertation, 1976, Oklahoma State University, Stillwater.

Purpose. The primary purpose of this study was to compile the opinions of vocational agriculture teachers, supervisors, and teacher educators regarding the present and desired involvement of each one of the groups in various selected aspects of vocational agriculture programs.

Method. Questionnaires containing selected aspects of four areas of vocational agriculture were developed and administered to the study population which consisted of two vocational agriculture teachers, two vocational agriculture supervisors, and two agriculture teacher educators from all of the states which had vocational agriculture programs. Of the total 274 questionnaires administered through the mail in the fall of 1975, 203 or 74 percent of the instruments were returned for the analysis of data.

Findings. The vocational agriculture teachers, supervisors, and teacher educators indicated by their mean responses that they desired more involvement from all three groups in all procedures, practices, and activity of the four areas: (1) in-school programs, (2) adult programs, (3) teacher preparation, and (4) professional improvement. Desired teacher involvement was rated highest in the areas of in-school programs, adult programs, and certain aspects of professional improvement. This is compared to a present involvement rating of slight and moderate for most of the items in these areas. The area for which the three groups' responses indicated a present involvement of supervisors as highest was in-school programs. They felt the supervisors' present involvement was in the moderate category in the majority of the items of teacher preparation and professional improvement but was rated slight in half of the items of adult programs. Desired involvement for supervisors was rated highest for in-school programs and professional improvement but in the other areas, primarily moderate involvement was desired.

It was the consensus of the three groups that teacher educators are presently and should be highly involved in the procedures and practices of teacher preparation. At present, it was indicated by the responses of the groups that teacher educator involvement was slight for 22 of the practices of in-school programs and all items pertaining to adult programs. Teacher educators' present involvement in professional improvement was designated moderate with the exception of two items which were rated slight and one rated high. In addition to a high desired involvement rating for teacher educators in teacher preparation, four of the seven items in professional improvement were placed in the high category. The major portion of the items in the other areas received the moderate rating with very few remaining in the slight involvement range.

GILLILAND, Dale Francis. "An Evaluation and Follow-Up Study of Vocational Agriculture at Minco." Master of Science Report, 1974, Oklahoma State University, Stillwater.

Purpose. This follow-up study and evaluation was designed to determine the effectiveness of vocational agriculture at Minco through opinions of graduates.

Method. Questionnaires were mailed to 190 graduates who took at least two years of vocational agriculture.

Findings. Subject areas receiving the most attention were breeds of livestock, judging swine, etc. Subject areas needing improvement were farm finance, operation of farm level, etc. Over 48 percent of the graduates were making \$12,000 and over a year. Twelve percent of the graduates received 100 percent of their income from farming. Approximately 12 percent of graduates were farming full-time. Graduates thought mathematics was the most beneficial course taught in high school, with vocational agriculture being second. Feeding livestock was the most beneficial skill developed in vocational agriculture. FFA activities with the most participation were showing livestock, judging swine, etc. Eighty-two percent of the graduates considered the show program important or very important to vocational agriculture. Career preparation should begin in the freshman year according to 34 percent of the graduates. Twenty-five percent of the graduates received a four-year college degree.

GREEN, Herschel Hudson. "Perceptions of the Extent of Use and Effectiveness of Selected Practices and Procedures in the Recruitment of Agricultural Education Students." Doctor of Education Dissertation, 1976. Oklahoma State University, Stillwater.

Purpose. In this study a nationwide concerted attempt was made to identify, rate, and rank the extent of use and effectiveness of practices or procedures which contribute to the positive decision of students to become qualified teachers of vocational agriculture.

Method. A schedule for securing needed data was developed and submitted to six groups of respondents in each state. The six groups included (1) head teacher educators, (2) teacher educators, (3) senior college students, (4) state supervisors, (5) district supervisors, and (6) state officers of NVATA.

Respondents were asked to indicate their perceptions as to (1) the extent 25 selected practices or procedures were employed in their state and (2) an assessment of each of the 25 practices in terms of their relative effectiveness.

Findings. Recruitment emphases provided by teachers of vocational agriculture and by teacher educators were perceived as both the most commonly employed and the most effective among the 25 selected practices and procedures investigated. Also rating and ranking quite high were "provision whereby transfer work is readily accepted by institution" and "providing flexibility for students to obtain some work toward the master's degree while qualifying to teach." Respondents from most of the groups also indicated that "recognition given teachers for having their own former high school students now teaching vocational agriculture" is a practice of considerable value. Considerable agreement was evidenced between and among groups that valuable practices included (1) encouraging institutions to provide for agricultural education majors to visit with prospective students at judging contests, conventions, etc., (2) providing college scholarships for agricultural education students, (3) maintaining active state-wide functioning recruitment committees. Stressing recruitment through activities of the Collegiate FFA appears to be recognized as of considerable importance in spite of the fact that a number of institutions do not have an FFA Collegiate program. Among a number of recommendations made the following received emphasis: (1) Teachers of vocational agriculture should be urged to constantly be alert to identify and relate in a special way to high school students revealing potential as vocational agriculture teachers; (2) Teacher educators should make efforts to implement and maintain productive liaison leadership among supervisors, teachers, and others in active area and state recruitment committees; (3) Much closer rapport be established and maintained among teacher educators, state and district supervisors, and local teachers of vocational agriculture.

GWARZO, Basiru M. "A Study of the Vocational Agriculture Curriculum For High Schools in the State of Oklahoma, U.S.A., With Implications for Secondary Schools in Nigeria." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. The major purpose of the study was to determine the acceptance, usage, as well as effectiveness of the Basic Core Curriculum Guides for teacher vocational agriculture in the high schools of Oklahoma.

Method. Data were collected by means of a questionnaire distributed to 102 vocational agriculture teachers enrolled for credit in a seminar taught in August, 1974. Teachers represented each of the five Oklahoma Vocational Agriculture Supervisory Districts. The population was divided into two major groups, cooperating teachers (those selected to supervise student teachers) and non-cooperating teachers. Each major group was further subdivided into teachers with more than eight years teaching experience

and those with less than eight years.

Findings. Respondents were in general agreement that the Oklahoma Vocational Agriculture Core Curriculum was accepted as well as widely used by the vocational agriculture teachers of the state. Its use accounted for 60 percent of the teachers' time. Additional findings were that the (1) extent of teaching experience and (2) supervisory work in a specific district did not significantly affect the overall mean response of the teachers. This confirmed a conclusive finding that the curriculum could be adapted to local communities as well as personalized to each student. In view of this striking feature, the author implied the possibility of adopting the instrument for use in Nigeria. However, the author did not hesitate to emphasize that modifications would be made whenever necessary to amply allow for deficiencies and substitutions of some materials which would not be relevant to Nigerian needs or feasible in the Nigerian environment.

HABIBI, Mohammad Nazir. "Development of a Model for Implementing a Management by Objectives System for Agricultural Extension in Afghanistan." Specialist in Education Paper, 1974, Oklahoma State University, Stillwater.

Purpose. The study was developed to provide profitable and useful information for planners and administrators of the agricultural extension program. A major portion dealt with formative concepts and implementation suggestions of the MBO system including decision making, formation of goals and objectives, and planning and program development.

Method. Emphasis is based on the process and procedure and use of key words and phrases that identify and elaborate a better organizational operation. A functional purpose of the study was to develop a model of procedures and steps which might best facilitate development and implementation of the MBO System in an organization of Agricultural Extension of Afghanistan. It was also thought desirable to formulate some goals and objectives as an example and submit them to a jury for their assessment and evaluation.

Findings. (1) Effective management and effective program planning are key factors for a satisfactory and effective organizational operation. (2) For an effective program development involvement of all managerial personnel is required to realistically understand their areas of responsibility and apply themselves diligently for getting better results from their operation. (3) Extension programs should be educationally oriented to bring useful change in the behavior of farmers in order to help them to raise their standard of living. (4) Effective decisions call upon a well-diagnosed problem and a better alternative to solve the problem in the most effective way. (5) The MBO system, because of its numerous advantages, is agreed to be a more effective system of management. (6) MBO is goal oriented; vague and unclear goals and objectives should be avoided. (7) Jury evaluation of formulated goals and objectives implies that objectives ranked 3.5 - 4 for each item is acceptable; from 2.5 - 3.5 are barely satisfactory; and lower than 2.5 are not acceptable and they should be re-stated.

HEATHCOTT, Eldon Eugene. "Occupational Choice, Tenure and Selected Aspects of the Employment Patterns of Murray State University Graduates Qualifying to Teach Vocational Agriculture." Doctor of Education Dissertation, 1974, Oklahoma State University, Stillwater.

Purpose. A major effort was to determine occupational choice, tenure, and selected aspects of the employment patterns of recent Agricultural Education graduates from Murray State University.

Also solicited were judgements of each graduate concerning certain portions of the Agricultural Education program at Murray State University.

Method. Included were all Agricultural Education graduates of Murray State University from July 1, 1967, to June 30, 1973, who had received their Bachelor of Science Degree in Agriculture. These 119 graduates also qualified to teach vocational agriculture. Data were collected by mailed questionnaire from the total population. Responses were received from 100 percent of the graduates for the period studied.

Findings. Data revealed that 98 of the graduates were Kentucky residents, while 21 were from out-of-state. Persons having the greatest influence on the decisions of graduates to enroll in agriculture at the university were vocational agriculture instructors, the students themselves, father or guardian, and other selected persons. Even though placement services and/or personnel at Murray State University were effective in aiding agricultural education graduates in contacting their first employers, regarding later employment they relied primarily on other sources. Agricultural Education graduates of Murray State University tended to exhibit little mobility in securing employment. As indicated by the fact that 100 percent of the graduates were employed at the time of the study, the program can be adjudged as being very successful in preparing individuals for a wide variety of gainful careers, the most popular of which was teaching vocational agriculture.

HENDRICKSON, Billy Forrester. "The Perception of the Pre-Service Agricultural Education Program at Oklahoma State University as Perceived by Graduates Who Chose a Non-Teaching Occupation." Master of Science Report, 1976, Oklahoma State University, Stillwater.

Purpose. An effort was made to determine how graduates, who chose a non-teaching occupation, perceived their pre-service training program in the Agricultural Department at Oklahoma State University.

Method. A total of 53 graduates who certified to teach and entered other professions in 1971, 1972, and 1973 were included in the study. A total of 21 (39 percent) returned their completed questionnaires. Part one of the questionnaire identified nine teaching areas and asked the graduates to respond as to the degree of competence held, the sources of competence development, the frequency of need or use of each competency, and the need for more instruction in the areas. The second part included statements developed to determine how graduates felt about certain aspects of the Agricultural Education Department for personal and professional development of students.

Findings: In general the respondents indicated they had a sufficient degree of competence in all areas and used all these competencies extensively except for those in Vocational Agriculture Occupational Training, Young and/or Adult Farmer Advisement and Future Farmers of America Advisement. They also indicated that Oklahoma State University was the most important source for the development of all the competencies as they pertained to their current occupation. Respondents indicated a general desire for improving their professional capabilities through additional instruction in most all the areas. They also felt they were afforded a sufficient opportunity by the department to develop both personally and professionally. Overall, the investigator concluded that, in general, the Agricultural Education majors are adequately prepared for entry and success in non-teaching occupations in Agriculture.

HOLLENBACK, E. F. "Bill". "Perceptions of Oklahoma Young-Adult Farmers and Teachers as to Need, Feasibility, and Possible acceptance of a Proposed Adult Agricultural Education Specialist Program." Doctor of Education Dissertation, 1975, Oklahoma State University, Stillwater.

Purpose. The major purpose was to determine perceptions of Oklahoma young-adult farmers and vocational agriculture teachers regarding need, feasibility, and possible acceptance of a proposed adult agricultural education specialist program.

Method. Questionnaires covering similar items were developed and administered to 306 of the total 408 teachers of vocational agriculture. One hundred eighty-two useable questionnaires were secured representing 45 percent of the total teachers. An attempt was made to obtain two young-adult farmer questionnaires for each young-adult farmer questionnaires represent 77 percent of the goal accomplished.

Findings. Both responding groups indicated major agreement as to the need for well organized and regularly scheduled courses as continued offerings. The two groups also preferred subject matter specialists over local resource people or employment of additional teachers. Highest preference and predicted high participation were expressed for courses in beef production, pasture production, farm management, farm arc welding, and tractor maintenance. Of the 280 young-adult farmer respondents, 185 or 66 percent indicated beef production as a major enterprise with 82 or 29 percent indicating small grain production as a major enterprise. Slightly over one third of these respondents were college graduates. An additional one third had been engaged in production agriculture ten years or less. Of the 182 teacher respondents 141 or 77 percent reported having conducted an organized educational program for young-adult farmers within the past two years. Of these 106 or 58 percent currently advise active young-adult farmer organizations. Fifty-five percent of the young-adult farmer respondents indicated participation in an organized adult education class held under the direction of their local vocational agriculture teacher during the past two years.

According to the view of many of the respondents, vocational agriculture teaching is a very demanding occupation involving many evening responsibilities, long hours, and relatively few opportunities for advancement, and these have contributed to the exodus of some good teachers from the profession.

JOHNDROW, James Dale. "Program Planning, Instructional Procedures and Patterns of Service Activities Employed in Oklahoma Young Farmer Chapters." Doctor of Education Dissertation, 1976, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to identify organization and operational characteristics common to on-going young farmer chapters in Oklahoma and thus determine a profile of the typical chapter.

Method. Data were secured from young farmer members and young farmer advisers from 40 randomly selected young farmer chapters in Oklahoma. Selection of chapters was made from all 82 chapters having been in continuous operation for two or more years. An instrument was administered by mail to 40 chapter members and 40 chapter advisers with one follow-up effort made. Usable data were secured from 29 chapter members and 36 chapter advisers. This constituted a 72.5 percent return for young farmer members and 90 percent for young farmer chapter advisers; overall this was a 82.2 percent return of all questionnaires for the combined groups.

Findings. The study revealed significant differences in the responses of both members and advisers in the instructional areas of program planning, staffing and

sources of instruction, instructional techniques, evaluation of instruction, and many portions of community and service activities. The following conclusions can be drawn with some degree of confidence. (1) There exists many effective and highly valued local young farmer programs in Oklahoma. (2) In most local chapters, effort, support, and participation are directed toward both instructional and service areas. (3) Local chapter planning committees assume the major portion of responsibility for planning instructional programs. (4) A majority of instruction is provided by two major groups, agri-business and Cooperative Extension. (5) The lecture method of instruction is that method most often used by instructors. (6) Both members and advisers evaluated the effectiveness of educational programs at a high level. (7) Members can be and are highly motivated through community and service activities. (8) Major effort for community and service activities is provided by key individuals and chapter officers. (9) Young farmers cooperate with the FFA and 4-H clubs the majority of the time in conducting community and service activities. (10) FFA and 4-H clubs are the greatest beneficiaries of young farmer chapter and service activities. (11) Community and service activities are evaluated at a high level of both members and advisers.

JONES, John Dudley. "Vocational Agriculture Teacher Perceptions of Competencies as Bases for Pre and In-Service Agricultural Education Programs in Oklahoma." Doctor of Education Dissertation, 1975, Oklahoma State University, Stillwater.

Purpose. The primary purpose was three fold: to determine the nature and extent of self-perceptions held by Oklahoma vocational agriculture teachers regarding their present degree of competence for performance in selected areas of the vocational agriculture program; when, where, and by whom assistance should be given teachers in further development of these competencies; and teacher perceptions of priorities which should be given competencies development through professional improvement programs.

Method. Questionnaires covering competencies for selected areas of the program were developed and administered to the study population which potentially consisted of 408 Oklahoma vocational agriculture teachers under contract to teach in Oklahoma high schools during the 1974-75 school year. The questionnaire was administered during the annual Mid-Winter Conference held January 3, 1975. A total of 352 usable returns were secured, comprising 86.3 percent of the total population.

Findings. Collation of data revealed a remarkable similarity of responses among three teacher experience groups, as well as among groups of teachers comprising each of the five supervisory districts. On a five point scale, ranging from one to outstanding, a majority of respondents ranked their competency as "average" in all 11 selected categories of vocational agriculture performance. However, respondents did indicate that among all the categories they felt least competent in making use of advisory committees. In terms of priorities to be given for in-service training in the 11 categories, eight were indicated as "high" with three rated as "medium." In terms of rank, higher priorities were, in general, closely associated with high competency. In-service training in animal science ranked first, while making use of an advisory committee was ranked last. In terms of sources of assistance in development and improvement of competence, respondents felt that Oklahoma State University faculty efforts in pre-service training programs were the most important for all areas except that of fairs, shows, and contests in which vocational agriculture teachers with expertise was the most important source even in pre-service training. Overall it was concluded that although teachers had adequate levels of competence in all the areas studied, there was a genuine interest in securing additional professional improvements. The teachers also felt that the site for additional training was the Oklahoma State University campus for all but the fairs, shows, and contests area. Teachers overwhelmingly endorsed the establishment of a formal first year teacher training program and

expressed preference for the type of format and training provided as the most recent summer conference sessions.

KING, Harold Wayne. "A Survey of Salaries and Working Conditions of Vocational Agriculture Teachers in the United States." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. The major purpose of this study was to follow up a previous study, compile and make available information about salaries and working conditions of vocational agriculture teachers in the United States. These working conditions were salaries, length of employment, teaching load, travel expenses, certificate renewal, and expected increases in salaries for the coming year.

Method. The study included all states except Alaska which does not offer vocational agriculture. A questionnaire was developed and sent to the department or agency in each state which directed vocational agriculture. If no response was received, the questionnaire was sent to the Agricultural Education Department in those states. The final return was 100 percent.

Findings. There was a wide variation among the many items from state to state and even within some states. Employment time varied from 9 to 12 months and in 28 states the length of employment varied within their state. Average salaries varied from \$691.66 to \$1,072.54 per month for a beginning teacher with a B.S. degree and from \$708.33 to \$1,158.33 per month for a beginning teacher with a M.S. degree. Yearly increases were paid by 36 of the states ranging from \$92 to \$1,000 each year. The main change since 1973-74 was the increase in travel reimbursement which changed in 17 states. Salaries were expected to increase in 35 states for the 1975-76 school year. The increase ranged from \$200 to \$1,000.

LEE, Richard Eugene. "A Study of Disciplinary Problems Encountered by Teachers of Vocational Agriculture in Oklahoma High Schools." Master of Science Thesis, 1976, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was fourfold: (1) to determine the more common disciplinary problems encountered by beginning teachers of vocational agriculture; (2) to determine the frequency of the various problems; (3) to determine the most satisfactory methods of prevention of disciplinary problems; (4) to determine the most satisfactory method of correcting the various disciplinary problems.

Method. A survey was made with 72 teachers from the five supervisory districts of vocational agriculture. The responding teachers filled out the questionnaire given to them at selected Professional Improvement Meetings and returned them by mail to the author.

Findings. The most common disciplinary problems encountered by the teachers of vocational agriculture were excessive talking, unnecessary noise, and lack of attention. The beginning teachers had a higher rate of problems followed by intermediate, and then the experienced with the lowest rate of frequency of problems encountered. It was also concluded that the most common method of preventing and handling a problem was by a warning, polite but firm.

EOFF, Ronald Keith. "A Comparison of Selected Characteristics Between Departments Serving as Student Teaching Centers and Other Departments of Vocational Agriculture in Oklahoma." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. This study sought to determine whether the vocational agriculture departments approved to be student teaching centers in Oklahoma had characteristics that made them different from a random sample of other departments within the state.

Method. Involved in the study were a total of 26 departments of each type, 52 all together. Responses were received from 45 departments. Characteristics investigated were those pertaining to (1) instructors, (2) the vocational agriculture program, and (3) the physical facilities.

Findings. It was found that the group of cooperating teachers had more years of teaching experience in both single and multiple-teacher departments, more tenure in present school, had taught in fewer schools, were members of more civic groups, and assumed more responsibilities in such groups. The same was true for church membership and participation. On all the comparisons of program characteristics, the group of cooperating teachers were at the forefront. Regarding physical facilities, the non-cooperating teachers were found to have more classroom space, more shop space and more sets of up-to-date textbooks. Overall, it was concluded that the cooperating teachers, their programs, and departments were different from the non-cooperating group.

MARZETTE, Alfred L. "Responsibility for Goals and Influences Upon Student Achievement as Perceived by Selected Students and Educators in Okmulgee County Schools." Master of Science Report, 1975, Oklahoma State University, Stillwater.

Purpose. This study was made to determine student and educator perceptions of who should have the greatest responsibility in aiding the student in achieving goals and the type and amount of influence given factors had on student achievement in the Okmulgee County school system.

Method. The specific questions in this study were as follows: (1) Who should have the greatest responsibility in aiding the student in achieving goals? (2) Do school factors have any influence on student achievement in school? (3) What effect do student factors have on student achievement in school? (4) To what extent do teachers influence have on student achievement in school? (5) What effect do administrators factors have on student achievement in school? (6) Do community factors influence student achievement in school?

Findings. The following findings and conclusions emerged from this study as being of particular importance: (1) from comparison of perceptions of students and school educators about who should have the greatest responsibility for goal achievement, the students ranked parents, students, teachers and administrators in that order overall. The school educators overall ranked parents, teachers, students and administrators in that order according to who should be responsible; (2) from comparison of perceptions of schools and school educators, about the type and amount of influences, the students ranked sports, friends, teacher personalities, church, self-esteem, recreation and friends as being their highest influences. The school educators rated the teacher outlook on students, classroom activities, self-esteem, nutrition and teacher methods as being the highest influences.

MAXSON, Joe M. "Development and Testing of a Series of Horticulture Units of Instruction Based on Performance Objectives to be Used by Local 4-H Leaders." Doctor of Education Dissertation, 1976, Oklahoma State University, Stillwater.

Purpose. The central purpose of the study was to develop, test, and evaluate a series of instructional units in the area of horticulture for use by local leaders in county 4-H programs.

Method. Developed in the form of modules, each unit was presented as performance objectives to be attained by individual 4-H club members. Agents, 4-H leaders, and 4-H members were first requested to assist in determining the horticultural areas in which units should be developed. Based on the survey of agents, 4-H leaders, and 4-H members, instructional units were developed on (1) plant identification, (2) horticulture judging, (3) hobby greenhouse, and (4) plant propagation. Four counties with organized 4-H horticulture clubs were selected as locale for testing of the units. Local 4-H leaders taught the units and pre-test/post-test gain scores were determined. Members tested were stratified in four areas: (1) 14 years of age and over as compared to those under 14 years; (2) those having three or more years experience in horticulture activities as compared to those having less than three; (3) members from predominately rural counties as compared to members from urban counties; and (4) members having completed four or more years of club work as compared to those having less than four years. Leaders were also asked to personally evaluate the units.

Findings. Data analysis revealed that, to date, use of the concept of behavioral objectives in the preparation of 4-H study material is only slight, with few respondents indicating familiarity with the concept. After slight modification, the proposed list of developmental procedures or steps were determined as adequate by the jury.

Significant differences in gain scores were proven in only two situations: (1) a significantly greater gain was achieved by members from rural counties compared to members from urban counties, this proving true for the hobby greenhouse unit; (2) a significantly greater gain was achieved by members 14 years old and older as contrasted with gain scores achieved by those under 14 years of age. Comparison of pre-test scores achieved by each of these two groups indicated that in both situations differences might be ascribed, at least in part, to a greater knowledge of one of the groups prior to receiving instruction. However, findings of the study would seem to clearly indicate that members of any of the groups has potential for making a similar amount of improvement in scores on any of the units. Assessment and evaluation of the units made by 4-H leaders indicated that, in general, their feelings were favorable toward their development and use. Areas receiving the lowest rating by leaders in their evaluation and comparison of the units involved would suggest that they might view these as projects requiring their supervision without their having available time and knowledge to do so. It was recommended that further units based upon behavioral objectives be developed in horticulture and the suggestion was also made that attention be given application of the behavioral objectives concept for the preparation of 4-H materials in other project areas.

METIKOU, Assrate. "A Model for Establishment of a Management by Objectives System in the Extension Program of Ethiopia." Master of Science Report, 1974, Oklahoma State University, Stillwater.

Purpose. The study was centered upon the development of a model for establishing a "management by objectives system" for an agricultural extension program for Ethiopia.

Method. The literature on management by objectives and the Extension Service of Ethiopia was thoroughly searched and a proposed MBO system was designed for the Ethiopian Extension Service.

Findings. A major function of extension is to provide an incentive to motivate more people toward improved performance, retaining flexibility to meet all situations. Encouraging more participation, interaction, and acceptance of responsibility by concerned individuals should be a constant effort of extension personnel. Projection and realistic formulation of organizational goals and objectives under the system of management by objectives is an effective approach which enables organizations to expedite the performances via mutual understanding of manager and subordinate. When the job objectives of each individual professional are mutually described, negotiated, and decided as a desirable schedule directed toward achieving organizational objectives and goals and are stated in quantifiable terms, projected for a specific period of time, the extension program advances. Performance evaluation is properly conducted as a mutual review of achieved performance objectives and enables both the manager and subordinate to understand possible causes of failures as well as agree upon better methods.

MITCHELL, Robert Leon. "A Study of the Vocational Agricultural Students That Graduated From Ripley High School During the Period 1951 Through 1973." Master of Science Report, 1974, Oklahoma State University, Stillwater.

Purpose. The purpose of the study was to determine the occupational decisions made by the former students of vocational agriculture and to secure such related information as could be used in evaluation of the training received by these students.

Method. A questionnaire was sent to all students who graduated from Ripley High School in Vocational Agriculture during the years 1951 through 1973.

Findings. Data revealed that 60.85 percent of the former graduates were engaged in agriculture or agriculture related occupations. There were 27.95 percent engaged in agriculture production, 12.5 percent engaged in agricultural sales, 10.12 percent engaged in food processing, and 9.28 percent employed as agricultural technicians. Fifty-two percent of the graduates received education beyond the high school level. Fifty-five percent of the graduates' parents were engaged in farming. Vocational agriculture instructor and parents were the main contributing factors listed as why a graduate entered the agricultural field. Farm management, farm economics, animal science, career related occupations, agricultural sales, and carpentry were the areas needing to be stressed. There were 94.47 percent of the graduates that felt vocational agriculture training was beneficial.

MOHAMMAD, Jan. "Characteristics of 4-H Clubs in Selected Nations with Recommendations for Developing 4-H Club Work for Afghanistan." Master of Science Report, 1974, Oklahoma State University, Stillwater.)

Purpose. The main purpose of this study was to identify and study characteristics, functions, objectives and roles of 4-H youth work in the United States and ten selected nations. These were analyzed and studied in terms of possible suitability for developing 4-H club work in Afghanistan within the Extension Department in the Ministry of Agriculture.

Method. Books, Extension and 4-H club bulletins, reports, journals, articles, pamphlets, some Persian materials, and personal visits and interviews with 4-H agents and extension agents and specialists in the United States were used in collecting information.

Findings. The study of 4-H club work developed as a two-fold concluding recommendation: first, take steps to enable the extension staff of Afghanistan to learn more about 4-H club work; second, to develop a recommended plan for promoting 4-H club work in Afghanistan to meet the needs, interests, wants and objectives of young people and of the whole community.

(1) The 4-H club should be established by the Ministry of Agriculture in general directory at the national level and at the directory level in provinces, with the extension agent being responsible at the district level. (2) A comprehensive in-service training program including education in the behavioral sciences for all extension agents should be provided by the Department of Agricultural Extension. (3) Local volunteer leaders must be trained and thoroughly informed through extension programs and with the assistance of extension agents. (4) Youth should be given the opportunity to explore career and job opportunities which will improve community social life and enhance its potential for economic expansion. (5) 4-H should provide practical experiences in real life situations. Many projects and activities should be available to the members from which to choose.

PITCHFORD, Kenneth Leon. "Attitudes of Superintendents and Principals Toward FFA Activities in Area Nine of Missouri." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. The main purpose of the study was to obtain opinions of school administrators toward the FFA activities in their local FFA chapters and to present them in a form useful to those involved in program development in vocational agriculture education.

Method. This study was limited to twenty Missouri schools of Area Nine in Southwest Missouri. A questionnaire was developed to measure administrators attitudes concerning selected FFA activities. After refinement by Oklahoma State Agricultural Education staff, the questionnaires were mailed. Forty responses (100%) were returned by superintendents and principals of the area. The data obtained tabulated and expressed as percentages.

Findings. An overall summary revealed administrators in Area Nine, Southwest Missouri agreed that FFA activities do have a very high educational value and that the majority of FFA activities serve to stimulate FFA members to accomplish a high level of learning in vocational agriculture. The highest response by

administrators was that FFA activities are quite beneficial in developing leadership, citizenship, and cooperation traits. Other statements receiving a high average response were as follows: (1) FFA activities are an integral part of vocational agriculture, (2) FFA activities are beneficial in development of youth, (3) the vocational agriculture teacher should plan all FFA activities with the school administrators. Statements receiving a negative average response were as follows: (1) membership in the FFA should be a requirement for all students enrolled in vocational agriculture, (2) FFA activities should begin at the 7th and 8th grade level. Generally, administrators agreed that FFA activities are beneficial.

POPE, Dale Lee. "A Study of Activities of Young Farmer Chapters in Oklahoma." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to discover the activities of Young Farmer Chapters in Oklahoma as perceived by members and advisors. It was felt that perhaps the information secured could be used in the establishment of new Young Farmer Chapters in program planning and determining the value of those activities by older chapters.

Method. Responses were received from 21 Young Farmer members and 23 Young Farmer advisors. The study was limited to those chapters that had been chartered with the State Young Farmer Association for at least two years prior and including 1974.

Findings. As a result of this study, it was found as follows: (1) Chapters average approximately 35 members; (2) Chapters hold eight to 12 meetings per year; (3) Chapters have approximately 40 to 85 percent of membership attending meetings. Advisors and Young Farmer members were very similar in their responses in terms of value of importance of all types of Young Farmer activities. It was concluded (1) that Young Farmer programs are viable and beneficial to serve a worthwhile purpose for members and the community and (2) that all types of activities are essential to Young Farmer Chapters.

SALWAECHTER, George B. "A Comparison of Two Methods Used in Training 4-H Teacher Leaders." Master of Science Thesis, 1974, Oklahoma State University, Stillwater.

Purpose. This study was to compare different methods of training two groups of 4-H teacher leaders by using the Chick Embryo Program as training material.

Method. One group of the leaders were trained by the state extension poultry specialist while the other group was trained by county extension directors who had received their training from the same specialist. Pre-tests and Post-tests were used to collect data for comparison from 4-H'ers in six counties of Northwest Oklahoma during the fall of 1974. The null hypothesis tested in the study stated that there would be no significant difference in the post-test scores of 4-H'ers who had been trained by the two different groups of leaders. The means of the post-test scores from the two groups were used to calculate the comparison. The t test was used to accept or reject the hypothesis.

Findings. As a result of collection of data, the null hypothesis was accepted. That is, it was found there were no significant differences in the post-test scores of 4-H'ers taught by leaders trained by the two different methods. However, the agent trained leader group did exhibit a higher level of performance from the pre-test to the post-test measurements. For all but one of the 16 groups of 4-H'ers, scores on the post-test were higher than on the pre-test.

Analysis of the study findings led to the conclusion that both methods of instruction were effective and neither was superior to the other as a means of leader training. It was also concluded that the Chick Embryo Program is an effective teaching guide.

STOCKTON, Jerry Don. "Factors Associated with Longevity of Texas Young Farmer Chapters." Doctor of Education Dissertation, 1975, Oklahoma State University, Stillwater.

Purpose. Focusing upon data supplied by young farmer advisors and young farmer members, an attempt was made to determine salient characteristics common to successful Texas young farmer chapters with ten or more years of continuous activity.

Method. The salient characteristic determinations were assembled from responses obtained concerning an instrument that asked for characteristics common to young farmer chapters and advisors, characteristics with regard to selected practices and procedures, and characteristics concerning nondirected responses to selected statements. The instrument was administered by mailing the initial instrument and two follow-up mailings to selected respondents in Texas. Data collected represented 68 of the 77 young farmer advisors, representing 88.31 percent and 87 of the 231 young farmer members, representing 37.66 percent.

Findings. The study revealed close agreement among advisors and members concerning salient characteristics common to enduring Texas young farmer chapters. Item counts, means, percentages, ranges, and ranks were applied to responses for all categories. The close agreement by advisors and members concerning salient characteristics common to enduring Texas young farmer chapters allowed the following conclusions to be drawn with a degree of confidence: (1) that hard working advisors, interesting educational programs, and pride in their respective chapters are essential characteristics for young farmer chapter continuation; (2) that interested members, family socials, working closely with the FFA, strong officers, and community service activity are necessary to enduring chapters; and (3) that member involvement, utilizing resource personnel, keeping chapter members informed, meeting one time each month, and utilizing the state specialist program help enduring chapters survive.

STOUT, Jack Dean. "Dairymen's Opinions that Influence Their Acceptance and Use of Information to the DHI Records Program." Doctor of Education Dissertation, 1976, Oklahoma State University, Stillwater.

Purpose. The primary purpose was to determine the opinions of dairymen that influence their participation in the DHI Records Program, the testing plan most suitable to their needs, and the information desired in the DHI Records plan selected.

Method. Dairymen surveyed were those who were members of the Oklahoma Division of AMPFI, Inc. Returned surveys were divided into three groups according to dairymen's participation in the DHI Records Program: Group I were those dairymen currently enrolled in DHI, Group II were those who had discontinued, and Group III were those who had never been on the DHI Program. Data were collected both by mailed survey and surveys administered at DHIA meetings. The mailed survey response included 53.9 percent (151) of Group I, 30.5 (48) of Group II, and 9.5 percent (83) of Group III.

Findings. Data analyses revealed significant differences at the P .01 level in the opinions held among three groups of dairymen regarding the DHI Records Program, the DHIA Supervisor, and their acceptance of various testing plans. All groups of dairymen agreed that DHI Records improve management efficiency, increase sale value of animals, that production and breeding records were needed, and that they had more confidence in cows purchased from DHI herds. However, the order of the level of agreement was Group I, Group II, and Group III in each category. Group I had means indicating more faith in the integrity of records than Group II or Group III. In each category concerning integrity of records or service of the supervisor, dairymen who had discontinued the program had more adverse opinions than did dairymen who had never been on DHI.

TITSWORTH, Tobie Richard. "An Analysis and Regional Comparison of Salaries and Working Conditions of Vocational Agriculture Teachers in the United States." Doctor of Education Dissertation, 1976, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to compile more accurate data than was available in the past concerning salaries and working conditions for vocational agriculture teachers throughout the United States. It was also to analyze and compare this information on a regional basis and with past data. The salaries compared were the minimum and maximum starting salaries for the B.S. and M.S. degrees. The working conditions included months on the job per year, fringe benefits, minimum teacher qualifications and other related information.

Method. The study included all 50 states. A survey packet including a questionnaire and various selected tables from 'previous years' studies was developed and mailed to the department or agency which directed vocational agriculture in each state. The final return was 100%.

Findings. A wide variation was encountered among the 50 states as to types of salary information available. Many states provided an estimate or average for many of the categories compared. Employment contracts varied from 9-12 months per year with over 75% of the departments operating year-round. (At least one teacher on a 12-month contract.) Salaries for a beginning teacher with a B.S. degree ranged from \$700 to \$1292 per month. Regional averages were compared to the national average with the Central Region averaging higher than the national in all but one category. The Southern Region was lower in all categories. The Eastern Region average was less than the national in all but one category - minimum starting salary for the B.S. degree. The Western Region was consistently higher in all categories. An average increase of 14.5% since 1971 was seen in the minimum starting salary for the B.S. degree. Yearly salary increases are paid in 32 states ranging from 200-1000 each year. Forty-one states expected an across the board salary increase in the 1976-77 school year ranging from \$27 to \$83 per month.

VILLARTA, Federico Guarin. "Perceptions of a Summer Learning Experience in Agricultural Extension Leadership with Possible Application in the Philippines." Master of Science Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. This report dealt with a learning experience in agricultural extension leadership with the United States Civil Service Commission and the University of Wisconsin in the summer of 1974.

Method. The report consisted of two parts: (1) A management seminar entitled "Management Today - Modern Concepts and Practices," designed to assist participants in applying new methods and techniques to management back home and a special course in extension education. The program offered an opportunity to engage, both formally and informally in a challenging exchange of knowledge and experience both with the faculty and fellow participants. Didactic games, simulated games in group dynamics, communication, PERT, discussion and self-diagnosis of management style, were some of the many stimulating and thought provoking informal interactions between and among faculty and seminar participants. The report on the management seminar included (1) The Management Theory Jungle by Harold J. Koontz, (2) The Cycle of Conflict, (3) Setting Goals in Management by Objectives by Henry L. Tosi, John R. Rizzo and Stephen J. Carroll, (4) Management By Whose Objectives.

The second part of the summer experience dealt with Extension Education in Agriculture, Rural Youth and Home Economics, and "Keys" to Agricultural Development. The purpose of this part was to learn the role of the extension service and its relationship to agricultural development through discussion and actual county visits.

Findings. Some possible uses of the summer learning experience would be the installation of the management of objectives system in the Bureau of Animal Industry Livestock Extension in the Philippines, and training personnel in extension concepts, methods, program planning and evaluation using information gained during the summer learning experience.

Perhaps the most significant aspect reminiscent of the summer experience of 1974, other than the awareness of, and exposure to, the various avenues for agricultural development, is leadership in the initiation and prosecution of programs back home.

VILLARTA, Federico Guarin. "Projection of the Management by Objectives System for the Bureau of Animal Industry Livestock Extension in the Philippines." Educational Specialist Thesis, 1975, Oklahoma State University, Stillwater.

Purpose. The central concern of this study was to find out the present situation of the Bureau of Animal Industry Livestock Extension in the Philippines and how the principles of the Management by Objectives System (MBO) could be projected to fit into the situation.

Method. A combination of closed and open-ended types of questionnaires were used to obtain information from four types of populations - the Central Office Administrators, the Regional Directors, the Provincial Program Officers, and the Livestock Extension Technicians, all from the Bureau of Animal Industry in the Philippines.

Findings. The study revealed that the Bureau of Animal Industry Livestock Extension Unit was created by Special Order issued by the Secretary of Agriculture and Natural Resources upon recommendation of the Director of Animal Industry. The creation of this unit was also an internal arrangement made between the Department of Agriculture and Natural Resources and the Bureau of Animal Industry. The study also revealed that program planning is primarily initiated by the Central Office Administrators in Manila, Philippines. While program planning appeared to be centralized, there is a high degree of flexibility with the lower management levels having to prepare their own programs and set their objectives consistent with the national policies, goals, and objectives of the organization. At the regional and provincial levels, program planning appeared to be initiated by the Regional Directors and Provincial Program Officers with the Technicians having some degree of participation. The major job functions of the Provincial

Program Officers were reported as few as only two, to as many as six major job functions. In general, the major problems of the Livestock Extension Service appeared to be manpower, knowledge of extension education, transportation, communication, feedforward materials, personal growth and evaluation. In the lower management levels, highly centralized budgeting, funding, supplies, reports and reporting system, evaluation, feedback, policies and procedures, the Extension Technicians' apparent dissatisfaction with their present designation, and above all leadership seemed to be the major problems. Another problem appeared to be that a majority of the personnel serving in the Livestock Extension Service seemed to have been appointed Livestock Inspector, a position which is "service-oriented," and subsequently designated as Livestock Extension Technician.

WUTTIWATE, Sudsawath. "Judgements and Opinions of Senior Students in Khon Kaen University, Thailand, Regarding Careers in Agriculture." Master of Science Report, 1976, Oklahoma State University, Stillwater.

Purpose. The major purpose of the study was to secure and analyze student opinions, judgements, and aspirations regarding selected careers in agriculture as expressed by senior students in the College of Agriculture, Khon Kaen University, Thailand. Stated objectives of the study included (1) to assess judgements and opinions secured from a selected group of students at Khon Kaen University regarding their aspirations for a career in agriculture, (2) to determine the extent of their present interest in selected careers in agriculture, (3) to determine the extent of possible association between selected items of student background and training experiences and the nature and extent of their judgements of and aspirations toward selected agricultural careers.

Method. The study was limited to senior students enrolled in the College of Agriculture during the year 1975-1976, comprising a total of 53 students.

Findings. Student opinions about careers in agriculture stressed recognition of the need for the government to provide more facilities and modern equipment for agricultural demonstrations and research. Student respondents also felt that people who work in agriculture are not highly respected and suffer low prestige in society. Present interest of students in agricultural occupations indicated a first choice of "working on their own farm," second "work for Ministry of Agriculture," and third, "agriculture extension." Students gave preference to working in the area of agriculture over that of non-agricultural areas of work. Agricultural students tend to come from the larger families and the larger villages, and many have parents who are businessmen. A majority of students come from the Central and Northeast areas. It is recommended that (1) a faculty committee at the university talk with key administrators in the government, particularly in the Ministry of Agriculture and Extension to acquaint them with student perceptions of agriculture and agricultural industry. It is further recommended that (2) a faculty and administration give greater effort to recruitment practices and to establishing a career orientation program.

YEISLEY, James Edmond. "Vocational Agriculture Curriculum Changes in Schools in Urban-Influenced Areas." Master of Science Thesis 1975, Oklahoma State University, Stillwater.

Purpose. The purpose of the study was to compare the changes in curriculum taught to vocational agriculture students living in urban-influenced areas. A secondary purpose was to secure information which may be used by high schools in counseling and establishing optimum curriculum requirements for urban-influenced areas.

Method. A questionnaire was sent to 34 schools in urban-influenced areas - cities of 20,000 population or areas within 15 miles of city limits of such cities.

Findings. The study revealed that nearly half the teachers surveyed indicated that the nonfarm student had influenced curriculum offered at their schools. It further revealed that over half the students enrolled in vocational agriculture in the survey schools lived within city limits. Approximately two-thirds of the survey schools revealed that non-farm students had influenced the units of instruction that had been added and that they also influenced participation in contest activities.

It was concluded that there is a place in vocational agriculture for the non-farm student and that vocational agriculture curriculum and priorities must concern themselves with the individual needs of every student enrolled in vocational agriculture - both farm and non-farm.

OREGON

ALLEN, Samuel David. "A Study to Determine Why the Average Length of Service for Secondary Vocational Teachers in Oregon is Less than Five Years." Masters Paper, 1976, Oregon State University, Corvallis.

Purpose. The purpose of the study was to isolate factors which cause secondary vocational agriculture teachers to leave the profession.

Method. The population for this study was fifty percent random sample of a total of 188 former secondary vocational agriculture teachers who left the profession between September 1965 and June 1976.

Findings. Findings are as follows: (1) Having taken vocational agriculture in high school had little effect on the length of service; (2) Agricultural Education as a first major was significant; (3) Being a member of the Collegiate FFA had a significant effect upon length of service; (4) Nearly 27% of those responding indicated income was a reason for leaving; (5) Approximately 20% listed certification requirements as a reason for leaving; (6) Thirty-eight percent of the respondents listed lack of time for family as a reason for leaving the profession; (7) Of those who left, who had taught more than five years experience 48.5% became educational administrators; (8) Over 56% of those that responded were farming and or ranching.

LANNING, George D. "Vocational Education Alternatives for the Sheridan and Willamina School Districts." Master of Science Thesis, 1975, Oregon State University, Corvallis.

Purpose. This study was directed toward ascertaining the dimensions of the problem, including defining the population and its educational needs and proposing alternatives.

Method. Activities carried out during the study included (1) library research, (2) administrative, counselor, vocational instructor, and student survey questionnaires; (3) Yamhill County Intermediate Education District input; (4) State Department of Education Specialist input; (5) Oregon State University Department of Vocational Education and Department of Agricultural Education input; and (6) input from other vocational leaders throughout the state.

Findings. The first alternative was that of consolidation of the two school districts. There has been much discussion relating to consolidation by students and community leaders. Recommendations have also been included for utilizing facilities and administrative personnel. Data has been provided on the financial and legal aspects of consolidation in the consolidation portion of this paper. These become very important since this is what the taxpayers are really interested in.

Another alternative for vocational education was that of an area occupational center concept. This was closely examined in 1969-70 by the Yamhill County Intermediate Educational District, and it was decided at that time that it was feasible on a county-side basis, however, funds were never generated. It is currently felt that this would not be one of the better alternatives for the two districts.

The third alternative was the cluster exchange program which has been in existence during the 1974-75 school year with the forest products program at Willamina and the construction cluster at Sheridan. It has worked successfully, and there are plans to continue and expand the exchange program in the near future. This alternative would not be an additional burden to the taxpayer and yet provide a broader array of curriculum offerings.

The fourth alternative was that each school should develop a comprehensive school program. The State Department of Education recommends that this is the best procedure for implementing vocational education in the schools. Additional staff, facilities and equipment would be required in order to offer all of the suggested cluster areas. In this small school district during the current economic recession, this alternative is probably not feasible at this time. It would take a number of years to develop an adequate comprehensive program.

The last alternative was to have students attend Chemeketa Community College on a part-time basis. At the present time this is being permitted. The disadvantages of this, however, are the increases in cost of transportation and tuition for the students.

In viewing all of the vocational education alternatives of the two districts, it is felt that consolidation would be the most feasible way of meeting the student's career goals and aspirations.

SCHOENBORN, Roger Ellis. "Forestry Competencies Needed by High School Graduates as Rated by Employers, Secondary and Post-Secondary Instructors." Master of Education Thesis, 1976, Oregon State University, Corvallis.

Purpose. The purpose was to identify and to rate according to importance the forestry competencies commonly needed by high school graduates.

Method. A survey form listing 170 individual competencies was developed. The sample survey included all secondary forestry instructors in Oregon, both in forestry products and in agriculture; all post-secondary, community college forestry instructors in Oregon and Washington; and 30 key forestry employers in Oregon.

Findings. Opinions on 170 forestry competencies were obtained from 85 respondents. Thirteen of the competencies were found to be "essential," 101 competencies were found to be "necessary," 55 were found to be "nice to know," and one competency was found to be "unnecessary."

STEBBINS, Ronald David. "A Needs Assessment for Adult Agricultural Education in Jackson County, Oregon." Master of Science Non-Thesis, 1975, Oregon State University, Corvallis.

Purpose. The purpose of this study was to determine the adult education needs in Agriculture in Jackson County, Oregon.

Method. A survey form listing 36 small knowledge areas was mailed to every fortieth person on the Jackson County Extension mailing list.

Findings. There were definite needs for Adult Education in Agriculture in Jackson County. The greatest needs were for instruction in the use of chemicals to control weeds and pests. Determining fertility needs and fertilizer practices was a close second. Management practices for fruit and nut production rated third. This was followed in rank by the need for simple repair and maintenance of farm power, farm first aid, veterinary practices, irrigation practices and farm law. A total of 17 of the 36 skill areas surveyed were rated high enough to warrant their inclusion in an adult education program.

PENNSYLVANIA

BARR, Robert S. "Preferential Farmland Assessment - A Comparison of Seven Methods of Computation and Its Application." Doctor of Education Thesis, 1975, The Pennsylvania State University, University Park.

Purpose. Objectives were: (1) To develop, compare, and validate methods for determining agricultural value for farmland according to the Pennsylvania state tax laws and to provide an educational basis for informing agricultural specialists and community residents about the agricultural land problem and preferential assessment, (2) to develop and validate a procedure for determining agriculture land value based upon seven methods of assessment and to compare them by several criterion measures, and (3) to design a practical, theoretically sound legal assessment method which can use data available to assessors.

Method. The seven methods of assessment were compared by the following criteria: level of predicted value-mean value, uniformity of predicted value-coefficient of dispersion, accuracy of predicted value-R-square, practicality to the assessor, and understandability and acceptability to the public. A review was made of all available information and procedures regarding preferential assessment. An educational survey was made of teachers of young adult farmer programs. Next a pilot study of actual farm sales in Centre County was completed and the data were analyzed. Finally, each model was tested by using information from known assessment procedures as well as data from the pilot study. Statistical analysis included multiple regression analysis, R-square, correlation and coefficient of dispersion.

Findings. The most uniform and accurate method of predicting preferential assessment values is based upon rent income capitalization of farmland and the soil productivity equalization index. Other findings showed that the soil productivity equalization index is a valid method for applying value to farms and is extremely useful in maintaining a uniform and accurate assessment value. It was also determined that the state tax equalization board computations for agricultural land do not reflect a true agricultural value of farmland and that there has been a major change in proportion of land and buildings in total sales value.

CAREY, Raymond E. "Individualized Instruction Compared with Teacher-Centered Instruction in a Vocational Agriculture Program." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. The objectives were to: (1) develop individualized teaching materials for eleven areas of instruction in a vocational agriculture program, (2) let every student learn and specialize in an occupational area of agriculture, and (3) determine whether individualized instruction or teacher-centered instruction results in more learning by the student.

Method. In the vocational agriculture program at Eisenhower High School, a new course of study was developed with an emphasis on individualized instruction. The course of study was implemented by allowing students to pick instructional areas to meet occupational objectives. Students were asked to select at least three subjects for classroom instruction and three subjects for shop instruction. Teaching materials to facilitate individualized instruction were prepared for each area and the students worked at their own rate until each unit was completed. Pretests and post tests were given to students who studied units in each of the eleven instructional areas. The teacher-centered group and individualized instruction group were given the same tests. The pretest and post test scores were changed to percent correct answers. Scores for each of the instructional areas of the teacher-centered shop courses, teacher-centered classroom courses, individualized shop courses, and individualized classroom courses were analyzed. Mean scores for each pretest and post test by age groups, teaching methods, teaching environments, and instructional areas were calculated. Analysis of variance and t-tests were run on the means, to determine significant differences at the .05 and .01 level.

Findings. The findings of the study were as follows: (1) In four out of seven shop instructional areas there were higher post test scores for students in teacher-centered instruction as compared to individualized instruction, (2) In one out of four classroom instructional areas there were higher post test scores for students in individualized instruction as compared to teacher-centered instruction, (3) Student scores were higher on the post test in all instructional areas, and (4) the 16-18 year old students had higher post test scores than the 13-15 year old students.

CLEMMONS, Jesse Stuart. "Roles and Objectives of State Research Coordinating Units as Perceived by RCU Directors and State Directors of Vocational Education." Doctor of Education Thesis, 1975, The Pennsylvania State University, University Park.

Purpose. Objectives were: (1) To describe the major roles and objectives of the state RCUs in Vocational Education as perceived and projected by Research Coordinating Unit Directors (RCUDs) operating in three administrative settings, (2) to describe the major roles and objectives of RCUs as perceived and projected by State Directors of Vocational Education (SDVEs), and (3) to compare the perceived and projected roles and objectives of RCUs held by RCUDs and SDVEs within similar and different administrative settings.

Method. Viewpoints were obtained from leaders in three state locations of the RCU - outside the State Department of Education (Location I), within the SDE responsible to the SDVE (Location II), and within the SDE responsible to a position other than the SDVE (Location III). Data were requested from RCUDs and SDVEs in all 50 states. Questionnaires were mailed on August 30, 1974; subsequent follow-ups resulted in a return of 92% for RCUDs and 88% for SDVEs. The questionnaires used primarily forced choice responses in the form of ordinal measurements with internal validity assumed to be present. The 54 role statements were clustered into 10 categorical areas. Mean

scores were computed for each respondent for each category. This procedure reduced the responses to 10 scores for perceived role and 10 scores for projected role for each respondent.

Finding. The conclusions were that (1) SDVEs and RCUDs perceived similar roles for RCUs regardless of the administrative location of the RCU, (2) RCUDs and SDVEs both projected roles for RCUs in Location I that were not different from what they perceived them to be, (3) RCUDs and SDVEs both projected roles for RCUs in Location II and Location III that were much more active than they perceived the roles to be, (4) RCUDs and SDVEs have made moderate changes in the assignment of objectives to RCUs in the five-year period between 1969 and 1974, and (5) RCUDs and SDVEs assigned different objectives to RCUs depending on the administrative location of the Research Coordinating Unit.

DELL, Lawrence E. "Development and Evaluation of Approved Practices, Script and Colored Slides for Instruction In Growing Apples and Pears in the Home Garden." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. The purpose was to develop and evaluate a set of 2" x 2" slides and script on approved practices for apple and pear trees in the home garden. A slide set and script on this subject is not now available from any instructional services source. From this slide set the student should be able to identify the basic approved practices in growing these fruit trees. The slide set was directed toward: (1) students who wish to apply this knowledge to home gardens, (2) students who want to become employed in a horticultural business, (3) hobbyists taking a correspondence course, and (4) students in an individual study program in horticulture.

Method. Four steps included (1) development of the approved practices, (2) development of a set of slides and accompanying script illustrating the approved practices, (3) testing of the package and evaluation by vocational agriculture teachers, and (4) production of a final set of slides and accompanying script. Information was gathered from catalogs of leading nurseries in the United States, review of literature, personal experience, and the Pennsylvania Nurseryman's Convention at Penn State University, February 1975. Slides were made from colored photographs from home gardens and horticultural farms and from drawings. A ten-question evaluation form was developed to examine the effectiveness of the slide set and script.

Findings. The teaching materials that were developed are in two sections. The list of approved practices will serve as reference reading material for the teacher and the students. The script to be used with a set of colored slides will be useful as a teaching aid.

The slide set with script, evaluated by a group of Vocational Agriculture instructors at Penn State University, June 1975, was judged to be useful as a visual aid for adult education courses, individual study programs, and classes of high school students studying horticulture.

HENRY, Arba L. "The Development and Evaluation of an Agricultural Careers Game for Use in Teaching Careers in Agriculture to Ninth Grade Agriculture Students." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. The major purpose was to develop an agricultural careers game and determine its effectiveness as a classroom instructional aid. Additional purposes were: (1) to determine if there was any difference in the interest test scores of students taught by two methods of instruction and classified by father's occupation, (2) to determine if there was any difference in interest test scores between two methods of instruction, (3) to determine if the students' home location had any influence on interest test scores, (4) to determine if previous farming experience had any influence on interest test scores, (5) to determine if aptitude ability had any influence on interest test scores, and (6) to determine if there was any correlation between aptitude ability and interest test scores.

Method. An agricultural careers game was developed and used by 36 students at Solanco High School, Quarryville, Pennsylvania. The Applied Biological and Agribusiness Interest Inventory was used as a pretest and posttest. One group of students was taught a unit on careers for one week followed by the game for one week. The second group of students only played the game for one week. Correlation and analysis of variance were used to analyze the data for both groups.

Findings. (1) There was no difference between the two methods of instruction. (2) There were no significant differences in father's occupation and post-test score of students in both groups. (3) There were no significant differences in student home area and the scores they made. (4) There were significant differences in student scores by their previous farming experience on the interest in plants area of the test. (5) There was a significant correlation between aptitude ability rating and test scores. Students with high aptitude ability scored high in the plant interest area of the test.

HILTON, James William. "Attitudes of Teachers Toward and the Dissemination of Selected Agricultural Instructional Materials." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. The purpose was to determine the need for the development and distribution of additional materials for student and teacher use. Objectives of the study were to determine teacher attitude toward: (1) selected instructional materials (Resource Unit, Teachers Guide, Realia) being developed to meet the needs of students enrolled in agriculture, (2) the content (in terms of format) of selected instructional materials being developed, and (3) methods of dissemination of prepared instructional materials.

Method. Developed were: (1) a survey questionnaire form which may or may not have influenced the responses of those tested, and (2) a semantic differential attitude inventory used to measure teacher attitudes toward selected instructional material. The attitude survey employed 17 evaluative concepts using 10 bipolar pairs of adjectives. To field test a student resource unit, 30 teachers selected at random were asked to complete the demographic data sheet (questionnaire) and the attitude survey.

Finding. Analysis of data collected indicated the following: (1) teachers were using instructional materials developed by the Department of Agriculture Education and selecting preferred units on the basis of content and presentation of subject matter, (2) units which are complete and include teaching-learning activities are preferred by teachers and are most important in the development of comprehensive programs and curricula, and (3) dissemination of instructional materials on direct one

to one basis and through teacher workshops are the more desirable methods of dissemination of materials.

The results of this study support the need for the development of student resource units and related instructional materials both for teacher and student use. The results also support the concept that units be of a comprehensive nature and be distributed through teacher workshops.

LAWSON, Rebecca Martin. "The Review and Annotation of Occupational Guidance Films for Agriculture." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. Objectives were: (1) The development of an instrument to be used for reviewing and screening occupational guidance films for agriculture, (2) the development of a list of good, up-to-date occupational guidance films to be used by agriculture teachers and guidance counselors to complement their guidance program, and (3) creation of a cognitive awareness of the importance and need for more occupational guidance films in a wider variety of agriculture education areas such as, forestry, horticulture, and wildlife.

Method. All agriculture guidance films dated from 1964 to 1974 that could be located by the investigator were included. This developed into a list of 33 films, 11 of which were dropped during the course of the study. A questionnaire included: (1) title of the film, (2) annotation, (3) occupational area, (4) running time, (5) color, and (6) film source code. The questionnaire and film list were sent to 34 selected agriculture teachers to be completed and returned to the investigator. The opinions of the agriculture teachers were summarized for the final evaluation annotations of the films.

Findings. The instrument developed for evaluating occupational guidance films for agriculture was helpful in gathering and summarizing information about the films. The information gathered should prove helpful to agriculture teachers and guidance counselors in the selection of films for guidance in agriculture. The study also showed a definite need for more up-to-date films for guidance in agriculture, especially in the area of ornamental horticulture.

The investigator found that (1) a follow-up study should be done every two or three years to add a list of new films released and remove the older out-of-date films, (2) each film should be reviewed before an agriculture teacher or guidance counselor uses it, and (3) the main consideration in deciding whether or not to use a film should be that it will contain up-to-date, useful, and valid information.

LINN, Bernard C. Jr. "An Analysis of the Application of Conservation Plans in the Centre County Soil Conservation District." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. The purpose was to reveal the extent to which conservation plans have been applied in the Centre County Soil Conservation District. The study focused upon a set of reasons why individuals did or did not become cooperators within the district. A list of approved conservation practices compiled by the Soil Conservation Service of the U.S.D.A. was used. The study also provided a summary of attitudes of cooperators and noncooperators toward the Pennsylvania Department of Environmental Resources mandatory requirement of every farm having a conservation plan by July 1, 1977.

The study was initiated in order to establish effective procedures in presenting the need for and value of having a conservation plan.

Method. A group of 20 cooperators were selected randomly and a group of 15 noncooperators were selected randomly by geographical location within Centre County. During the months of November and December 1974 these individuals were administered a questionnaire in order to obtain information on why they did or did not join the conservation district, how they felt about the mandatory requirement of every Pennsylvania farmer having a conservation plan by July 1, 1977, and which approved conservation practices they had applied.

Findings. Most farmers became cooperators with the Centre County Soil Conservation in order to apply conservation practices that would conserve soil and water. A majority of noncooperators did not obtain and apply a conservation plan because they didn't know enough about the plan, and because finances were too limited to apply practices. The highest percentage of cooperators felt the application of a conservation plan was needed to protect soil and water, and the highest percentage of noncooperators felt having a plan should be left up to the individual when they were questioned about the mandatory requirement of every Pennsylvania farmer having a plan by July 1, 1977. Among cooperators and noncooperators there was a high establishment of conservation practices that dealt with crop production activities such as conservation cropping system, stripcropping, cover and green manure crops, crop residue use, and pasture and hayland planting.

MACK, Rodney P. "Survey of Water Resource Competencies Needed by Graduates and Post-Graduates of High School Agricultural Resources Curricula." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. Objectives were: (1) To secure information that would aid administrators of agricultural education programs in preparing teaching materials and in counseling students in high school, area vocational-technical school, and two-year post-high school programs which have natural resource curricula, (2) to identify groups of competencies at the To Enter and To Advance levels for water resource occupations in agricultural resources, and (3) to determine the degree of competence needed within the general subject matter areas of water resources by graduates of agricultural programs.

Method. Four skill and competency areas of water resources were used in developing the survey: water and water quality, wastewater, biological sciences concerning water, and water mechanics. The survey was designed to identify specific tasks required To Enter or To Advance as an employee or prospective employee of a waste treatment facility. Twelve out of twenty qualified people chosen in water resources responded to the questionnaire. By calculating the mean scores of the 12 respondents, individual tasks were rated as low, medium, and high. To Enter and To Advance mean levels of competence needed were compared by the t-test using significance levels of .01 and .05.

Findings. There was a significant increase from the To Enter to the To Advance levels in the four areas and in the majority of instructional units. An upgrading of trainee programs and other programs on all educational levels is difficult but needed to improve training program success. Information was provided for educators to use in preparing individuals to enter water resource occupations. When planning a curriculum in water resources more consideration should be given to areas which have medium or high need.

McGUIRE, Robert Michael. "Prediction of Animal Husbandry College Student Success, Using an Interest Index and Other Factors." Doctor of Education Thesis, 1976, The Pennsylvania State University, University Park.

Purpose. The purpose was to develop an Animal Husbandry Interest Index to use to predict which students would successfully complete a two-year technical program in Animal Husbandry. To determine relationships between the Index scores and three Regents Scholarship Examination (RSE) scores, grade point average (GPA) sex and option in Animal Husbandry.

Method. The Kuder Preference Record, Occupational Form D was administered to 319 Animal Husbandry students in the classes of 1973 and 1974. The 1971 (matriculation date) responses of 108 Animal Husbandry students who graduated in 1973 were analyzed to determine the number and percent of students responding to each answer position of each item triad on the Kuder Form D. Thirty six of the original 100 triads, with answer positions selected by 50% of the successful students, were retained to form the Animal Husbandry Interest Index. Answer sheets of students in the classes of 1973 and 1974 were scored using only the 36 triads to produce individual and class mean Index data analyzed in this study. Chi-square, correlation, t-test, and analysis of variance were used to test hypotheses at the .05 level.

Findings. (1) Successful students could not be distinguished from unsuccessful students by Index score alone. (2) A significant positive change from college entrance to graduation occurred during each of the two years that Index scores were obtained on successful students at Cobléskill. (3) The Index scores for the class of 1974 correlated positively with the three RSE scores, Aptitude, Achievement, and RSE total. (4) Analysis of variance determined that the Index mean score for students in the Horse option was higher than for students in the Beef and Dairy options. There were more females enrolled in the Horse option. (5) Using class of 1974 data, the mean Index score of 61 females was significantly higher than of 96 males. (6) Grade Point Averages of students in the three options were compared. At the 5% level, GPA differences were not significant. (7) The animal Husbandry Interest Index can determine whether a student has an interest in Animal Husbandry but it cannot predict which students will be successful.

MILHOAN, Dennis R. "Visual Media in Teaching Psychomotor Concepts Involving the Performance of Ornamental Horticulture Tasks." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. The purpose was to evaluate the effectiveness of the use of 35mm slides and 8mm film loops in the teaching of psychomotor skills to students classified according to academic level. Task analysis and behavioral objectives were used in the instructional sequence. The objectives were, (1) to determine the effectiveness of visual aids in the teaching of a task in ornamental horticulture, (2) to compare the relative effectiveness of single concept 8mm film loops and 35mm slides in the teaching of a task in ornamental horticulture, (3) to determine the effectiveness of visual aids in the acquisition of a skill in ornamental horticulture, and (4) to compare the relative effectiveness of single concept super 8mm film loops and 35mm slides in the acquisition of a skill in ornamental horticulture.

Method. Eighteen Pennsylvania schools in which ornamental horticulture was taught participated in this study. Of the eighteen schools, six were randomly assigned to each of three instructional treatment groups. Instructional treatment I consisted of an instructional manual and a task sheet based on the task analysis system of instruction. Instructional treatment II consisted of the instruction manual and task

sheet both as used in treatment I, and an audio-visual presentation on the subject matter which was the planting of a balled and burlapped shrub. Instructional treatment III consisted of an instructional manual and task sheet as used in treatments I and II, and a visual presentation in the form of a single concept super 8mm film loop. Criterion measures used to test the hypotheses were, (1) a cognitive achievement test, and (2) a psychomotor skill performance test. The Nelson-Denny Reading Test was used to classify the students as below average, average, or above average in ability. Instructions were mailed to the teachers at the onset of the study; follow-up visits were then made to the schools to evaluate the progress of the experiment and to answer any questions.

Findings. The slow learner and the average learner perform better on a cognitive achievement test of instruction in the form of a slide presentation accompanied by an audio presentation explaining each slide. They are also able to score higher on the listing of the sequence of each element within the task. Therefore, a slide presentation is better able to separate each element of a task than a film strip which does not separate each element of the task but runs in a continuous strip of film. The addition of the audio presentation explaining each slide also increased the ability of the slow and average learners to understand each task.

This study supports seven learning principles proposed by Shelton (1971): (1) the slow learner must proceed in a simple step by step procedure which he can master at his own pace, (2) the learner must receive immediate reinforcement for any success, (3) the slow learner must receive a variety of stimulation, (4) the material must be meaningful to the slow learner, (5) the student must receive immediate feedback upon completion of the task required, (6) practice of the newly acquired task is important, and (7) shaping of the learner's behavior is needed to perform each task satisfactorily before moving to the next.

MINCEMOYER, Donald L. "Using a Student Handbook with a Coordinated Project to Teach Safe Operation of Power Shop Equipment." Master of Education Paper, 1975. The Pennsylvania State University, University Park.

Purpose. Objectives were to: (1) locate individualized instructional materials already available for learning basic skills for safety in high school agriculture shops, (2) locate individualized instructional materials used in other vocational fields, (3) locate research in the area of individualized instruction that may aid the development of a student handbook, and (4) develop and evaluate individualized instructional material for learning the safe operation of power tools in the agriculture shop.

Method. After interviewing teachers of agriculture in Pennsylvania it was established that a teaching handbook for safety in agriculture shops was needed. A wealth of information was found and compiled. Using these sources and drawing from experience a student handbook was prepared to provide factual information on safety through the construction of a tool box. The student learns to use specific pieces of power shop equipment safely while building the tool box.

Over 400 preliminary copies of the handbook were sent to 21 Pennsylvania schools. Each teacher was asked to use the handbook in teaching power shop equipment operation during the 1973-1974 school year. At the end of the year teachers and students evaluated the handbook. The final draft of the handbook, based on suggestions from the teachers and students, was written and published.

Findings. Students can learn to safely use power shop tools and equipment by studying a handbook structured for individualized or group learning. The handbook

was found to meet the needs of the vocational agriculture teacher. The teacher can accommodate the widely varying needs of the student, and through independent study accommodate more students. Eighty-five percent of the teachers evaluating the handbook said it helped improve instruction in power shop equipment and would purchase it if made available. The handbook was highly useful for students with a wide range of reading abilities. Students liked the format of the handbook and, after completion, overall the students rated themselves highly competent to safely use specific pieces of equipment. A significant correlation was found between student self evaluations and the degree of difficulty in operating each piece of equipment.

The following publication was produced: Safe Power Shop Equipment Operation, Teacher Education Series, Volume 15, No. 35, Department of Agricultural Education, The Pennsylvania State University.

REIMOLD, Ivan L. "Evaluation of a Nematode Unit Taught in High School Biology and Vocational Agriculture Classes." Doctor of Education Thesis, 1976, The Pennsylvania State University, University Park.

Purpose. The problem was (1) an experiment in teaching a unit about nematodes to high school biology and vocational agriculture students and (2) a comparison of seasonal change in soil nematode population counts in 10 fields of alfalfa on seven soil series in Butler County, Pennsylvania. The teaching unit covered importance of nematodes to agriculture, pathological characteristics in attacking crops, current controls, and field and laboratory techniques for study. Each student saw living nematodes taken from alfalfa sod.

Method. The nematode unit was taught to high school students with classification by sex, I.Q., class rank, and pretest score as predictors of test scores. Null hypotheses stated that no significant differences existed among environmental factors as soil series, parent material, pH, soil temperature, and soil moisture in alfalfa fields in relation to the nematode population.

Biology students were a non-agriculture part of the testing group. Vocational agriculture students were included as they will work the soil. Both boys and girls were included, from the 10th through the 12th grades. Learning was evaluated by a multiple-choice knowledge test. The biology students were heterogeneously grouped with an I.Q. mean of 110.4. The vocational agriculture student I.Q. mean score was 99.1.

Soil series chosen for the research were taken from the partial soil series classification of Butler County published by The Pennsylvania State University. They included Hazleton, Cookport, Ernest, Wharton, Cavode, Brinkerton, and Weikert. Standard field sampling and laboratory filtration procedures were used.

Findings. Conclusions drawn from the adjusted test scores, a sum of part scores on questions relating to agriculture, ecology, pathology, histology and physiology, were: (1) Student I.Q., class rank, and pretest score showed significant positive correlation with test scores, (2) Girls in biology classes scored higher than boys, (3) Boys in biology classes scored higher than boys in vocational agriculture, and (4) Students in all three groups made significant gains from pretest to test.

Bi-weekly sampling of alfalfa field soils, June through November, yielded the following information relating to differences and changes in nematode population counts: (1) Loose, light soils derived from sandstone parent material, e.g., the Hazleton series, allow greater feeder root development and had higher nematode populations, (2) Of the physical factors studied, soil temperature and soil moisture correlated

positively with nematode count, and (3) Soil pH was not significantly related to nematode population.

Further research is needed to test other physical factors that affect the build-up of nematodes in alfalfa sods. Soil nutrients, root depth, time and quantity of rainfall, water table, subsoil depth, and certain soil chemicals may influence the number and distribution of soil nematodes.

SCHWARTZ, John H. "Procedure for Organizing and Operating a Mini-Cooperative in an Extension Youth Program." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. The major purpose was to develop a written procedure and supportive material that would help adults to organize and operate a mini-cooperative in a youth program and to teach youth (1) how to organize and dissolve a cooperative; (2) the basic legal and financial documents used to operate a cooperative; (3) how a cooperative functions and operates; (4) the duties and responsibilities of cooperative members and officials; (5) the procedure for advertising a job, applying for a job, and conducting a job interview; (6) the process for developing, producing, and marketing a product; and (7) the basic principles of economics and how the American Free Enterprise System operates.

Method. A two-year study was conducted. The first year a tentative procedure for organizing a mini-cooperative and supportive material was developed based on a review of literature and interviews with educators and cooperative leaders who have helped to organize and operate a mini-cooperative. Using this information and supportive material, the author organized and operated a mini-cooperative for one year. From this experience revisions were made in the procedure and supportive material. The second year, another mini-cooperative was organized to evaluate these revisions.

Finding. Suggested procedures for organizing and operating a mini-cooperative developed from this study were: (1) identify the youth audience to be involved, (2) call a planning meeting of eight to fifteen youth leaders representing target youth audiences, (3) at a planning committee meeting, lay ground work for organizing a mini-cooperative, (4) publicize time, date, and place for organizational meeting, (5) meet with temporary chairman to plan agenda for organizational meeting, (6) hold organizational meeting, (7) have Board of Directors meet immediately to organize and hire a manager, (8) send meeting notice in accordance with by-laws, (9) work with manager on organizing first activity or project, (10) organize and conduct activities or projects, and (11) plan to dissolve the mini-cooperative.

Other findings indicate that (1) quick organizational and well planned procedures are required to keep the youth interested and prevent problems, (2) the first year attempt at a mini-cooperative is the most difficult, (3) a mini-cooperative should have a limited life of less than one year to insure that it stays as an educational process and not develop into a on-going business, and (4) understanding of economic principles and business operations is gained by youths participating in a mini-cooperative.

SOPP, Dennis F. "An Evaluation of Sets of Alternative Complementary Instructional Techniques for the Identification of Woody Ornamental Plants." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. Objectives were: (1) To identify sets of alternative complementary

instructional techniques for the identification of woody ornamental plants, (2) determine how many plants should be taught during a week of instruction, and (3) to demonstrate individual instructor evaluation of types of teaching aids and curriculum materials in horticulture.

Method. Five sets of teaching techniques were identified from information gathered from vocational agriculture teachers in Pennsylvania high schools. Each of the five sets was then used by different teachers. Seventy-four students with no previous experience with woody ornamental plants were involved in the study. Pretest - post test measurement consisting of twenty names of woody ornamental plants (genus, species and common name) was administered one week apart. One of the five sets of instructional techniques was used by the teacher in the intervening period. In administering the tests, individual plant part specimens were collected and numbered by the teacher according to the answer key. The students were permitted to visually examine each specimen for one minute and write the number of the specimen in the blank for the corresponding plant name on the test. Students by I.Q. scores were grouped into 3 categories. The I.Q. scores and the difference scores from the results of the pretest and post test were analyzed by two-way analysis of variance.

Findings. Set No. 1 technique (written records, live material study, and herbarium study) and set No. 4 (traditional lecture, colored slides, live material, written records, and individualized study) were found to have significantly higher mean scores than the other sets. There was no significant difference between sets 1 and 4. The highest mean number of woody plants learned was nine and the standard deviation was four. The two-way analysis of variance indicated that results of the sets of techniques used were influenced by the I.Q. scores of the student. It was recommended that set No. 1 be used for instruction in woody plants because it involved less instructional effort than set No. 4. Only thirteen to fifteen plant specimens should be covered each week.

THOMAS, J. Richard. "The Development of a Program in Cooperative Education for Lancaster Mennonite High School." Master of Education Paper, 1975, The Pennsylvania State University, University Park.

Purpose. Objectives were: (1) To develop a comprehensive program in cooperative education for senior students at Lancaster Mennonite High School; (2) to include in the program objectives, program policy, contracts and forms to be used, and a course of study for the related theory class instruction; and (3) to develop a program that will help to meet the overall, general and special objectives of education at Lancaster Mennonite High School.

Method. A survey schedule of 20 statements was completed by five groups of five persons each. The five groups were parents, community businessmen, senior students, teachers in the vocational department, and other members of the professional staff. The response to the 20 statements was measured by using a five-point Likert scale ranging from strongly agree to strongly disagree. The data for the survey were obtained by individual interview. A review of several programs of cooperative education, general reading, the objectives of Mennonite education, and observations of experiences of two students in a pilot program served as the basis of the construction of a comprehensive cooperative education outline. Some changes were made in preliminary program following constructive criticism and suggestions for improvement from several selected persons who reviewed the program.

Findings. Persons surveyed in this study expressed a high degree of agreement with the concept of cooperative education. Cooperative education at Lancaster Mennonite High School should include Christian principles as an integral part of the program. The program needs to be flexible so that it can be individualized to meet the needs of each student.

Students should be placed for on-the-job training in an appropriate occupational area of their choice, when a willing employer is available, whether or not Lancaster Mennonite High School offers instruction in knowledge or skills directly related to that job. A coordinator should be employed to conduct the program. The coordinator shall be in charge of student placement and supervision.

WILSON, Linda C. "Development of Slides and Tape Depicting the Typical Duties Performed by the Vocational Agriculture Teacher." Master of Education Paper, 1976, The Pennsylvania State University, University Park.

Purpose. Objectives were: (1) To develop instructional materials to illustrate the duties of the agriculture teacher for use by teachers of agriculture and guidance counselors when exploring career opportunities with students, and (2) to test the effectiveness of these instructional materials (slides and script) by measuring changes in knowledge of vocational agriculture instructor duties by high school students after reviewing the slides series.

Methods: A slide (35 mm) set with script was developed showing vocational agriculture teachers performing typical duties as derived from the review of literature. Two hundred fifty-one students in three schools in Pennsylvania participated. Two groups of agriculture students and two groups of non-agriculture students received a pretest and posttest in each school. One group of agriculture students and one group of non-agriculture students saw the slide set and narrated script as the treatment. The other two groups were the no-treatment (control) groups. The t-test was used to determine whether there were significant changes in knowledge test scores.

Findings. Vocational agriculture students knew more about the duties of a vocational agriculture teacher after participating in a group instructional program of slides and script than they did prior to this experience. Vocational agriculture students participating in a group instruction of slides and script did not know more about duties of a vocational agriculture teacher than vocational agriculture students who had not participated in this instruction. Students in a vocational agriculture program did not have more knowledge after participating in a group instruction program of slides and script than students enrolled in a non-agriculture program. The slide set with script produced posttest scores higher than the pretest scores at one of three participating schools. The difference was significant at the .01 level. The slide set and script developed in this study probably is an appropriate instructional device to use in career exploration with middle school and secondary school students.