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ABSTRACT

This compilation includes abstracts of 140 research and development studies in agricultural education completed during the period July 1, 1977 to June 30, 1978. Thirty-three of the completed studies represent staff research, fifty-six represent master's theses, and fifty-one represent doctoral dissertations. Studies are arranged alphabetically by state and alphabetically by author within states. Entries contain the purpose, method, and findings of the research and development activities. A comprehensive subject index, utilizing ERIC descriptors, is included; among the topics included are Adult Education, Agribusiness, Curriculum, Economics, Employment, Forestry, Leadership, Program Development, Work Attitudes, etc. Studies reported as being in progress during 1978-79 are also compiled. They are arranged alphabetically by state and by author within states. In progress were fifty-two staff studies, forty-seven master's theses, and twenty-seven doctoral dissertations. A listing (by ED numbers) of where to find previous summaries of studies in agricultural education is also included. (CSS)

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SUMMARIES OF RESEARCH  
AND  
DEVELOPMENT ACTIVITIES  
IN  
AGRICULTURAL EDUCATION  
1977 - 1978  
United States of America

Compiled and Edited

by

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U.S. DEPARTMENT OF HEALTH,  
EDUCATION & WELFARE  
NATIONAL INSTITUTE OF  
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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND THE ERIC SYSTEM CONTRACTORS

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## PREFACE

This document represents the fourth annual national Summaries of Research and Development Activities in Agricultural Education in the United States of America. Personnel from states not included in this compilation are encouraged to submit summaries for succeeding issues.

The compilation includes abstracts of 140 studies completed during the period, July 1, 1977 to June 30, 1978. Thirty-three of the completed studies represent staff research, 56 represent master's theses, and 51 represent doctoral dissertations. Studies are arranged alphabetically by state and alphabetically by author within states. A subject index, utilizing ERIC descriptors, is included.

Studies reported as being in progress during 1978-79 are also compiled. They are arranged alphabetically by state and by author within states. In progress were 52 staff studies, 47 master's theses and 27 doctoral dissertations.

The compilation of Summaries of Research and Development Activities in Agricultural Education is an activity of the Research Committee, Agricultural Education Division, American Vocational Association. Jimmy G. Cheek of the University of Florida has been appointed to compile the 1978-79 report.

The location of previous Summaries of Studies compiled by region is shown at the back of this publication.

Alfred J. Mannebach

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SUMMARIES OF RESEARCH AND DEVELOPMENT ACTIVITIES  
IN AGRICULTURAL EDUCATION, 1977-78

ALABAMA

IVERSON, Maynard J. and BAKER, Bill. "Competencies for the Occupation, Farrier." Staff Study, 1977, Auburn University, Auburn, Alabama, and the University of Kentucky, Lexington.

Purpose. The primary purpose of the study was to develop a validated listing of competencies required for beginning workers in the field of horseshoeing.

Method. The researchers conducted an extensive search of the literature in order to identify material for a comprehensive job description, preliminary skills or understanding and sources for names and addresses of practicing farriers. An "in-state review group" consisting of four farriers in the Lexington, Kentucky, area reacted to the preliminary list of competencies. Based upon their input the final survey form was developed. Institutions of higher education known to have farrier education programs, private schools and agriculture teacher educators were contracted to secure names of practicing farriers. Seventy-four farriers in 17 states were sent questionnaires. After two weeks a second questionnaire and follow-up letter were sent to non-respondents. Data were keypunched and processed by computer. Means, medians and frequencies were reported.

Findings. The 36 usable returns revealed that the farriers had an average of 10 years experience (range of 1-28 years), worked on two or more types of horses (72%), and practiced primarily within their own state (58%). Most had become a farrier through a private commercial school (50%) and 36% had served an apprenticeship. Number of horses shod annually ranged from 10 to 6,000 with a mean of 1,008 and median of 605. The farrier is also known as a horseshoer, shoer or blacksmith. A comprehensive job description was developed and 55 sub-competencies within eight major categories were validated. (These may be reviewed in total on pages 226-228 of the Final Report, National Agriculture Occupations Competency Study.)

IVERSON, Maynard J. and YATES, Johnny. "An Intensive Study of Recent Graduates from the Agricultural Teacher Education Program at Auburn University." Staff Study, 1978, Auburn University, Auburn.

Purpose. The primary purpose of the study was to follow up program completers (1972-1977) in order to secure information as to current career development, values of the teacher education program, competency of graduates, levels of satisfaction with jobs and preparation programs, and professional development of graduates.

Method. University alumni files were used to locate graduates; a post card response was utilized to determine job status and secure agreement to participate in the study; questionnaires were developed and mailed to: (1) graduates who were teaching Vocational Agribusiness, (2) graduates who were employed in "related occupations," and (3) employers of graduates. Data were secured on diverse demographic, job situational, job preparation and professional development variables. Descriptive statistics were utilized in the main; however a t-test was employed to test the significance of the difference between employers' ratings and graduates' self-ratings of beginning competency levels.

Findings. During the past six years, 230 individuals had completed the program; of the 212 located, over 87 percent responded to the mailed survey. Sixty percent were currently teaching, 9.4 percent out-of-state. Two thirds entered teaching after graduation; major changes were to leave for another profession. Over 80 percent had held only one or two jobs since graduating. Farming, Extension work and sales jobs were reported by 18 percent of the respondents; none were unemployed. Graduates generally noted their preparation at Auburn "adequate;" employers rated graduates significantly higher in beginning skills than the graduates rated themselves. Graduates unanimously agreed that their "acquired" level of preparation was less than the level they perceived as "needed"--especially in the areas of technical agriculture and shop skills. Teachers rated internship (student teaching) "very valuable;" those in related fields rated it "as of some value." Spouses of those in related jobs were more satisfied with the job than their husbands; spouses of teachers were less satisfied with the job. Those teaching rated considerably higher on a "professionalism scale" than did those in other jobs.

#### ARIZONA

CAMP, Julie Patricia. "Assessment of Job Satisfaction of Paraprofessionals in Relation to Selected Personal Characteristics and Working Environmental Factors." Master of Science Thesis, 1978, The University of Arizona, Tucson.

Purpose. The purpose of this study was to appraise job satisfaction of the paraprofessional employed in the Expanded Food and Nutrition Education Program (EFNEP) in Arizona in light of certain personal characteristics.

Method. A survey instrument which asked for personal information of the paraprofessional and measured eight areas of job satisfaction was used. It was administered to the 40 EFNEP paraprofessionals present at a State EFNEP Workshop. Data were reported for both personal data and job satisfaction statements in terms of frequency distribution and percentages. One way analysis of variance were used to correlate personal characteristics and job satisfaction factors.

Findings. EFNEP paraprofessionals employed in Arizona tend to be married, usually to blue-collar workers rearing or having reared their own children. They are between the ages of 31-50 and have either not worked outside the home prior to employment in the Arizona Extension Service or have worked in service roles (i.e. teachers' aide, nurses's aides, etc.).

The job factors that were the most satisfying to the EFNEP paraprofessionals were the intrinsic rewards of the job itself. Pay and relationships with co-workers were the areas of least satisfaction.

Those personal characteristics that tended to affect job satisfaction were: size of communities, racial-ethnic composition of the paraprofessional's community, as well as the length of time the paraprofessional has lived in that community. Previous work experience, marital status, of the paraprofessional and educational level also tended to affect job satisfaction.

Job satisfaction factors that were most affected by personal characteristics were: pay; working conditions; relationships with co-workers; supervision and intrinsic rewards of the work itself.

COBB, Gareth M. "Attitudes and Perceptions of Groups of People Concerning Agricultural Mechanics." Master of Agricultural Education Report, 1977, The University of Arizona, Tucson.

Purpose. The purpose of this study was to determine the attitudes and perceptions of selected target groups to job titles in agricultural mechanics.

Method. The population included students enrolled in vocational agriculture, specifically incoming freshmen and outgoing seniors. Also parents of both student groups along with persons actually employed in agricultural mechanics were included in the study. The two groups of students were used to determine the change in attitudes and perceptions towards agricultural mechanics associated with instruction in vocational agriculture and maturation. The parents were used to determine how closely the attitudes and perceptions of the students paralleled those of the parents. Those employed in agricultural mechanics were used as a "jury" for establishing the actual job characteristics and by which the accuracy of the attitudes and perceptions of the different groups could be measured. The dependent variables identified were (1) placement opportunities and advancement potential, (2) prestige and financial reward, and (3) working conditions and training needed. The semantic differential technique with two checks was used to measure the perceptions and attitudes. The independent variables in this study were the eight selected job titles in agricultural mechanization.

Findings. Maturation and instruction in vocational agriculture did not significantly alter students' attitudes and perceptions of agricultural mechanics jobs. The parent, and students display similar attitudes and perceptions. Neither parents nor students possessed a very accurate perception of the characteristics of the agricultural mechanics jobs as provided by industry personnel.

ETLING, Arlen W. "Resource Directory, Arizona Cooperative Extension." Staff Study, 1977, The University of Arizona, Tucson.

Purpose. This study was to determine the human resources and software available within Arizona's Cooperative Extension Service.

Method. A mailed questionnaire was used to survey Extension agents' work responsibilities, other areas of professional expertise, hobbies and talents and recent consulting in Extension. A separate questionnaire was used to catalog software (bulletins, outlines, films, slides, posters, transparencies, etc.) available from the agents.

Findings. A resource directory was published and mailed to each Extension agent in Arizona. One hundred forty (140) Extension agents were cataloged and indexed along with the software they have available to share.

SHIBAH, Mohammed Mostafa. "Agricultural Training Needs of Farmers in Remote Saudi Arabian Villages." Master of Science Thesis, 1978, The University of Arizona, Tucson.

Purpose. The purpose of this study was to determine needed agricultural skills and information of farmers in remote Saudi Arabian villages and to assess the farmer's interest in enrolling in training courses.

Method. One hundred thirty (130) farmers in 13 villages in four different geographical areas were interviewed. They rated the importance of 71 subject matter areas in six commodities (cereal, fruit production, vegetables, livestock, farm machinery and equipment, and forage crops) and suggested skills and information needed under each subject matter area. Four questions were included to determine the most acceptable time and location for training.

Findings. The most important subject matter areas, important in all four geographical areas in vegetables were: (1) identification and control of diseases and insects, (2) fertilizer (use), (3) seed selection, and (4) irrigation requirements and techniques. The highest priority subject areas, important in all four geographical areas in fruit production were: (1) identification and control of diseases, and (2) insects and fertilizer (use). There were significant differences among the four geographical areas in the needed agricultural skills and information. For the entire four geographical areas 92.3 percent indicated an interest in participating in instructional courses offered in their villages. Analysis showed that the farmers in the four geographical areas had opinions that were statistically different as to the best time of year to participate in a training program.

WELLMAN, Paul D. "Teacher Evaluation of Vocational Agriculture Student's Manual Arc Welds." Master of Agricultural Education Report, 1978, The University of Arizona, Tucson.

Purpose. The purpose of this study was to determine experimentally the precision of the appraisals and evaluations commonly made by vocational agriculture teachers in Arizona of student manual arc welding skills. Further, the study was designed to develop and test possible means of improving the appraisal and evaluation process so as to reflect industrial standards for beginning employees in jobs requiring manual arc welding skills.

Method. A survey instrument which asked for relative importance of arc weld characteristics was administered to 41 welding industry personnel and to 39 vocational agriculture teachers. Data gathered was used to construct an arc weld evaluation score card and to determine if standard evaluation of arc welds was used throughout the industry and if teachers were using the same relative values for grading arc welds. The arc weld evaluation score card was field tested on six classes of arc welds by 30 Arizona vocational agriculture teachers present at a State FFA Leadership Conference. The data was statistically analyzed.

Findings. Welding industry personnel and Arizona vocational agriculture teachers used a wide range of standards for evaluating manual arc welds. The use of the arc weld evaluation score card by vocational agriculture teachers did significantly improve the accuracy of evaluations of student's manual arc weld specimens that would be comparable to industrial standards.

## CONNECTICUT

MANNEBACH, Alfred J. "An Analysis of the Impact of Agricultural Education Research on Identified Professional Concerns: 1974-77." Staff Study, 1978, The University of Connecticut, Storrs.

Purpose. The primary objective of the study was to determine the extent to which the agricultural education research conducted in the past, 1974 to 1977, was addressing the important identified concerns of the profession. A sub-objective was to draw attention to the professional concerns identified so researchers could assess the relevance of the concerns to their current and future situations and up-date their thinking regarding research priorities.

Method. The primary methods used in the study were literature review and document analysis. The three completed annual national Summaries of Research and Development Activities in Agricultural Education, 1974-75, 1975-76 and 1976-77, were reviewed to determine the extent to which the studies addressed the "concerns" identified by the profession as reported by Richardson, Shinn and Stewart in a 1976 paper entitled "Identifying Research Concerns of the Agricultural Education Profession," presented to the AATEA and NASAE in joint session at the annual convention of the American Vocational Association in Houston, Texas. An overall analysis involving all the research reported in the Summaries during the past three years was made. In addition, an analysis of how well the completed studies addressed the "concerns" was made by type of study, master's, doctoral or staff; by AATEA region, Western, Central, Southern or Eastern; and by the years the studies were conducted, 1974-75, 1975-76, and 1976-77.

Findings. Results of the research indicated that agricultural educators were focusing research attention on some areas of identified professional concern. Eighty-seven studies or 25% of the research reported over the three-year period had implications for curriculum development, the first priority concern. However, only five studies or 2% of the research reported focused on the second priority concern, funding, while 45 or 13% of the studies were reported in teacher education, the number three priority concern. Twelve or four percent of the research reported focused on the teacher shortage and 27 studies or eight percent of the research had implications for evaluation, the fourth and fifth priority concerns respectively. A total of 176 or 52% of the 344 studies reported had impact on the first five areas of priority concern identified. Ninety-five of the studies reported or 28% were judged as non-applicable to the professional priority concerns identified. The last nine areas of concern identified: teacher certification, supervision and administration, adult education, manpower needs, the FFA, research, postsecondary programs, urban program development and administration, accounted for 73 or 20% of the studies reported.

The Eastern and Western AATEA regions reported the highest percentage of studies having impact on the five highest areas of priority concern identified.

Four recommendations were made as a result of the study. They were:

1. Submit abstracts of agricultural education research completed each year to the person who is responsible for compiling and editing the Summaries of Research and Development Activities in Agricultural Education.
2. Continue to develop and refine statements of "concern" and research needs.
3. Consider focusing research on identified areas of professional concern when designing research studies.
4. Continue to research the research and development efforts in agricultural education and establish debate regarding the extent to which agricultural education research should be programmatic and focused on "concerns" identified by the profession.

MONROE, David R. "A Survey of Educational Interests and Needs in Agricultural Education." Connecticut Vocational Agriculture Teachers Association Study, 1978, The University of Connecticut, Storrs, and the Connecticut State Department of Education, Hartford.

Purpose. The purpose of the study was to determine the interests and needs of Connecticut vocational agriculture teachers in pursuing continued education in areas of technical agriculture.

Method. A four-page survey instrument was developed and mailed to all of the vocational agriculture teachers in the state. The instrument was designed to collect information pertaining to certification, degrees held, current involvement in graduate study, interest in taking future courses, and the desire for additional graduate or undergraduate courses in technical agriculture.

Findings. A total of 54 or 87% of the Connecticut vocational agriculture teachers responded to the survey. From a statutory standpoint in order to continue teaching, nearly one third of the respondents required additional study or advanced degrees to qualify for standard certification. Over 66% of the respondents indicated that they were interested in pursuing degree programs in the technical aspects of agriculture through courses offered by the University of Connecticut College of Agriculture and Natural Resources. Over one half of those persons indicated that they would take courses even if credit were not offered. The most sought after courses were those in the areas of agricultural business management, meat grading and evaluation, structures and fruit culture.

VILLANUEVA FREYTES, José A. "The Comparative Effectiveness of Two Different Methods of Teaching Technical Farm Credit and Total Money Management to Tenth Grade Vocational Agriculture Students and Adult Farmers in Puerto Rico." Doctor of Philosophy Dissertation, 1978, The University of Connecticut, Storrs.

Purpose. The purpose of the study was to determine the relative effectiveness of two different methods of teaching an instructional unit in technical farm credit and total money management to tenth grade vocational agriculture students and adult farmers enrolled in vocational agriculture classes in Puerto Rico. The two teaching methods involved in the study were lecture-discussion and modular instruction.

Method. From forty-five Puerto Rico public schools having vocational agriculture departments, fifteen were randomly selected to participate in the study. The fifteen vocational agriculture departments were randomly divided into two groups; the lecture-discussion group and the modular instruction group. Each of the two groups was composed of one hundred and fifty students, seventy-five tenth grade vocational agriculture students and seventy-five adult farmers.

Both the lecture-discussion group and the modular instruction group were pretested, using the achievement test "Farm Credit and Total Money Management." One hundred and fifty students received instruction via the modular instruction method and one hundred and fifty were instructed by the lecture-discussion method. The teaching period was fifteen hours, distributed over a three week period of time. Three days after the groups completed the instructional period the classroom teachers administered the achievement test to the students as a post-test. Seven days after the post-test the classroom teacher administered the achievement test to the students as a re-test. Differences in scores from pre-test to post-test and to re-test, between and within the groups were investigated and treated statistically.

The study was designed to yield data to test eight null hypotheses. Data collected for the hypotheses were tabulated and subjected to t-test analysis to determine statistical significance, using the .05 level of significance as the criterion.

Findings. The results of the study demonstrated that there was no significant difference in terms of achievement of knowledge between the combined group of tenth grade vocational agriculture students and adult farmers taught by the modular instruction method and the combined group of tenth grade vocational agriculture students and adult farmers taught by the lecture-discussion method. The retention of knowledge of the combined group of tenth grade vocational agriculture students and adult farmers taught by the modular instruction method was significantly greater, at the .05 level of significance, than the retention of knowledge of the combined group taught by the lecture-discussion method.

Regardless of teaching method, the adult farmers made significantly higher scores than the tenth grade vocational agriculture students at the time of post-test and re-test. Results were significant at the .001 level of significance.

There was no significant difference in achievement and retention of knowledge of farm credit and total money management between the group of tenth grade vocational agriculture students taught by the modular instruction and the group of tenth grade vocational agriculture students taught by the lecture-discussion method. The group of adult farmers involved in the modular instruction method achieved significantly higher scores than the group of adult farmers instructed by the lecture-discussion method, at the time of post-test and re-test.

#### FLORIDA

CHEEK, Jimmy G., BEEMAN, Carl E., and ADAMS, Samuel L. "Development and Verification of Professional Education Competencies Required by Agribusiness and Natural Resources Education Teachers in Florida, A Report of Research." Staff Study, 1977, University of Florida, Gainesville.

Purpose. The purpose of this study was to identify and verify the professional education competencies needed by teachers of agribusiness and natural resources education in Florida.

Method. The population for this study consisted of incumbent teachers, state staff members for agricultural education, teacher educators in agricultural education, and county supervisors of agricultural education in Florida. In order to obtain the requisite information, closed form opinionnaires were developed, field tested, and refined. Data were analyzed using descriptive statistics. In addition, the t-test and analysis of variance were employed with the .05 level of significance as the critical standard.

Findings. Of the 179 competencies studied, incumbent teachers recognized 14 (8 percent) of the competencies as low to moderate in importance, 119 (66 percent) of the competencies as moderate to high in importance, and 46 (26 percent) of the competencies as high to very high in importance. Joint staff members rated two (1 percent) of the competencies as low to moderate in importance, 50 (28 percent) of the competencies as moderate to high in importance, and 127 (71 percent) of the competencies as high to very high in importance. The means that resulted from the combined input of both incumbent teachers and the joint staff yielded the following results: six (3 percent) of the competencies were considered low to moderate in importance; 75 (42 percent) of the competencies were considered moderate to high importance; and 98 (55 percent) of the competencies were considered high to very high in importance.

Joint staff members rated all competency categories higher than did teachers and significant differences existed at the .05 level relative to six of the 11 competency categories between teachers and joint staff members. Teachers perceptions regarding the importance of the categories were also examined according to selected demographic characteristics of the teachers.

## ILLINOIS

LEGACY, James W., STITT, Thomas R., and WOOD, Eugene S. "Competency Based Curriculum for Agricultural Occupations Programs--Phase I--Developing an Occupational Matrix and Completing a Job Title Purposive Study." Staff Study, 1978, Southern Illinois University, Carbondale.

Purpose. The primary purpose of this project was to develop, adopt, and implement competency based curriculum for Illinois agricultural occupations programs at the secondary level. It is also the purpose of this project to develop and report curriculum methodology which will be useful as other vocational programs implement competency based programs.

Method. An occupational matrix consists of a listing of job titles, business titles, and business area titles which comprise an industry. In the matrix process, the first step was to establish the scope of the horticulture matrix. Sources of information included the Dictionary of Occupational Titles, Jackson County State Employment Service, and the Governor's Office of Manpower in Springfield which included the Dunn and Bradstreet credit reference computer printout file. An advisory committee was chosen to assist with the project. The job title survey was conducted by three researchers using the telephone.

The retail florists job title area was used in a purposive study for developing competency based instructional materials in Phase I of this study. A purposive study is the process of validating a list of tasks for a specified geographic area. Data in this part of the study were obtained from a series of 16 personal interviews with retail florists using a task analysis questionnaire with 100 task items. This instrument was pre-tested.

Findings. Part I--Matrix Data. The 138 telephone interviews identified 262 existing job titles of which 195 were not found during the search of existing literature. The survey also uncovered six new business types. Data gathered about entry jobs in a retail florist business are summarized in a separate publication titled "Horticulture Education in Illinois."

Part II--Purposive Study Data. The results suggest that beginning employees require training in three areas of business operation: sales, delivery, and design. They do not perform the tasks of bookkeeping and managerial activities.

STITT, Thomas R., LEGACY, James W., and WOOD, Eugene S. "Standards for Quality Programs in the Secondary Schools and Area Vocational Centers of Illinois, Excluding the Metropolitan Areas." Staff Study, 1977-78, Southern Illinois University, Carbondale.

Purpose. The overall purpose was to develop, adopt and implement standards of quality for agricultural occupations programs at both the secondary and post-secondary levels. Phase I deals only with the development and adoption of standards.

Method. Southern Illinois University staff worked only with the secondary and area vocational center agricultural instructors. A steering committee was used. Demographic data on the responding teachers was secured on a one-page questionnaire. The validating instruments for the standards consisted of the same items used in the national study. Instead of the three criteria used in the national study, four criteria were used. They were: essential, important, nice to have, and not needed.

The materials to be validated were given to the 25 sectional chairmen in the state and they in turn had their teachers mark the materials which were then returned to SIU. The materials were coded and run through a computer for statistical analysis.

The validated standards were all ranked in descending order by percent of validation within taxonomies and bound. These booklets were distributed at the annual conference of ag teachers for approval.

Findings. A summary of the demographic data will not be given here. A total of 413, or approximately 90% of all agricultural teachers in the secondary and area vocational schools of Illinois participated.

Seven taxonomies plus adult education and "Standards Common to All" resulted in a total of 195 separate standards. Using only those marked either as "essential" or "important", 53.8% of all the standards were validated by 80% or more of the teachers, while 78.6% of the standards received a 70% or more validation.

Of the seven taxonomies, 93% of the teachers taught production agriculture courses with nine standards of which 78.8% received a 70-90% validation. Eighty-three percent of the teachers taught agricultural mechanics with 19 standards of which 68.4% received a 70-90% validation. Forestry had the fewest number of schools teaching courses with only 15 reported. Five standards were listed and only one had above 70% approval.

At the annual IAVAT conference there was a unanimous vote to accept all standards with a 65% or better rating. Only 27 of the 195 standards fell below 65% and were rejected.

MORAN, David P. and STITT, Thomas R. "Investigation and Development of In-Service Training Models for Part-Time Teachers of Adult and Vocational Programs" Thesis, 1977-78, Southern Illinois University, Carbondale.

Purpose. The purpose of this study is threefold: (1) to investigate media delivery modes commonly available in high schools and community colleges throughout Illinois, i.e., tapes, slides, microfiche, videotapes, etc.; (2) to determine the best mode(s) available for the development of a transportable model for in-service training for part-time instructors of adults; (3) to develop a sample transportable model of in-service training for these part-time instructors of adults.

Method. Survey materials were developed to investigate the media delivery modes available. Media mode designs chosen for the in-service models were based on the availability of the constraints of the project. A steering committee recommended that the following components be developed for in-service delivery to part-time adult instructors: (1) writing measurable course objectives; (2) characterize adult students; (3) instructional execution. These components were developed to be self-instructional.

The unit was field tested at two community colleges on three different occasions during the project's duration. Thirty seven part-time instructors critiqued the unit.

Findings. As a result of the field tests, major revisions of the unit were made as follows:

1. more than doubled the number of examples used within the unit
2. minimized the educational terminology while attempting to keep the overall vocabulary simple
3. expanded the worksheet for writing the objectives, and provided a list of action verbs
4. included a list of suggested readings for further information about writing measurable objectives.

From the information gained, a unit on (1) Writing Measurable Course Objectives was developed as a programmed self-instructional unit; (2) Characterize Adult Students was developed as a self-instructional slide-sound tape; and (3) Instructional Execution featured the demonstration method using a tape-slide series.

STITT, Thomas R. "Cooperative Occupational Education Workshop Project." Staff Project, 1978, Southern Illinois University, Carbondale.

Purpose. The purpose of this activity was to provide intensive training for those teachers who planned to or were beginning to serve their school as a vocational teacher coordinator in a cooperative program, and also to up-grade and improve the competencies of

those persons already serving as teacher-coordinators. These workshops also enabled the participants to meet the requirements of a change in Illinois law beginning with the 1978-79 school year.

Method. In setting up and preparing the three cooperative occupational education workshops involved in this project, the following activities were performed: (1) select sites, (2) schedule facilities, (3) design and print an information flyer, (4) mail the flyers, (5) plan the workshop activities, (6) prepare, collect, and assemble the workshop materials, (7) conduct the workshops, and (8) evaluate the results of the workshops.

Findings. A total of 136 participants completed the program in the three different workshops and certificates were awarded to them. They completed 40 hours of intensive work. Ten evaluative items on a four point scale were marked by each participant at the close of the workshop. Ratings were: (1) Instructor--3.87; (2) Recommend workshop--3.77; (3) Organization of workshop--3.73; (4) Overall rating of the activity--3.70; (5) Appropriateness of this activity to career education--3.66; (6) Applicability of workshop content to your needs--3.60; (7) Feeling on what you learned (more or less anticipated)--3.57; (8) The degree to which what you learned will affect your behavior in your job--3.57; (9) Systems of helping learners become employable, how well it a need has this a--3.40; (10) Amount of material presented within the time available--3.40.

WALKER, Robert W. AND HEMP, Paul E. "Standards for Agricultural Occupations Programs in Illinois Community Colleges." Staff Study, 1978, University of Illinois, Urbana.

Purpose. The purpose of this study was to evaluate and revise the national standards for agricultural occupations programs and to write new standards which would be appropriate for Illinois community colleges.

Method. Agriculture teachers in 28 community colleges in Illinois were asked to rate a list of 225 national standards as "Essential", "Important", "Nice to Have" or "Not Needed". Teachers were also asked to rewrite standards which needed revision or to write new standards. In addition, teachers were asked to supply demographic data on themselves and their schools and communities. A State Review Panel consisting of 40 community college teachers reviewed the ratings of teachers and made further revisions in the program standard. At a later meeting, teachers were given the opportunity to adopt or reject the revised standards and the new standards.

Findings. The major findings of this study were as follows: One hundred forty-three of the national standards were rated "Essential" or "Important" by two-thirds or more of the teachers and were accepted without further revisions; forty of the national standards were revised and ten new standards were written; forty-two standards were rejected. The demographic data included the following information: Of the 109 teachers included in this study, 66% have a teaching certificate, 55% are on a nine-month's contract, 58% have taught at the high school level, 94% have engaged in non-teaching, work experience, and 67% are involved in the supervision of students enrolled in supervised experience programs.

WALKER, Robert W. AND HEMP, Paul E. "Standards for Horticulture-Agriculture Programs in Secondary Schools in the Chicago Metropolitan Area." Staff Study, 1978, University of Illinois, Urbana.

Purpose. The purpose of this project was to develop a set of standards for the horticulture-agriculture programs which are emerging in some of the Chicago and suburban schools.

Method. A list of national standards was used as an initial list which was to be modified and adapted for agriculture programs in urban areas. The first part of this study was to identify schools and teachers in the Chicago area where horticulture courses were offered. The secondary teachers identified were asked to evaluate a list of national standards using a four point scale. In addition, teachers were asked to supply demographic data which could be used to describe the teaching personnel and the situations where they were employed.

Findings. Thirty-three metropolitan teachers responded to the survey instruments used in this study. Only 23% of these teachers majored in Agriculture or Agricultural Education as undergraduates. More than half of the teachers were general science or biology teachers. The schools where the respondents were employed enroll 750 or more students. Most of the horticulture programs were offered through the science department and about half of the horticulture programs are considered to be "practical arts" programs.

Thirty-three teachers rated 120 standards obtained from a list of national standards. At least 2/3 of these teachers rated 96 of the standards as "Essential" or "Important". Due to the small number of responses and the limited involvement of the respondents in vocational horticulture programs additional research is planned to validate the national standards.

#### INDIANA

MOORE, Gary E. "A Comparison of Perceptions as to Why Vocational Agriculture Teachers in Indiana are Leaving the Profession." Staff Study, Purdue University, West Lafayette.

Purpose. The purpose of this study was to identify the factors which contributed to the departure of vocational agriculture teachers from the profession in Indiana between 1973 and 1977 according to the perceptions of: a) Former vocational agriculture teachers, b) School administrators who have had vocational agriculture teachers leave the profession, and c) Present vocational agriculture teachers who replaced a teacher who left the profession.

Method. A mail questionnaire was sent to vocational agriculture teachers who had left the profession between 1973 and 1977, the vocational agriculture teacher who replaced the departing teacher, and the principal of the departing teacher. Forty-six possible reasons for leaving the profession were listed on the instrument. Each respondent rated each item on a 1-5 scale on the influence the item had on the teacher leaving. The response rate ranged between 50 and 60 percent for each group. A five percent sample of non-respondents was contacted by phone or in person to determine if non-respondents were different from respondents.

Findings. The six main reasons for leaving the profession according to the former teachers were in order: 1) long hours, 2) students in class who should not be in vocational agriculture, 3) their long range occupational goal was something different than teaching vocational agriculture, 4) inadequate salary, 5) too many extracurricular activities, and, 6) inadequate administrative support and backing on decisions. Principals perceived teachers leaving because 1) their long range occupational goal was not teaching, 2) inadequate salary, 3) long hours, 4) they were unable to get students to learn as desired, 5) they disliked disciplining students, and 6) they disliked student attitudes. The present teacher believed the past teacher left because 1) the long range occupational goal was different, 2) long hours, 3) had students in class who should not be in vocational agriculture, 4) inadequate salary, 5) was unable to get students to learn as desired, and 6) too many extracurricular activities.

There was general agreement among the three groups as to why teachers left teaching. However, there were several high ranking items in which agreement was lacking.

MOORE, Gary E. "Effects of Selected Feedback Modes on Student Learning and Use of Faculty Time - Phase II." Staff Study, Purdue University, West Lafayette.

Purpose. The purpose of this study was to compare the effectiveness, feasibility, and amount of faculty time involved in providing alternative forms of feedback to students.

Method. Students in agricultural education, economics, and electrical engineering classes received either written or tape recorded comments on their assignments and received written feedback, latent image feedback, or punchboard feedback on quizzes. A total of 79 students were involved in the study.

Findings. Students preferred the audio feedback over the written feedback on assignments as measured by an attitude assessment instrument. There was a slight savings of faculty time by using audio feedback. Both types of feedback improved student performance on subsequent assignments. Students like both latent image and written feedback on quizzes but disliked the punchboard.

MOORE, Gary E. and MOORE, Barbara A. "A Multi-Media Approach to Increasing Communication of Vocational Education in Indiana." Staff Study, 1977, Purdue University West Lafayette.

Purpose. The purpose of this project was to develop a handbook and accompanying slide/tape presentation which clearly and simply provides information about vocational education to local educational administrators, guidance counselors, and teachers.

Method. A 75 page handbook composed of ten chapters was developed. In addition to chapters on each vocational area there were chapters on vocational education in general, myths concerning vocational education, organization of vocational education in Indiana and support services needed for vocational education. A 140 slide presentation was developed to illustrate the handbook. An advisory committee composed of university, state department of public instruction, and state board of vocational and technical education personnel provided input.

Findings. The handbook was well received by high school administration and guidance counselors.

OWINGS, Jeffrey A. "Effect of Vocational Youth Club Membership and Leadership Experience on the Development of Personality Traits in High School Students." Staff Study, Purdue University, West Lafayette.

Purpose. The main purpose of this study is to link membership in vocational youth organizations, with its concomitant leadership training, to personality theory in an effort to describe the type of individual who is a member of these organizations in terms of his/her personality attributes.

Method. A random sample of 350 Indiana Vocational Agriculture students was administered the Myers-Briggs Type Indicator (MBTI) during the spring of 1978. The students represented both FFA and non-FFA members in grades nine through twelve. Biographical information on each student was also obtained. The Statistical Package for the Social Sciences (SPSS) was used to analyze the data, specifically subprograms Frequencies and Cross-tabs. Significance for Chi Square was set at .05.

Findings. Results of this study indicate that a typical vocational agriculture student in the state of Indiana would be characterized as being sensing, feeling, and perceptive. This individual would then be practical, aware of the feelings of others, and adaptable to new situations. However, major differences were not found when personality and traits of FFA members were compared to those of non-members. A comparison between members and nonmembers of FFA did reveal though that members were: (1) more likely to hold offices in other organizations (the same individual who held other offices was also more likely to be extroverted) (2) the personality traits of young women who enter FFA differ from those of young men who enter or young women who do not enter.

RICHARDSON, William B., KLINE, Charles, Directors and Principal Investigators. "Development of a Generalizable Evaluation Model for Vocational Teacher Education." Staff Study, Purdue University, West Lafayette, Indiana.

Purpose. The purpose of this project was to (1) Develop total instrumentation to meet criteria within the eleven functions (goals) identified in the Generalizable Evaluation Model for Vocational Teacher Education; (2) Validate the instrumentation developed in Item I (one) above; (3) Field test the instrumentation developed in Items I (one) and II (two) above; (4) Recommend specific procedures for model installation by producers, users, and State Board for Vocational-Technical Education; and (5) Disseminate information to opinion leaders and change agents concerned with vocational teacher education.

Method. An advisory committee representing all vocational disciplines, teacher training institutions, State Board staff, and LEA vocational administrators was appointed to review and validate the project staff work throughout the project. An invitational informational workshop was held for key members of the State Board Staff and top level university administrators. Criteria in the model were clustered for efficient instrument development. Program instrumentation for process and product were developed using the three missions and eleven functions (goals) and criteria outlined in the evaluation model. Complete instrumentation was field tested throughout the vocational teacher education program in the state. Field test results were compiled and analyzed with the advisory committee. Instrumentation was packaged in a format usable for installation and implementation and was keyed to specific criteria. Specific mechanisms for installation and implementation were developed and a final dissemination conference was held to discuss instrumentation and techniques for implementation.

Findings. The outcomes of this project resulted in a comprehensive set of validated instruments, one for each function, that is consistent with the evaluation model. The product appeared in a manual which included the missions, functions (goals), specific criteria, and instrumentation. A second result was a suggested approach to the specific mechanisms for installing and implementing the model (and instrumentation). An additional outcome was wide-spread dissemination of the entire project to all concerned with vocational teacher education.

RICHARDSON, William B., Director; BROWN, C. Edward, Principal Investigator. "Job Title Analysis for Selected Job Titles in Horticulture." Staff Study, Purdue University, West Lafayette.

Purpose. The purpose of this research was to begin systematic curriculum development in horticulture. Specifically, the problem being investigated was the development of a horticulture job title matrix. Also, a single job title catalog was selected from those currently available through V-TECS. A purposive study was undertaken to validate the job title in Indiana. Then, the validated list of tasks contained in the job title catalog were sequenced to allow for the systematic development of instructional materials.

Method. An advisory committee was formed that consisted of horticultural industry, state agribusiness, Purdue agri-educators, and Purdue horticulture faculty personnel. A job title survey for landscaping was conducted in accordance with the V-TECS technical reference handbook. The purposive study was focused on the grounds keeping catalog (within landscaping) available through V-TECS. A jury of five to seven horticulture personnel were identified and utilized to review the task criteria, purge the task list, identify task, and identify core task. A survey was used to secure secondary validation of the task by horticulture industry incumbents. Finally, a sequential arrangement of the task was made to provide for future orderly development of instructional materials.

Findings. The outcomes of this project resulted in a horticulture job title matrix. A validated listing of tasks for grounds keeping was prepared as outlined in V-TECS. The project will provide a foundation for future curriculum development activities in this area and also provide a guide for curriculum development in other vocational disciplines.

RICHARDSON, William B., Director; BROWN, C. Edward, Principal Investigator. "Common Content Core for Agribusiness Education Programs." Staff Study, Purdue University, West Lafayette.

Purpose. The purpose of this study was to (1) identify common core tasks needed by vocational agriculture students prior to specific agricultural occupational preparation in secondary schools in Indiana; (2) field test the instructional materials in Indiana vocational agribusiness classrooms; (3) verify the common core tasks; (4) develop instructional materials based on identified and verified common core tasks; and (5) disseminate and perform inservice education activities to insure the proper diffusion and infusion of the materials in Indiana agribusiness classrooms.

Method. The project involved the organization of a project advisory committee to provide direct input and feedback into the development of the products of this project. The research staff identified and obtained existing materials from other states concerning common core tasks and materials. The research staff summarized the tasks identified from other states and for the materials that currently exists in the state of Indiana. Instructional material were developed according to a format agreed to by the project advisory committee. The developed materials were field tested in Indiana vocational agribusiness classrooms. After field testing, the materials were revised, refined and prepared for mass printing. The finished materials were disseminated at an inservice meeting of the Indiana Vocational Agriculture Teacher Association.

Findings. This project provided a list of common core tasks for Indiana vocational agribusiness students necessary for 9th and 10th grade levels. A second outcome of this project was the provision of a two volume set of instruction materials for grades 9 and 10 that provided local teachers materials necessary to teach the common content core.

RICHARDSON, William B., Director; McCARTY, Scott and PRIEST, Michael, Principal Investigators. "Performance Objectives and Criterion-Referenced Measures for Agri-Chemical Occupations." Staff Study, Purdue University, West Lafayette.

Purpose. The purposes of this project were to: (1) Develop a catalog of the performance based instructional materials and practices for the identified occupations in Agri-Chemicals, (2) Sample incumbent workers using the Occupational Inventory booklets for identified occupations in Agri-Chemicals and (3) Develop a catalog of performance objectives and criterion-referenced measures as a result of the computer analysis of the incumbent worker surveys for the identified occupations in Agri-Chemicals.

Method. The procedures include a thorough literature search, identification of specific information and other appropriate data collection techniques to develop the state-of-the-art report. A task difficulty booklet was developed and a survey conducted of randomly identified job incumbents from the target population. The results were key-punched and the reports provided to the writing team. The writing team was composed of four ½ time graduate students and supported by a separate grant from the State Board of Vocational and Technical Education.

Findings. A catalog of performance objectives and criterion-referenced measures were developed for the occupations in Agri-Chemicals applicator, and outside salesman. This catalog can then be used to determine the content of the training programs in these areas. A task difficulty booklet was developed. The product which resulted in this project is an essential step in the development of curriculum for the area of Agri-Chemicals. Since this project was conducted under contract with V-TECS, these materials will be a contribution to total development of performance objectives and criterion-referenced measures for various occupations.

#### IOWA

BEKKUM, Victor A. "The Development and Testing of a Facility Evaluation and Planning Technique for Programs of Vocational Agriculture." Ph.D. Dissertation, 1978, Iowa State University, Ames.

Purpose. The major purpose of this study was to develop and test a facility evaluation and planning technique for production programs of vocational agriculture. The specific objectives of this research were to: (1) develop a facility evaluation and planning instrument, (2) determine if there were differences in facility evaluation scores between evaluators, (3) determine if there were differences in mean evaluation scores of facilities located in separate buildings and those integrated into the main building, (4) determine if there were differences between the mean evaluation scores of shared facilities and those not shared with other school programs, (5) determine if there were differences in the mean hours of use of facilities in separate buildings and those integrated into the main building, (6) determine if a relationship existed between the years of age of a facility and the total evaluation score, and (7) determine if a relationship existed between the hours of facility use and the total evaluation score.

Method. Minimum recommendations of various vocational agriculture facility related items were determined through the cooperation of a panel of eleven teacher educators in agricultural education in the central region of the United States. The panel also rated the importance of the facility related items in contributing to the supporting programs of vocational agriculture. Using the data collected, an instrument was designed to evaluate facilities of vocational agriculture. The instrument was used to score 25 Iowa Vocational Agriculture facilities. Each facility was independently scored by the vo ag teacher and the researcher. Analysis of the data included: Frequency of responses, ranges, means, standard deviations, product-moment correlations and t-tests.

Findings. A significant difference was determined in evaluation scores of the facilities between the teachers and the researcher. The teachers tended to rate their facilities higher than did the researcher. No significant differences were determined in mean evaluation scores or mean hours of use between vocational agriculture facilities located in separate buildings and those integrated into the main building. The mean evaluation scores of facilities shared with other school programs were not significantly different from scores for facilities not shared. Non-significant correlation coefficients were produced when facility age and total evaluation scores were compared. A significant positive correlation was determined when hours of use and total facility evaluation scores were compared. Departments with higher facility evaluation scores tended to use the facility more hours per day.

BIRKENHOLZ, Robert J. "Perceptions of Selected Groups Toward the Importance of Including Values Instruction as a Part of High School Curricula and Vocational Agriculture Programs of Study. Master of Science Thesis, 1978, Iowa State University, Ames.

Purpose. The purpose of this study was to determine the importance of including instruction in values as a part of the high school curriculum and as a part of the vocational agriculture program of study as perceived by selected teachers, administrators, students, and parents.

Method. Seventeen local educators, parents, and students were selected from thirty-six public secondary schools in the State of Iowa to respond to the importance of 15 values statements as a part of the high school and vocational agriculture programs of study. A response scale of 1 to 99 was provided as a guide for respondents to use in placing importance on each value statement. Responses were collected from 570 of 612 study participants (93.1%).

Findings. It was observed that student group perceived the importance of values promoted by high school and vocational agriculture programs in a significantly different manner than did parents and administrators. Student responses were generally found to be lower than the other groups studied for both programs. Administrators overall mean scores were higher than all groups studied for high school and vocational agriculture programs.

It was further observed that group mean scores were lower for the importance of stressing values in vocational agriculture programs than for high school programs of study. For all groups, however, mean scores were well above 50 (average importance).

The t-tests for items revealed that a high correlation existed for value items between high school and vocational agriculture responses for like groups and like value items. Item importance mean rankings for high school programs tended to parallel that of vocational agriculture programs.

BRIERS, Gary E. "An Experimental Evaluation of an Instructional Packet on Supervised Occupational Experience Programs for Beginning Vocational Agriculture Students in Iowa." Ph.D. Dissertation, 1978, Iowa State University, Ames.

Purpose. The purpose of this study was to assess the effectiveness of an instructional packet on Supervised Occupational Experience programs for beginning vocational agriculture students in Iowa based on: 1) student knowledge of SOE, 2) student attitude toward SOE, and 3) student SOE program planning.

Method. A pretest-posttest control group experimental design was used. The experimental group consisted of 17 vocational agriculture teachers and their beginning classes while the control groups were made up of 16 similar "units." The experimental treatment consisted of an instructional packet designed for use by teachers in helping students select and plan their SOE programs. Inservice education given the teachers also served as part of the experimental treatment. Control group teachers taught their normal instructional units on SOE. Dependent variables were assessed by (1) an SOE Knowledge Inventory, (2) an SOE Attitude Scale, and (3) an SOE Program Planning Inventory.

Findings. Major findings of the study were: (1) There was a significant improvement ( $p < .01$ ) in SOE knowledge scores from the pretest to the posttest. (2) There was a difference ( $p < .10$ ) in the magnitude of change in scores on the SOE Knowledge Inventory pretest and posttest: The experimental group scores increased more than the control group scores: (3) There was an improvement ( $p < .05$ ) in student attitude toward SOE from the pretest to the posttest; (4) The experimental group scored higher ( $p < .01$ ) than the control

group on the SOE program planning inventory. These findings indicate that the instructional packet was successful in assisting vocational agriculture teachers to work with beginning students in selecting and planning SOE programs.

BRIERS, Gary E. "Morale of Student Teachers in Agricultural Education at Iowa State University, 1977-1978." Staff Study, 1978, Iowa State University, Ames.

Purpose. The primary purposes of this study were to: (1) compare the morale of student teachers categorized by the model for student teaching delivery and (2) determine relationships between student teacher morale and student teaching delivery model, and whether or not the student teacher plans to teach.

Method. Two models for delivery of student teaching served as two levels of the independent variable. A "conventional" model involved completion of methods courses followed by student teaching. A "integrated" model was developed by combining methods courses and student teaching into one block. Eighteen student teachers received student teaching/methods through the integrated model while 27 students completed their methods courses followed by student teaching in the conventional model. The Purdue Student-Teacher Opinionnaire, a self-report instrument of 59 items, was used to assess the dependent variable--student teachers morale. At the end of student teaching, student teachers completed this opinionnaire and indicated their plans concerning teaching.

Findings. Those student teachers who completed student teaching in the "conventional" mode scored higher ( $p < .01$ ) on one of the nine factors yielded by the opinionnaire; this was professional preparation. Sixty-three percent (17 of 27) of the students in the "conventional" mode planned to teach, while only 33 percent (6 of 18) in the "integrated" mode planned to teach. This association between delivery mode and plans to teach was significant ( $p < .10$ ) when tested by the Chi-square statistic. Finally, those student teachers who planned to teach scored higher ( $p < .01$ ) on three of the nine factors from the opinionnaire--teaching as a profession, professional preparation, and rapport with students. Conversely, those not planning to teach responded more positively ( $p .05$ ) to items measuring student teacher load.

DAVIS, Duane L. "Analysis of Factors Related to Attitudes Toward Supervised Occupational Experience Program Record Keeping Among Agricultural Education Undergraduates at Iowa State University." Master of Science Thesis, 1978, Iowa State University, Ames.

Purpose. This study was designed to determine how important supervised occupational experience (SOE) program records were in developing selected abilities and to determine if significant differences existed in importance ratings among former vocational agriculture students grouped according to university classification, university courses completed and selected personal and situational variables.

Method. The population for the study was the undergraduate students at Iowa State University whose primary major was Agricultural Education. A stratified random sample of 25 freshmen, 25 sophomores, 25 juniors, and 25 seniors was drawn from the population. Respondents rated on a 11-point scale the importance of SOE program records in developing 27 abilities.

Findings. A lack of highly positive attitudes toward the importance of SOE Program records in developing abilities related to record keeping, success in vocational agriculture and FFA advancement were observed. SOE program records were of "average importance" in developing most of the abilities studied. The five abilities with the highest

mean importance rating for the combined sample were: (1) determine profit and losses, (2) analyze livestock production cost, (3) keep useful records, (4) maintain up-to-date records and (5) maintain accurate records. Some significant differences in mean ratings were observed when students were grouped according to university classification, university courses completed, and personal and situational variables.

FOSTER, Richard M. "Perceptions of Selected Groups Toward the Importance of Including Language Art Instruction as Part of the High School Curriculum and Vocational Agriculture Program of Study." Dissertation, 1978, Iowa State University, Ames.

Purpose. The purpose of this study focused on determining the importance of including language art skills as a part of the high school curriculum and as part of the vocational agriculture program of study as perceived by selected teachers, administrators, students, and parents.

Method. With the assistance of language arts practitioners at the university and secondary school levels, 37 language arts skills representing the basic skill areas of reading, writing, speaking, and listening were identified and developed into a survey instrument. A group interview technique was used to gather the observed information. A 99-point response scale was used to record each respondents' perceived importance values. Of the 607 persons in the sample, responses were received from 570 persons (93.8%).

Findings. The results of this investigation suggest that all respondents believed that reading, writing, speaking, and listening skills were above-average in importance, both as part of the high school curriculum and as part of the vocational agriculture program of study. Most language arts skills were viewed as being significantly more important as part of the overall high school instruction than as part of the vocational agriculture program.

Specific reading and listening skills regarding the students' ability to follow written and oral directions were valued as being very important by all groups, as was to improve students' ability to spell words correctly.

Students consistently placed the lowest importance on all language arts areas and specific language arts skills in both the high school curriculum and vocational agriculture program. Principals, mothers, and English teachers usually placed high importance on language arts skills in both program areas.

HARGORVE, Thomas R. "Educational, Professional, and Sociological Characteristics of Rice Breeders in Asia." Ph.D. Dissertation, 1977, Iowa State University, Ames.

Purpose. The major purposes of this investigation were to determine the influence of educational and training background and other sociological factors on the work performance of agricultural scientists in the lesser developed countries and to measure the influence of an instructional research center on lesser developed countries agricultural improvement programs.

Method. To obtain the desired information, an instrument containing about 50 multiple choice, fill-in-the-blank, and open-ended questions was designed, pretested, and administered to 41 rice breeders at 28 research centers in 10 Asian nations.

Findings. Half of the breeders held Ph.D. degrees, 52% held M.S. degrees, and 19% held engineer's, bachelor's or diploma degrees. Ninety-one percent of the total B.S. Degrees

were earned with the lesser developed countries, whereas 65% of the Ph.D.'s were from highly developed countries. Thirty-eight of the breeders had published 183 published scientific papers. Fifty-three percent of the articles appeared in national journals; 23% in institutional publications; 18% in journals from highly developed nations; and 6% in international publications. When the scientist rated the adequacy and importance of research factors in their breeding programs, "personal freedom" was found to be most adequate, followed by "availability of experimental land" and availability and quality of field labor. Most important areas "opportunities for specialized training or education for people who work under me."

HOLMES, Warren Lee. "Critical Experiences to be Acquired During the Vocational Agriculture Teacher Preparation Program." Ph.D. Dissertation, 1978, Iowa State University, Ames.

Purpose. The purpose of this study was to establish a set of professional preservice experiences that were critical to satisfactory performance of first-year vocational agriculture teachers and to develop models for testing.

Method. Samples were selected from vocational agriculture teachers, school administrators, teacher educators, and state department consultants in Iowa. Respondents rated on a 99-point scale the importance of 162 preservice experiences to satisfactory first-year vocational agriculture teaching.

Findings. Teachers with one to five years of service rated the importance of 21 preservice experiences below 50. Teacher educators and consultants tended to rate the importance of preservice experiences higher than teacher and administrators groups. Vocational agriculture teachers with one to five years of service and school administrators differed significantly on the importance of 69 experiences. There was significant differences among teacher groups concerning the importance of 49 experiences. The independent variables in the study explained less than ten percent of the variance in the ratings of 40 selected experiences by teachers with one to five years of service and administrators.

RAWLS, Willie J. "Parental Perceptions of Vocational Agriculture Supervised Occupational Experience Programs in Iowa." Ph.D. Dissertation, 1978, Iowa State University, Ames.

Purpose. The purpose of this study was to determine the benefits students derived from vocational agriculture supervised occupational experience (SOE) programs as perceived by parents of vocational agriculture students and to assess parental assistance in developing SOE programs.

Method. Parents of Iowa Vocational agriculture students who were high school seniors in 1976-77 served as the population for this study. The population was divided into four groups based on the highest FFA degree held by the students. A random sample was drawn from each of the following groups: (1) parents of students with no FFA degree, (2) parents of students with Greenhand Degree, (3) parents of students with Chapter Farmer Degree, and (4) parents of students with State Farmer Degree. A mail questionnaire was used to collect data pertaining to (1) personal and situational characteristics, (2) parents perception of benefits students derived from SOE, and (3) parents perception of the assistance they provide in developing SOE programs.

Findings. Parents rated 39 of 40 benefit factors above average. Significant differences were observed among the four groups for 39 of 40 benefit factors above average. Factor analysis identified three clusters of benefits derived from SOE programs: (1) work ethic attitudes, (2) agricultural skill development, and (3) human relations skills.

Significant relationships were observed among these clusters. Parents rated eight of 30 assistance factors above average. These eight factors were related to providing resources for SOE programs and the development of Agricultural skills and knowledges. Significant differences were observed among the four groups for 26 of the 30 assistance factors. Factor analysis identified three clusters of (1) planning SOE programs, (2) skill development through SOE programs, and (3) finance and arrangements for SOE programs. Significant relationships were observed among these clusters. Significant relationships were also observed among the benefit clusters and the assistance clusters.

ROGERS, Richard A. "Perceptions of the Importance of Selected Occupational Activities of Vocational Agriculture Teachers as Perceived by California Principals and Teachers," Ph.D. Dissertation, 1978, Iowa State University, Ames.

Purpose. It was the purpose of this study to determine the occupational tasks that are basic to the teaching of vocational agriculture as perceived by teachers and their principals in California.

Method. To measure the perceived importance of occupational tasks basic to teaching of vocational agriculture, an instrument containing 75 program activities with selected demographic data was developed and mailed to a sample of principals and the vocational agriculture teachers in California. Responses were received from 78 pairs of principals and teachers.

Findings. Major findings included the following: (1) 71.8 percent of the teachers responding came from multiple teacher departments; (2) mean years of teaching experience for the agriculture teachers was 8.64 years; (3) mean years of administrative experience for the principal group was 11.6 years; (4) teachers felt they should spend more hours per week on the job (47.6 mean hours) during the regular school year than did their principals (41.4 mean hours); (5) program area entitled "administration," "curriculum and program development" and "evaluation" had the highest overall importance mean scores for the two groups studied; (6) low importance mean scores were observed for young and adult farmer teaching and supervisory activities and supervision of an FFA alumni chapter; (7) teacher importance scores tended to be higher for the teacher group for all 75 activities; (8) paired t-tests on each of the 75 activities resulted in 37 significant 5-values for differences between teacher and principal group mean scores; (9) correlation coefficients for the 75 paired comparisons resulted in seven significant coefficients for the teacher-principal pairs.

SCHMITT, Virgil L. "Perceptions of Selected Groups Toward the Philosophic Principle of Flexibility and Continuity in Agriculture and Agribusiness Education in Iowa." Master of Science Thesis, 1977, Iowa State University, Ames.

Purpose. The purpose of this study was to ascertain the importance of incorporating the principle of flexibility and continuity in agriculture and agribusiness education programs in Iowa.

Method. To measure the perceived importance of stressing flexibility and continuity in agriculture and agribusiness education, an instrument was developed and mailed to eight hundred randomly selected respondents, one hundred in each of the following groups at the secondary and two-year post-secondary levels: (1) nonagricultural teachers, (2) principals, (3) board of education members, (4) state supervisors of agricultural education, (5) superintendents, (6) agricultural teacher educators, (7) senior students in high

school vocational agriculture programs and freshmen and sophomores at post-secondary agricultural programs, and (8) agricultural teachers. All groups surveyed were drawn from Iowa with the exception that the state supervisors and teacher educators were nationally sampled. An 80% response was obtained.

Findings. Major findings included the following: (1) the flexibility and continuity principle was an important concept in agriculture and agribusiness education to all of the groups surveyed, (2) there were differences in perceived importance of the flexibility and continuity principle among groups studied with state supervisors and teacher educators rating the importance significantly higher than most of the other groups, and (3) to provide educational opportunities to secondary students, program evaluation, and providing a variety of learning experiences were perceived most important by all participating groups.

SLEIGHT, Weldon S. "Responsibilities of Agricultural Education Agencies for Adult Farmer Education in Iowa." Ph.D. Dissertation, 1978, Iowa State University, Ames.

Purpose. The overall objective of this study was to identify the differences among vocational agriculture, area schools and cooperative extension service in responsibilities for, and programming procedures used in, providing adult farmer education in Iowa.

Method. A questionnaire was developed to collect data pertaining to professional experience of the four groups of adult farmer educators and their attitudes toward responsibilities for adult farmer education, interagency cooperation and programming procedures used by the three agricultural education agencies involved. The questionnaire was mailed to a sample of vocational agriculture teachers, area school agriculture instructors, county extension directors, and area extension specialists in Iowa.

Findings. Prominent findings included: (1) all groups expressed varying degrees of responsibility for formulating and delivering agricultural education to adult farmers in Iowa; (2) personnel from all three agencies studied indicated various degrees of support for all combinations of interagency cooperation or adult farmer programming; (3) all groups rated interagency mail communications of program offerings and interagency meetings to discuss programs and program areas high, and (4) programming procedures used by vocational agriculture, area schools, and cooperative extension services revealed many similarities and contrasts.

VOGELZANG, Steve K. "Perceptions of Selected Groups Toward the Importance of Including Mathematics Instruction as a Part of High School Curricula and Vocational Agriculture Programs of Study." Master of Science Thesis, 1978, Iowa State University, Ames.

Purpose. The purpose of this study was to examine how selected groups perceived the role of education and vocational agriculture in developing and enhancing selected mathematics skills.

Method. With the assistance of mathematics practitioners at the university and secondary school levels, 13 mathematical concepts were identified, stated as skills, and developed into a survey instrument. A group interview technique was used to gather the desired information. A 99-point response scale was used to record each respondents' perceived importance values. Of the 612 persons in the sample, responses were received from 560 persons (93.87%).

Findings. Analysis of the data revealed that stressing each of the thirteen mathematical skills was perceived to be of average importance or more in both the high school curriculum and in the vocational agriculture program.

The importance of including instruction on the use of whole numbers was perceived to be of more importance than were other skills in the high school program. Stressing the use of whole numbers and conversion of units of measure was perceived more important than other skills in vocational agriculture programs.

T-values for comparisons between composite means for high school importance ratings and vocational agriculture importance ratings revealed that five groups had significant differences in their perceptions of the importance of stressing mathematics skills in the two programs. Vocational agriculture teachers, mathematics teachers, students, mothers and fathers perceived the importance of stressing mathematics concepts in the high school curricula significantly higher than stressing them in as a part of instruction in vocational agriculture.

WALTERS, Randy G. "An Experimental Evaluation of Suggestive-Accelerative Learning and Teaching as a Method of Teaching Vocational Agriculture." Masters of Science Thesis, 1977, Iowa State University, Ames.

Purpose. The primary purpose of the experiment was to determine if there was a significant difference in measurable classroom achievement, attitude and central of destiny related to agronomic science among students taught by two methods of instruction. The methods of instruction used in this study were the suggestive-accelerative learning and teaching (S.A.L.T.) method and the traditional method.

Method. The population upon which the experiment was conducted consisted of ninth grade vocational agriculture students in two Iowa area high schools. These students were attending McCombs Junior High School in Des Moines, Iowa and the Southeast Polk Junior School in Runnells, Iowa. The control group consisted of those ninth grade students enrolled in the fifth period class at McCombs Junior High taught by their regular instructor. The experimental group consisted of ninth grade students in the first period class at McCombs and third period class at Southeast Polk with both classes being taught by the researcher.

Pretests and posttests were given to the treatment and control groups to measure their level of achievement while under study. The plant and soil science section of the Agriculture Achievement Test was the instrument used to measure change in understanding as a result of the two approaches to teaching the subject matter.

Findings. No significant difference was found in measurable student achievement in agriculture among the treatment groups attributable to the use of the S.A.L.T. method of instruction. A significant difference at the .05 level was found between the pretest and posttest score from the treatment group at McCombs when measuring internal locus of control. Significant differences were found between pretest and posttest for the treatment group at McCombs when measuring student/teachers affective relationships, school stress, and student/school learning orientation.

YODER, Benjamin A. "Effect of Previous Agricultural Mechanics Training on Achievement in a Basic Metals and Welding Course at Iowa State University." Master of Science Thesis, 1978, Iowa State University, Ames.

Purpose. The main objective of this study was to measure the effect of previous agricultural mechanics training as it related to achievement of those students involved in the beginning metals and welding course at Iowa State University.

Method. Students enrolled in Agricultural Mechanics 254 during fall and winter quarters of 1977-78 at Iowa State University comprised the research sample of 204. Ten laboratory sections of Agricultural Mechanics 254 were taught during fall quarter and six sections were taught during winter quarter with seven instructors involved in the study. Data were collected from three sources, these being: (1) a survey administered during the final week of each quarter, (2) a mechanical aptitude test given during the first week of winter quarter and (3) laboratory, lecture and course totals obtained from each instructor involved in the study.

Findings. The following statements summarize the findings of this investigation. (1) The mean number of semesters of high school vocational agriculture and industrial arts completed were 3.73 and 2.72 respectively. (2) Nonsignificant t-values were produced between students who had previous agricultural mechanics instruction and those who had not received such instruction. (3) There was no significant difference in achievement between students who had vocational agriculture in high school and vocational agriculture students. (4) There was no significant difference in achievement between students who received instruction in high school in the following areas and those who did not: 1) arc welding, 2) oxy-acetylene welding and cutting, 3) hot and cold metals.

#### LOUISIANA

AGARD, Albert L., Jr. "An Analysis of Selected Aspects of the Agricultural Education Program in Guyana with Implications for Program Development." Doctoral Dissertation, 1977, Louisiana State University, Baton Rouge.

Purpose. The purpose of this study was to analyze selected aspects of agricultural education in Guyana and make recommendations for program development.

Method. The descriptive method of research was used with questionnaires being sent to a total of 68 teachers and 563 randomly selected students in the three counties of Guyana. Teachers were asked questions concerning teaching qualifications, previous background in agriculture, teaching experience, facilities available, curriculum, and the use of agricultural research in instruction. Students were asked questions concerning previous background in agriculture, attitude toward various aspects of the program, reasons for enrolling in agriculture, and usefulness of instruction. The data were analyzed using chi-square analysis and were presented in tabular form for interpretation.

Findings. Major findings of this study were as follows: the agricultural education program in Guyana is narrow in scope, teachers have favorable opinions of their training in instructional methods and there is a lack of financial aid for the program. In addition, there is a shortage of qualified teachers, lack of guidelines and objectives for the program, lack of student involvement in supervised occupational experience programs and other student activities and that agricultural education should be compulsory for all students.

HANSEN, Philip W. and SHELTON, Becky. "A Catalog of Performance Objectives, Criterion-Referenced Measures, and Performance Guides: Diesel Mechanic." Staff Study for the Vocational-Technical Education Consortium of States, 1978, Louisiana State University, Baton Rouge.

Purpose. The purpose of this study was to identify tasks and duty areas performed by diesel mechanics, and from this formulate a catalog of performance objectives, criterion-referenced measures, and performance guides for the occupations in the domain of diesel mechanics.

Method. Through an intensive survey of the literature including: an ERIC-CIJE computer search, a review of the AIM/ARM abstracts, and other sources, a list of tasks and duty areas were identified. A task list inventory was prepared and sent to a randomly selected sample of 118 incumbent workers who evaluated the duty areas and performance tasks for the job title of diesel mechanic.

Findings. Seventy-five tasks in seven duty areas were found to be performed by diesel mechanics. From the data obtained, the writing team wrote performance objectives, criterion-referenced measures, and performance guides for each performance task identified.

LANGHAM, Seburn B. "The Development and Evaluation of Instructional Material in Farm Power Machinery." Doctoral Dissertation, 1977, Louisiana State University, Baton Rouge.

Purpose. The purpose of this study was to develop and evaluate instructional material for use by high school vocational agriculture teachers in the instructional area of farm power and machinery.

Method. This study was essentially developmental in nature. There were three areas in which instructional materials were developed: spark plug replacement, engine timing, and distributor service. The research was divided into three phases: Phase I - 50 teachers were asked to evaluate current instructional materials presently used, Phase II - the same 50 teachers reviewed the developed materials and evaluated them for use in their program, Phase III - teachers were asked to teach the materials in a one group pre-test - post-test quasi-experimental design. Data were analyzed using analysis of variance and were presented in tabular form for interpretation.

Findings. When asked to rate the instructional materials, 36 percent of the instructors rated the materials superior, 58 percent good, and 6 percent thought the material was of fair value. Ninety-six percent of the instructors felt this type of material was needed while 4 percent felt it was not needed. When comparison was made between the pre-test and post-test scores, a significant difference was found at the .001 level of significance.

SMITH, Charles W, and SHELTON, Becky. "A Catalog of Performance Objectives, Criterion-Referenced Measures, and Performance Guides: Meat Cutter." Staff Study for the Vocational-Technical Education Consortium of States, 1977, Louisiana State University, Baton Rouge.

Purpose. The purpose of this study was to develop a catalog of performance objectives, criterion-referenced measures and performance guides for the job title of Meat Cutter.

Method. An extensive literature review including interviews with industry representatives and incumbent workers, correspondence with state governmental agencies, selected businesses, representatives of trade associations, colleges and universities, private and public post-secondary schools, and regional curriculum laboratories was made in order to obtain a list of tasks and duty areas related to the job of meat cutter. One-hundred and forty-eight tasks and eight duty areas were identified. A sample of 133 incumbent workers were selected to evaluate the task inventory prepared from the literature review.

Findings. From the data obtained from the incumbent workers, the writing team developed a catalog of performance objectives, criterion-referenced measures, and performance guides for the job title of Meat Cutter. The catalog includes a total of 104 tasks divided into eight duty areas. It was estimated that the annual opening for meat cutter jobs will require that 50,000 individuals be trained over the next ten years. It was also learned that geographic distribution of meat cutter training programs was not adequate since some states did not have a single program.

VIRDURE, Ledell D. "Occupational Choices of Students in Agriculture at Selected Institutions of Higher Education in Louisiana." Doctoral Dissertation, 1978, Louisiana State University, Baton Rouge.

Purpose. The purpose of this study was to identify some of the factors that have influenced students in selected institutions of higher education to major in technical agriculture and vocational agricultural education.

Method. The sample was composed of 1,050 agricultural students in sophomore, junior, and senior classes at four Louisiana colleges of agriculture in 1978. Data were collected by questionnaire and analyzed by chi-square and analyses of variance. The .05 probability level was used to reject the null hypothesis.

Findings. Factors found to influence students' occupational choices could be classified either as home-based, school-based, and/or community-based. The several home-based factors that were found to influence students' occupational choices were: sex, residential areas, perceptions of parental community status, parental educational attainment, parental occupations, parental income. School and community based factors which influenced students' occupational choices were counseling, availability of occupational information and instruction about occupations. Also influential were people around the school and certain ones in the community. The results of this study lead to the conclusions that: (1) students start making choices of occupation early in their high school years; (2) career decision making is a complicated process; and (3) a number of home, school and community based factors influence students' occupational choices.

#### MARYLAND

HARCUM, Dennis P. "Program Evaluation of the Future Farmers of America Food For America Program." Master of Science, 1978, University of Maryland, College Park.

Purpose. The purpose of this study was to evaluate and make recommendations for content improvement and to determine current usage and value of the Future Farmers of America program on the national level.

Method. Test instruments were sent to 500 agriculture department chairmen with FFA chapters nationwide. A total of 266 agriculture department chairmen returned the instrument of which 70 stated to have presented the Food for America Program. Data from the test instrument were analyzed using the chi-square test and descriptive statistics. No significant differences were found between the instrument variables. Findings were reported by FFA regions to yield the most evidence in the Food for America program evaluation.

Findings. The Eastern and Central Regions had 10 percent more participation in the Food for America program than the Southern and Western Regions. Over 26 percent of the FFA chapters nationwide used the program, while 30 percent were not aware of the Food for America program. It was estimated that 597,618 elementary students have participated in

the program since 1975. The Food for America program and printed packet material appeared to be meeting the intended audience needs of grades three through five, in addition to the second grade. A relatively large percentage of the agriculture departments produced additional visual material illustrating local agriculture and FFA activities.

NAJAFI, Yadolah. "Adoption of Agricultural Innovations and the Use of Information Sources and Media in a Selected Rural Community in Iran." Doctor of Philosophy, 1978, University of Maryland, College Park.

Purpose. The purpose of this study was to identify the role of selected information sources and communication channels in the process of the adoption of improved farm practices among the Iranian farmers.

Method. The population of the study consisted of heads of households of farming families living in the twenty-two villages of Darab (county), Fars, Iran. A random sample of 15 farmers was drawn from the population of each village. Thus, a total number of 330 farmers were interviewed. Regression analysis was used to determine the correlation between the background and socio-economic characteristics of the respondents and the adoption of improved farm practices.

Findings. The following were findings that tested significantly: Years of farming experience, amount of land owned, and amount of personal contacts with extension agents were positively related to the adoption of improved farm practices; level of formal education, number of agricultural implements owned, and exposure to the city were not related to the adoption of improved farm practices; and peer sources seemed to be important sources of information in all five stages of adoption.

PFISTER, Jill A. "Attitudes of First-Year Vocational Agriculture Teachers Toward Using FFA as an Instructional Technique." Master of Science, 1978, University of Maryland, College Park.

Purpose. The purpose of this study was to determine the attitudes of first-year vo-ag teachers toward FFA as an instructional technique, changing aspects of the FFA, training received and needed for FFA work and women as vo-ag teachers.

Method. Results were based on responses of 125 first-year vo-ag teachers in the continental 48 states of the United States from a stratified random sample of 192. The questionnaire consisted of 24 demographic questions and 29 attitude statements. Chi-square was used to measure statistical significance of differences between responses.

Findings. The major findings were as follows: The non-traditional areas of vo-ag have a more difficult time accepting FFA and its aims and purposes than the traditional areas; more females than males have a difficult time accepting FFA and its aims and purposes; there were ambivalent attitudes toward whether FFA membership should be voluntary or required of vo-ag students; only 56% of the respondents felt FFA advisors offer activities which are relevant to the areas included in agriculture; the FFA is not strictly organized for rural students, but the image of being for rural students needs to be changed; there are not too many contests available for students to participate; FFA proficiency awards should be expanded; to be an effective FFA advisor it is necessary to have agricultural background and experience as an FFA member; only 36% of the respondents felt undergraduate courses meet the needs of prospective vo-ag teachers; as perceived by first-year vo-ag teachers, school administrators are not likely to hire females as vo-ag teachers and FFA advisors.

RAYBITZ, Robert R. "An Analysis of 1977 4-H Citizenship Short Course Program Participants Attitudes Regarding Future Directions for 4-H Programs." Master of Science, 1978, University of Maryland, College Park.

Purpose. The study proposed to determine significant differences of opinion by 4-H youth members to selected questions regarding future trends for 4-H based on sex, region of country, type of community in which they live, total family income, and which parent (s) they are presently living with.

Method. The sample consisted of 337 4-H youth members randomly selected from the 3,772 4-H youth members who attended the 1977 Citizenship short course program held at the National 4-H Center in Washington, D.C.. The data were analyzed through the use of chi-square and frequency of response to tested items.

Findings. The major findings were: There were significant differences in the opinions of 4-H youth members on selected questions regarding future trends for 4-H programs based on stated hypotheses; in questions where type of community produced a significant difference of opinion, so too did sex; in five of the six questions producing a significant difference of opinion based on total family income, as income either increases or decreases, so too does the agreement or disagreement on the particular issue; in questions where the Farm/Ranch community expressed either the most agreement or disagreement on an issue, so too did the males; and demographic data collected indicated that participants at the Citizenship '77 program were not representative of the national 4-H youth membership.

WORKMAN, Glenn O. "An Investigation of the Reading Comprehension Difference Between Verbal Learning Followed by Motor Skill Learning and Motor Skill Learning Followed by Verbal Learning." Doctor of Philosophy, 1978, University of Maryland, College Park.

Purpose. This study was designed to examine the ordinal effect of verbal and motor skill learning upon reading comprehension. Reading comprehension of machine operator's manual was conceived as a function of the sequential order in which reading (verbal learning) and doing (motor skill learning) were provided in teaching-learning procedure. The investigation involved learning to operate five machines: a duplicator, an animal clipper, a sewing machine, a medium heavy truck, and a loader/backhoe.

Method. A population of cooperative education students (N=80) was randomly assigned to two treatment groups. Treatment 1 was learning procedure whereby students read the machine operator's manual before they operated the machine (conventional method). The learning procedure for treatment 2 was reverse so that students operated the machine before they read the operator's manual (upside-down method). Analysis of variance was used to test for significance between the two reverse-order, verbal and motor skill learning procedures. Multiple classification analysis was used to determine effects among independents.

Findings. The reading comprehension of these vocational cooperative education students, in the context of operating machines and reading operator's manuals, was significantly affected by their reading comprehension ability and by their reading interest attitude, but not by their familiarity with the machines nor by their expressed intention to read the machine operator's manual, nor by the order in which they utilized the verbal and motor skill learning procedure.

## MINNESOTA

ARFSTROM, Glenn. "Systematic Approach to Articulation in Agricultural Occupations Programs." Master of Education Integrating Paper, 1977, University of Minnesota, St. Paul.

Purpose. The major purpose of the paper is to present a study on the testing of students' knowledge of agricultural subject matter prior to enrollment in the post-secondary programs in agriculture at the Willmar Area Vocational-Technical Institute in Willmar, Minnesota.

Specific objectives of the study were as follows: 1) to determine if there is a variation in test scores of students having differences in the number of years of vocational agriculture in high school; 2) to determine if there is a variation in test scores of students who were raised on a farm compared with those who were not; 3) to determine if older students with an interruption in their education would have test scores comparable to tests of those students who enrolled in the post-secondary program immediately after high school; 4) to determine if an incoming first-year student should be considered for placement in advanced standing in the post-secondary curriculum; 5) to determine if an incoming first-year student could complete successfully a post-secondary program in agriculture such as that offered at Willmar.

Method. The Agri-Business Achievement Test was used as the testing media for this study. It provides testing in the four major subject matter areas including: 1) Animal Science; 2) Plant and Soil Science; 3) Mechanics; and 4) Management.

Each student's raw score from the four test areas was converted to standard score (T-score) for the purpose of making comparisons. An IBM 370 Model 145 Computer was used in determining individual student and overall grade point averages at the conclusion of the year. The scope of the study includes 81 first-year students enrolled in the Farm Operation and Management Program and in the Agri-Business Program at Willmar during the 1975-76 school term.

Findings. The study indicates the following: 1) Students having four years of high school vocational agriculture had slightly higher test scores than those with fewer years of vocational agriculture instruction. 2) Test scores of students having a farm background were significantly higher than those not having a farm background, indicating an advantage for the student with a farm background. 3) Test scores from students enrolling in the post-secondary programs immediately following high school were slightly higher than those who interrupted their education, although, the students who interrupted their education finished their first year with a slightly higher grade point average. 4) There is a direct correlation between standard score and grade point average. A student having a high standard score in any subject area normally would also receive a high grade point average and, therefore, would have the most potential for placement in advanced standing in the curriculum. 5) That students who desire can successfully complete either of the agriculture programs offered at Willmar.

FIELD, William E. "A Review of the Undergraduate Program in Agricultural Education At The University of Minnesota - 1977." Doctor of Education Field Study, 1978, University of Minnesota, St. Paul.

Purpose. The general purpose of this field study was to complete a review of the undergraduate program in Agricultural Education. The information gathered in the study would assist the staff in making decisions with respect to future developments and directions of the Division in its efforts to meet the educational needs of Minnesota's agricultural community and the career objectives of undergraduate students.

Procedures. The actual program review and data collection process took place between January and August of 1977. During that period approximately 2,000 miles were driven throughout Minnesota to complete interviews with nearly 75 individuals associated with the undergraduate program. In addition to extensive interviews with past graduates, spouses, enrolled students and experienced teachers, approximately 55 hours of formal interviews were conducted with individual staff members, university department heads, administrators, State Department of Education Staff, and other selected resource people. Also during the review, staff meetings were attended regularly and an effort was made to be present at meetings and other activities held by the Division's undergraduate student organizations. Formal and informal discussions were held with officers of the student organizations and regular undergraduate classes were observed.

Method. The completed study was organized into three central chapters consisting of a "Past," "Present" and "Future" perspective of significant topics and issues associated with the undergraduate program. The final chapter recommended specific strategies which the Division could consider for implementing the study's recommendations.

Findings. Since the study was to provide the Division with a body of decision-oriented information, specific conclusions were not drawn as a result of the study. Instead, the study provided the Division with a broad range of input from numerous resource groups including the following: 1) first-year teachers of Vocational Agriculture (Graduating Class of 1976); and their spouses; 2) seniors in Agricultural Education (Class of 1977); 3) student leaders in Agricultural Education; 4) past graduates of Agricultural Education not presently teaching; 5) staff members of the Division of Agricultural Education; 6) heads of departments associated with the training of undergraduates in Agricultural Education; 7) State Department of Education staff.

A series of recommendations and potential implications concerning the future of directions of the Division were made based on the interpretations of the information assembled.

FOLEY, Thomas Allen. "A Content Analysis of Local Newspaper Help Wanted Advertisements." Master of Arts Thesis, 1978, University of Minnesota, St. Paul.

Purpose. Newspaper help wanted advertising is one source of local labor market information that is available to vocational planners at minimal cost. The content of these ads was analyzed to determine the kind of occupational titles and industries represented, and any fluctuations in demand that were apparent over time.

Method. Twelve newspapers appearing over a five-year period were analyzed. One paper from each of the quarters in 1971, 1973 and 1975 was selected without replacement so that after sampling all three years, one paper from each month of the year was included. A total of 13,356 ads were coded according to occupational title, industry and geographic location. Computer analysis provided frequency counts, proportions, and chi square analysis.

Findings. Examination of the occupational titles that appeared and the employers who advertised in help wanted columns revealed that all major U.S. Census categories of occupational titles and industries were represented. When the occupational titles were sorted into U.S.O.E. occupational clusters, ads for titles in 16 of the 25 clusters occurred with sufficient frequency to enable further statistical analysis. These 16 clusters were compared to projections published by the Minnesota Department of Employment Services. Chi square analysis showed that while ads appearing in the newspaper were representative of the various occupational clusters anticipated to be in demand in that locale, the distribution of ads within the clusters differed significantly from the projections.

It was hypothesized that help wanted advertising could provide program planners with information about seasonal fluctuations in demand for various clusters. 'Cycles' of demand were demonstrated for 11 clusters; that is, ads occurred in these clusters at a rate significantly different than would be expected if ads were equally distributed throughout the year. However, while some clusters replicated this pattern during two of the years, there were no cases in which 'cycles' were repeated in all three of the years.

Recommendations were made for further studies as to the effect of employer usage, size of newspaper circulation and proportion of employment agency ads on the profile of demand operating in the local labor market that is described in newspaper help wanted advertisements.

HOEFER, Fred Durbin. "Participant Assessment of Exchange Program P-1-004, University of Minnesota, 1963-1974." An International Agricultural Academic and Practical Training Program in Perspective. Doctor of Philosophy Dissertation, 1977, University of Minnesota, St. Paul.

Purpose. To measure the influence of the Minnesota International Agricultural Student Work-Study Program on the lives and careers of its former participants.

Method. The influences were measured by gathering through the use of a questionnaire the perceptions from a sample of the former exchangee population from 1963-1974. The questionnaire was sent to 211 individuals randomly selected from the population of 423 former participants. The questionnaire obtained characteristics of the sample and the former exchangees perceptions to 1) their host family work period experiences, 2) their study period experiences, 3) their personal development, 4) their occupational development, and 5) their English language development. The respondents perceptions were ranked extremely helpful--5 points, very helpful--4 points, helpful--3 points, little help--2 points and of no help--1 point.

Findings. The 139 respondents felt the exchange program was often very helpful (3.66), especially in the area of personal development. The exchange program was helpful (3.04) to the former exchangees' occupational development.

The former participants rated equally helpful their personal development associated with the host family work period aspect (3.28) and the study period aspect (3.26). Personal growth, personal relationships and cross-cultural relationships were the strength of the exchange program from 1963 through 1974.

The former exchangees felt the exchange program was helpful to their occupational development. The exchange program being only helpful to the exchangees occupational development was influenced by the 60 percent who had post-program plans for work before they began the program. Fifty-eight percent of the returnees first jobs were in production agriculture (farming).

PEDERSEN, Bradley W. "A Materials Evaluation and Curriculum Content Appraisal For A Course in Grounds Development and Management at the Post-Secondary Technical Level." Master of Education Integrating Paper, 1977, University of Minnesota, St. Paul.

Purpose. The purpose of the paper is to define and integrate technical data into a Grounds Management and Development course for students at the University of Minnesota School of Technical Agriculture, Waseca, Minnesota.

Method. The author integrated his course work for the Master of Education Program by bringing together management principles and technical data for organizing a grounds maintenance business and developed it into a Grounds Management and Development course.

Findings. The basic nature of the course developed requires students to draw upon the curriculum they have completed as landscape development students at the University of Minnesota School of Technical Agriculture, Waseca, to organize and manage a workable grounds maintenance business.

## MISSISSIPPI

ALLEN, Johnny Lee. "A Follow-Up Study of the 1972 Vocational Agriculture/Agribusiness Program Completers/Leavers in Mississippi." Master of Science Thesis, 1978, Mississippi State University, Mississippi State.

Purpose. The purpose of the study was to investigate the relationship of instruction in vocational agriculture/agribusiness to the occupational status of former students who were enrolled in secondary programs of vocational agriculture/agribusiness in Mississippi.

Method. The population was comprised of all students who graduated from high school in Mississippi in 1972 who had been enrolled in vocational agriculture/agribusiness. Data were collected using a mailed survey from the graduates of 20 randomly selected high schools.

Findings. The findings are based on the responses from 99, or 55.1 percent, of the sample studied. The major findings are:

1. As the number of years that students had studied vocational agriculture/agribusiness increased, the percentage of students placed in occupations "in" or "related" to the occupational area for which trained also increased.
2. A higher percentage of those respondents who hold either the "State Farmer Degree" or the "American Farmer Degree" is in occupations "in" or "related" to the occupational area for which trained.
3. A higher percentage of students who initially enrolled in vocational agriculture/agribusiness because they wanted to work on a farm or in an agribusiness is placed in occupations "in" or "related" to the occupational area for which trained than those students who enrolled in vocational agriculture/agribusiness for other reasons.

LOFTON, Michael Wayne. "The Role of Vocational Agriculture/Agribusiness in Mississippi as Perceived by Program Completers/Leavers in 1973." Master of Science Thesis, 1978, Mississippi State University, Mississippi State.

Purpose. The purpose of this study was to determine the role of vocational agriculture/agribusiness programs in the occupational success of 1973 program completers/leavers.

Method. Data were collected by mailed questionnaires and telephone interviews from 67 program completers/leavers. Their names and addresses were provided by teachers at 17 randomly selected vocational agriculture/agribusiness departments. Information was collected relative to the respondents' biographical situation, to their perception of certain common practices in vocational agriculture/agribusiness, to their perceptions of major program components (classroom/laboratory instruction, SOE, FFA, and adult instruction), and to their perceptions of utility in job preparation and placement.

Findings. Major findings of this study are as follows: Most of the sample received no more than a high school diploma; most had taken three years of agriculture; most had been FFA members, yet 15 percent had not; over one-third had never had a SOE program; most had not enrolled in adult classes since graduation; and almost half were employed in agricultural occupations.

The opinions of program completors/leavers toward vocational agriculture/agribusiness were generally positive. As a group they agreed that the program had been beneficial, had helped them learn how to work, taught skills useful in agricultural and non-agricultural occupations, helped them learn to get along with others, developed leadership skills, and taught group participation skills.

Concerning program structure, the respondents felt that the program should emphasize more than farming; should include SOE, FFA, adult, and agribusiness instruction; should be of twelve months duration; and should do a better job of helping them enter and advance in agricultural occupations.

MOORE, Susan Fayette. "A Study of the Self-Perceived Teaching Effectiveness of Female and Male Vocational Agriculture/Agribusiness Teachers in the United States." Master of Science Thesis, 1978, Mississippi State University, Mississippi State.

Purpose. The purpose of this study was to determine and compare the self-perceived teaching effectiveness of female and male vocational agriculture/agribusiness teachers in the United States.

Method. Data were collected from all female teachers of vocational agriculture/agribusiness in the United States (325 female teachers) and an equal number of systematically selected male teachers of vocational agriculture/agribusiness, or a total of 650 teachers. Responses were received from 66.6 percent of the sample. Along with biographical and professional information, the instrument assessed the self-perceived teaching effectiveness of the respondents on 39 commonly performed competencies. Statistical techniques used in analyzing the data included frequencies, central tendencies, and analysis of variance.

Findings. Major findings of this study showed:

1. Approximately 2.6 percent (325) of the 11,222 persons teaching vocational agriculture/agribusiness in the United States are female.
2. Over-half of the male respondents, but less than one-fifth of the female respondents had been enrolled in vocational agriculture/agribusiness and the FFA when in high school.
3. The largest percentage of female respondents had received their baccalaureate degree in horticulture and were presently teaching horticulture. The largest percentage of male respondents had received their baccalaureate degree in agricultural education and were presently teaching basic vocational agriculture/agribusiness and production agriculture.
4. The self-perceptions of the effectiveness of female and male teachers of vocational agriculture/agribusiness were not significantly different at the .05 level for a majority of the competencies commonly performed by teachers of vocational agriculture/agribusiness.
5. Over-half of the commonly performed competencies in which females rated themselves significantly lower were in the competency area of FFA.
6. Females rated themselves significantly (.05 level) higher on the competency of preparing daily lesson plans.

PERKINS, Gwen K. "A Study of Classroom Communication Problems as Perceived by Students in the Department of Agricultural and Extension Education at Mississippi State University." Master of Science Thesis, 1978, Mississippi State University, Mississippi State.

Purpose. The purpose of the study was to determine which of certain selected variables might cause problems of communication in the classes taught in the Department of Agricultural and Extension Education.

Method. The population for the study was comprised of all students enrolled in on-campus classes in the Department of Agricultural and Extension Education, Mississippi State University, during the spring semester of 1977. This was a total of 138 students. Data were collected by administering a questionnaire during the last week of class instruction for the semester. The questionnaire employed a Likert-type rating scale and was divided into three major categories of communication problems: Those originating with the student, those originating with the classroom environment, and those originating with the instructor and teaching techniques.

Findings. The major findings were:

1. Uncomfortable seating was the most important problem affecting classroom communication.
2. Lack of handouts and lack of visual aids were rated second and third, respectively, as problems in communication.
3. Personal problems of students received the lowest ratings as problems in communication.
4. There were no differences in the responses of male and female students, except for slightly higher ratings by females of those elements in the environment which related to physical discomfort and problems in communication.

#### MISSOURI

BUSHMEYER, William W., Jr. "Effects of Class Time, Practice Time, and Teaching Methods Upon Cognitive and Psychomotor Skill Achievement in Teaching Small Gas Engines." Dissertation, Ph.D., 1975. University of Missouri, Columbia.

Purpose. The purpose of the study was to determine the effects of three teaching methods varying the ratio of classroom and shop instruction time upon the cognitive and psychomotor skill achievement in small gasoline engine ignition systems.

Method. This study utilized a 3 x 3 factorial design and included nine vocational agricultural departments in the Central Missouri State University 21-county district offering a semester course in small gas engines during the winter semester of the 1973-1974 school year. The nine departments were randomly assigned to the specific teaching methods and time ratios. A total of 100 students were included. This experimental study was conducted during eight 55-minute class periods. A pretest and mechanical comprehension test were administered prior to the experimental period. During the eight-day experiment, the teachers taught according to a specific plan teaching a standardized tool list. The posttest was administered on the ninth day. The teacher administered the psychomotor skill test to each student and recorded the evaluation on a prepared score card. The two independent variables were teaching methods and time ratios. The two dependent variables were cognitive achievement gain score and the psychomotor skill score. The analysis of variance was utilized to test the hypotheses.

Findings. This study indicated that the use of behavioral objectives, with 25 percent shop instruction and the lecture with 50 percent shop instruction were the best two methods of teaching about small gas ignition systems.

CLAYCOMB, Donald M. "Meaning and Value of Work and Job Satisfaction of Young/Adult Farmers and Vocational Agriculture Instructors." Dissertation, Ph.D., 1978. University of Missouri, Columbia.

Purpose. The purposes of this study were to determine whether or not young/adult farmers participating in adult education programs perceived work in a different manner than vocational agriculture instructors working with adult education programs, and whether or not job satisfaction and selected demographic variables were related to the meaning and the value of work as perceived by both groups.

Method. The design of the study was ex post facto in nature since it was not possible to exert direct control over the independent variables. The study sample consisted of 119 deliberately selected young/adult farmers from Northwest Missouri and 55 vocational agriculture instructors from Missouri who serve as Young Farmer Chapter advisors. Instrumentation used consisted of the Meaning and Value of Work Scale Part I (MVSWI) and the Job Satisfaction Scale (JSS). Demographic inventories were used to collect data pertaining to the study. The data were analyzed using analysis of variance and correlation statistical procedures. Null hypotheses were tested at an alpha level of .05.

Findings. The following conclusions, subject to the limitations of this study, were formulated as a result of the findings of this study.

1. Vocational agriculture instructors working with young/adult farmers and the young/adult farmers they work with should have no predicatable conflicts relative to meanings and values of work.
2. Vocational agriculture instructors who have not been enrolled in high school vocational agriculture may be less satisfied with their jobs than the young/adult farmers they work with.
3. Job satisfaction of young/adult farmers and vocational agriculture instructors that work with young/adult farmers may be due to either intrinsic or extrinsic factors. A high level of job satisfaction might be due to extrinsic factors such as pay or security or it might be due to such intrinsic factors as the job itself or the opportunity for personal improvement.

HAGEE, Gale L. "Transfer Among Psychomotor Tasks in Agricultural Power." Dissertation, Ph.D., 1977, University of Missouri, Columbia.

Purpose. The primary purpose of this study was to compare the effects of three types of laboratory instruction on transfer of learning from a single-cylinder, agricultural, gasoline engine to a multicylinder, agricultural gasoline engine in the area of carburetion.

Method. A three-group controlled experiment with a replication was conducted with a posttest-only control group experimental design. To extend the effect of the research, the study was replicated in two randomly selected schools. The participants were randomly assigned to three treatment groups. The experiment was conducted in the classroom areas of the Vocational Agriculture department for a one-week period. The transfer task selected for this study dealt with the disassembly, inspection of parts and assembly of a Zenity Model 61 carburetor. A quality score and completion time score were recorded for each applicant as the disassembly and assembly subtasks were completed. These scores were obtained by the researcher through an objective grading scale. The statistical analyses used for the study were one-way analysis of variance, the Pearson Product Moment Correlation and an independent t-test.

Findings. The following conclusions were based upon the findings of this experimental study with replication.

It was concluded that no laboratory and small engine laboratory groups demonstrated transfer on the task.

There was transfer for the no laboratory and small engine laboratory groups for the dis-assembly and inspection of parts subtasks for the experimental study and replication. In addition, these two groups of the replication also demonstrated transfer on the assembly subtask.

Laboratory instruction utilizing equipment like that used for the performance of the transfer task was time efficient way of teaching. Using larger amounts of time for completion of the transfer task would not improve the score of students who have not recently had laboratory experience on either small or large gasoline engines.

HIRE, William G. "Correlations Between Aptitudes of Agricultural Power I Students and Vocational Agriculture Instructor's Evaluation Measure." Dissertation, Ph.D., 1977, University of Missouri, Columbia.

Purpose. The purpose of the study was to answer the following research question: what are the aptitudes that correlate significantly with the vocational agriculture instructor's evaluation measures of Agriculture Power I students?

Method. The population for this study consisted of students enrolled in Agriculture Power I, taught by Central Missouri vocational agriculture instructors. The sample was randomly selected from all students enrolled in classes of Agriculture Power I in Central Missouri vocational departments. General Aptitude Tests were administered to 108 students, 92 Agriculture Power I students and 16 prospective Agriculture Power I students. Course grades were determined for the students by the course instructor at the completion of the course. Design for this study was the Separate-Sample Pretest-Posttest Design and statistical analysis of the data was made using the t-test, multiple regression and correlation.

Findings. The findings of the study are summarized below:

1. Students who achieve well in Agriculture Power I as measured by their instructor's ratings and course grade, possess aptitudes of Numerical, Finger Dexterity and Intelligence at or above the norms determined by the S-331 SATB Test for Gasoline Engine Repairperson.

2. Spatial Aptitude does not correlate with the instructor's rating or course grade given to the student of Agriculture Power I.

3. The Finger Dexterity Aptitude does not correlate with the grade a student receives in Agriculture Power I, but does correlate with the rating given the student by the instructor.

4. A student possessing a high ability in arithmetic exercises requiring the addition, subtraction, multiplication, or division of whole numbers, and a high ability to work arithmetic problems expressed verbally, could expect a good grade and a high rating from the course instructor in Agriculture Power I.

5. A student scoring below the norms established for Numerical Aptitude could be expected to make a poor grade and receive a poor rating from the instructors in Agriculture Power I.

6. Plant Science students planning to take Agriculture Power I score the same on the S-331 SATB test as students completing the course in Agriculture Power I.

HOFF, William W. "Attitudes Toward the Energy Crisis Among Selected Agricultural Groups." Thesis, Ed.D., 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 the 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 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 in 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.

JEWELL, Larry R. "Effects of Noise on Reading Comprehension and Task Completion Time." Dissertation, Ph.D., 1977, University of Missouri, Columbia.

Purpose. The purpose of the study was to compare the effects of two different noise intensities on the cognitive performance of students. Student reading comprehension and task completion time were the two cognitive performances measured.

Method. The study was conducted as a posttest only control group experiment utilizing a 2 x 2 factorial design. The two-way analysis of variance was employed to test for significant difference between the two groups.

Findings. The findings of the study are summarized below:

1. Higher noise intensities in the learning environment did have an effect on student performance. The effect was that as noise intensity increased in the learning environment, performance on the reading comprehension task decreased.
2. Higher noise intensities in the learning environment did have an effect on student performance with regard to task completion time. The effect was that as noise intensities increased in the learning environment, the time required to complete the assigned task increased.
3. The students at any one school did not do significantly better or worse than the students at any of the other schools with regard to reading comprehension or time required to complete the assigned task.

KANAKARAJ, Doraiswamy. "Effects of Immediate and Delayed Feedback on Verbal Interaction Analysis Ratios of Student Teachers in Agriculture at Missouri." Dissertation, Ph.D., 1976. University of Missouri, Columbia.

Purpose. The purpose of this investigation was to ascertain the change in the verbal interactive behavior of student teachers associated with immediate feedback, delayed feedback or no feedback about interaction in the classroom. Furthermore, the study was designed to examine whether or not there was a significant correlation between the grades the student teachers received during the simulated teaching and the student teaching experiences.

Method. The study utilized an experimental research design which included collection of pre-treatment and post-treatment data for the experimental and control groups. Population for this study consisted of eighteen student teachers using the Flanders's Verbal Interaction

**Analysis System for teachers.** The Kruskal-Wallis Analysis of Variance was used to provide information concerning difference among the groups. The Pearson Product Moment Correlation Coefficient and a t-test were used to find if there was a significant correlation between grades.

**Findings.** The following conclusions were generalized from the findings of the study.

1. If one of the goals of the pre-service program in teacher education is to influence the behavior of prospective teachers, interaction analysis information provided by immediate or delayed feedback during the student teaching period will enhance the goal.

2. If the supervisors of student teachers make the student teachers aware of their interaction analysis behavior by providing them with the results of observation obtained from verbal interaction in the classroom and interprets the results to the student teacher, the behavior of the student teachers can change in the desired direction.

3. Both immediate and delayed feedback about interaction analysis actions changed the verbal teaching behavior of student teachers. However, when compared, immediate feedback resulted in a greater change than did delayed feedback on the ratios used in this study.

4. The simulated teaching grades were not valid predictors of the grades for the student teaching experience.

MADOU-BANGURAH, Kabba. "Smoke, Noise and Dust Levels in Vocational Agriculture Shops in Central Missouri High Schools." Dissertation, Ph.D., 1978. University of Missouri, Columbia.

**Purpose.** There has been a great deal of interest expressed by school administrators and vocational teachers about the safety of shop facilities equipped with larger and more sophisticated machines which are intended to facilitate the learning process. The primary purpose of this study was to provide data about potential health hazards in vocational agriculture shops in central Missouri.

**Method.** The population for the study included 36 schools in central Missouri. The sample consisted of ten randomly selected high schools. This study was descriptive in nature, reporting on selected measures of smoke, noise and dust pollution. The facilities and equipment in each school were described and a record was made of the temperatures inside and outside the shops. During the collection of the data, all ventilation devices were in normal operation. Samples were taken to determine smoke, dust and peak hi-volume air samples. Readings to determine noise levels were taken for the grinder and radial arm saw by using an octave bank analyzer and a noise meter with a unidirectional microphone. These measures were compared with OSHA standards to identify sources of potential health hazards in the shops.

**Findings.** The following findings and conclusions were formulated as a result of this study.

The schools that exceeded the OSHA standard for smoke were those schools which had no ventilation system, a system that did not work or a system incorrectly positioned in the shop.

The standard for dust concentration was exceeded. A potential dust problem existed in the shop environment during the operation of the radial arm saw and the problem was greatest for the operator.

Peak air pollution samples exceeded the standard. The magnitude of any potential air pollution problem was related to the location of the machines and the area occupied by the subjects.

The readings exceeded the standards for noise when taken on the work table by the grinder or by the saw. There was a potential noise problem for the operator of either the grinder or the radial arm saw if operation was continuous for 15 minutes or longer.

Five schools exceeded the standard of 100 dB(A) for 60 minutes for peak noise levels when the readings were taken in the metal area. The other standards were not exceeded. During a normal class period, noise was not a problem for others in the work area.

NOLTING, Gegory A. "Portfolio Development vs. Course Participation as It Influences Cognitive Achievement in Farm Management." Dissertation, Ph.D., 1977. University of Missouri, Columbia.

Purpose. The primary purpose of this study was to compare the cognitive achievement of students in a traditional program enrolled in a course in farm management with the cognitive achievement of students in a nontraditional program who developed a portfolio documenting experiential learning in the area of farm management.

Method. The sample for this study consisted of one hundred thirty-five students who were seeking credit for Agricultural Economics 260-General Farm Management during the winter semester, 1976, at the University of Missouri, Columbia. The students were enrolled in either traditional or nontraditional programs in the College of Agriculture at the University of Missouri, Columbia. The design of the study involved dichotomizing all students on the basis of three independent variables: learning situation, farming experience and management experience. Students in the traditional and nontraditional learning situations were administered a pretest designed to measure cognitive achievement in farm management. Students in the traditional program participated in the course Agricultural Economics, 260-General Farm Management while students in the nontraditional program developed a portfolio of prior learning in the area of farm management. At the end of the study, students in both programs were administered a posttest designed to measure cognitive knowledge in farm management. The data were analyzed by use of the Least Squares Analysis of Variance for groups with unequal N's and a "t" test for related sample means.

Findings. The following conclusions were based upon the findings relative to the students in the traditional and nontraditional programs included in the study.

Before instruction or development of a portfolio, students in a nontraditional program would be expected to have a higher cognitive achievement in farm management than students in a traditional program.

Following instruction or development of a portfolio, students in a non-traditional program would be expected to demonstrate relatively the same level of cognitive achievement in farm management as do students in a traditional program.

Before instruction or development of a portfolio, students with farming experience would be expected to demonstrate relatively the same level of cognitive achievement in farm management as do students without management experience.

Following instruction, students in a traditional program would be expected to demonstrate greater cognitive achievement in farm management than demonstrated prior to instruction.

Following development of a portfolio, students in a nontraditional program would be expected to demonstrate greater cognitive achievement in farm management than that demonstrated prior to portfolio development.

SANDERS, John L. "An Evaluation of Two Methods for Teaching Selected Investment Analysis Principles to Missouri Vocational Agriculture Instructors." Dissertation, Ph.D., 1977. University of Missouri, Columbia.

Purpose. The purpose of the study was to assess which of two methods of teaching selected investment analysis principles and concepts can be more effectively used for in-service classes of Missouri Vocational agriculture instructors. The problem solving method and the inductive method were used in this investigation.

Method. The experimental treatment consisted of five hours of instruction utilizing the two methods of teaching. Selected investment analysis principles provided the subject matter. The one-way analysis of covariance using pretest and posttest cognitive achievement scores was employed to test for significance between the two methods.

Findings. The statistical analysis of the data provided by this study was the basis for the findings shown below.

1. The level of achievement of in-service vocational agriculture instructors should not be affected by choosing either a problem solving or inductive method of teaching selected investment analysis principles and concepts.

2. The level of achievement should not be affected by choosing either a problem solving or inductive method of teaching investment analysis principles and concepts for instructors with the demographic characteristics listed below:

- a. more than 14 hours of agricultural economics related courses;
- b. four or more years of vocational agriculture teaching experience;
- c. entered a farm management team in the district contest within the past three years;
- d. farm owners, farm operators, and/or provided professional farm management services.

#### MONTANA

WILCOX, Steve. "Policies and Procedures of Land and Livestock Laboratories in the United States". Master of Agricultural Professional Paper, 1978, Montana State University, Bozeman.

Purpose. The purpose of this study was to review policies and management procedures for establishing, operating, and maintaining land laboratories in support of the training program in secondary vocational agriculture departments in 5 western states.

Method. A mail questionnaire was sent to 51 departments in 5 western states that had been identified by state supervisors as having land labs. Information was requested to determine; (1) the reasons why labs were established, (2) the educational planners involved in establishing and maintaining the labs, (3) the factors considered when designing, establishing and maintaining land labs, and, (4) the amount of time instructor and students spend on the lab.

Findings. Major findings of the study were as follows: instructors assume the dominant role in managing and establishing policy for the lab; to be successful the full support of administration is needed; the lab should be more educational than profitable; too much time is required; labs are more appropriate in urban areas; it is advantageous to have a multi-teacher department when there is a land lab.

#### NEW YORK

JONES, Richard Duane. "A Model for Evaluation of Employee Training Programs." Doctoral Thesis, 1978. College of Agriculture and Life Sciences at Cornell University, Ithaca, New York.

Purpose. -- The purpose of this study is to develop a model for evaluation of employee training program.

Methodology. -- The basic components for the proposal model originated from an extensive review of existing models and studies in education and training evaluation. A number of training directors were surveyed to identify specific evaluation needs and constraints. The proposed evaluation model and suggested techniques were field tested in an existing business training program.

Findings. -- The most important areas of evaluation, as indicated by training directors, were in identifying needs for programs and determining changes in behavior or improvements in performance. The most common types of evaluation used are reaction surveys and

achievement tests. The most difficult aspect of evaluation to measure is behavior or performance. Directors further indicated a primary concern in evaluation is the lack of appropriate standards. Finally, the most significant factors that limit their progress in evaluation, is lack of expertise and resources.

The proposed evaluation model in the study emphasizes Summative evaluation of a total program based on measurement of job behavior. Complementing this Summative evaluation is a Formative evaluation of the Planning and Process of training. Only by collecting information about training components can a decision-maker begin to identify changes for improvement. Finally, the model identifies the sources of evaluation and standard for making comparisons.

Approximation of job performance through an attitude scale is proposed as a follow-up evaluation tool when it is too difficult to obtain specific job performance data. Instruments for use in this technique were field tested in a training program.

Techniques and procedures are also suggested for use of the model and conducting evaluation of the Planning and Process of Training.

The study takes an initial step in improving evaluation of employee training programs. Further research and validation should build on this effort. Evaluation can be manageable and contribute significantly to improving programs in employee training if they are planned and follow the logical sequence outlined in the proposed model.

OLAITAN, Samson Ojo. "A Strategy for Improving the Teaching of Agricultural Science at the Secondary School Level in Ondo State of Nigeria." Ph.D. Thesis, 1978. College of Agriculture and Life Sciences at Cornell University, Ithaca, New York.

Purpose. -- The purpose of this study was to identify professional competencies needed by prospective teachers of agricultural science in Ondo state, Nigeria, and to provide decision-makers guidelines for implementing teacher preparation programs in agriculture.

Method. -- A review of literature was made to identify 324 professional competencies assumed to be needed by a teacher of agriculture. A jury of 15 experienced educators from five Nigerian Universities validated the 324 professional competencies. Based on the responses of the jury, 248 professional competencies were finally selected. Questionnaires were administered to 100 educators to solicit their perceptions on the importance of the competencies to the teacher of Agricultural Science. The same questionnaires were administered to 98 field teachers of Agricultural Science to solicit their perceptions on their performance level. An instrument consisting of "factors" and "alternatives" to be considered when making decisions on 10 issues on teacher-preparation in agriculture were administered to 98 principals and 7 Ministry of Education Officials. Mean, Median, Standard Deviation and Percentages were involved in processing the data through the computer using SPSS files.

Findings. -- The findings from the study indicated that: (1) 239 out of the 248 professional competencies are important to the prospective teacher of agricultural science. (2) The prospective teacher of agriculture should be adequately prepared in Professional Ethics Teacher-Professional Relationship; Program Management; Guidance; School discipline; Student Organizations; Program planning. (3) Field teachers need varied degrees of professional improvement in Planning Instruction; School discipline; School community relationship; Recruitment and Selection of students. (4) Decisionmakers should consider the following when making decisions on teacher preparation in agriculture: a. That the purpose of agriculture should be to provide students with adequate skills to make a living and progressively advance in farming. b. That a four year program of professional and technical agriculture is appropriate for secondary school graduates in division one or two (science biased). c. That the teacher preparation program be located in suitable areas of the state and admission require-

ments to be feasible and clearly defined. d. That promotion should emphasize academic achievement and success in professional experience. e. That government makes specific provisions for teacher preparations in agriculture in her development plans.

ONUOHA, Isaac C. "The Educational Needs of Subsistence Farmers in Imo State, Nigeria." Ph.D. Dissertation, 1978. College of Agriculture and Life Sciences at Cornell University, Ithaca, New York.

Purpose. -- The purpose of this study was to further define the problems encountered by subsistence farmers in Nigeria in attempting to increase their agricultural production. Specific objectives were to: (1) determine the personal characteristics of subsistence farmers, (2) indicate the level of farming achievement of subsistence farmers with respect to selected farm business factors, (3) determine the extent to which certain approved practices were adopted, (4) identify farm problems with which these farmers needed assistance, (5) determine the level of participation in and preferences concerning educational activities, and (6) establish the relative importance of the identified problems.

Method. -- Mbanu Division was selected as typifying the agricultural regions of Imo State. A tentative interview schedule was constructed, field-tested in Mbanu Division, revised and precoded. Personal interviews were conducted on the farm from a stratified random sample of 103 subsistence farmers.

Findings. -- Major findings of this study were as follows: The subsistence farmers as a group needed educational assistance in all areas of farm operation, i.e., livestock production, crop production, farm management and farm equipment. Twelve recommendations were addressed to non-formal educational program planners for subsistence farmers. They included: (1) the goal of educational programs for subsistence farmers should be to improve small farming operations, (2) improvement of staple food crop yields should be the major focus of such programs, with the improvement of livestock enterprises of secondary importance, (3) subsistence farmers should be taught to use more approved practices -- the adoption of approved practices might be increased by offering incentives, (4) educational programs for subsistence farmers should be addressed to men, but with provisions for women and elementary school children, (5) instructional materials to be used in the programs should be written at not more than second grade level, (6) ways should be sought to optimize the effect of the more progressive farmers as change agents, (7) farm business analysis should be more widely utilized in needs assessment and program evaluation.

#### OHIO

ANIM, Robert Kwaku. "Agricultural Activities and the Role of Extension in the Adoption of New Farming Methods in Kusasi Area of Ghana." Doctor of Philosophy Dissertation, 1978, The Ohio State University, Columbus.

Purpose. The purpose of the study was to enable personnel in the University of Science and Technology in Kumasi, Ghana to identify and to record in literature form the characteristics of the farmers of Kusasi and the methods by which they operated their farms. The study also sought to identify the role of extension in the adoption of new farming methods by farmers of Kusasi.

Method. A sample of eighty (80) farmers was drawn from the population of all farmers of the Kusasi district of Ghana. In addition, a census of all the ten agricultural extension personnel who were in charge of the ten sub-districts of Kusasi was included in the study.

Interview schedules were used to collect data from the farmers and data from extension personnel were collected through the use of questionnaires. Additional information was also collected through unstructured interviews.

Findings. (1) Kusasi farmers were generally middle-aged and most of them had more than 20 years of experience in the traditional methods of farming. (2) The farmers practiced sedentary agriculture and shifting cultivation was unknown in the area. (3) The mean size of farm was less than 50 acres and that could not be increased appreciably because of lack of land. (4) Farmers' efforts were mainly directed towards grain production and the most important grains were guinea corn, millet, and rice. (5) Vegetable gardening was popular in places where dams have been constructed. Vegetable gardening was the most important work during the dry season. (6) Poultry was produced as a sideline project and no farmer had made production of poultry his main source of income. (7) Cattle, sheep, and goats were the most important livestock found on many farms in Kusasi. Cattle are a status symbol and the average farmer would not sell his cows. (8) The hoe was the basic tool of cultivation in Kusasi area. (9) Use of the tractor was limited because of the small acreage farmed by the farmers. (10) Extension personnel failed to recognize that other agencies and persons in Kusasi were involved in extension services to the farmers. (11) Extension personnel failed to identify that human resource development was the most important factor for increasing productivity in Kusasi area.

BENDER, Ralph E. "The 1977 Occupations of Recent Graduates in Vocational Agriculture in Ohio." Staff Study, 1977, 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, 1977.

Method. A survey included 1,273 students representing 63 departments selected at random from all of the supervisory districts of vocational agriculture in Ohio.

Findings. Sixty-two per cent of the graduates of vocational agriculture in Ohio out of school one year were in farming and non-farm agricultural occupations or education. The graduates out of school five years had 55 per cent so engaged which is the lowest in the last five years. Generally, 60 per cent of the graduates in agricultural pursuits were farming with almost two-thirds of them doing so on a full-time basis. Seventy-nine per cent of those who were farming were doing so on the home farm.

The percentage of graduates involved in non-agricultural work the first year out of school was 29 compared to 40 per cent for those out of school five years. Both of these percentages were 8 per cent higher than the preceding year.

Nineteen per cent of the graduates out of school one year were in college or technical schools. Of this group, 53 per cent were pursuing additional study in agriculture. Only 1.2 per cent of those graduates were reported as being unemployed.

GILLILAND, Robert L. "Educational Methods and Procedures Utilized by Cooperative Extension Service Professionals in Selected High Population Counties of the United States." Doctor of Philosophy Dissertation, 1978, The Ohio State University, Columbus.

Purpose. The study determined (1) Whether or not Extension professionals were attempting to serve large numbers of people; (2) The educational methods and procedures being utilized to serve large numbers of people; and (3) The relationships between the independent variables of program assignment, training in behavioral sciences and communications skills, academic degree, use of para-professionals, attitude towards serving high

population areas, use of funds beyond the traditional budget and the dependent variable of educational methods and procedures utilized.

Method. Data were collected by mailed questionnaires consisting of a three-part instrument developed by the researcher from 558 of 575 Extension professionals who were serving randomly selected counties having a city in the population range of 100,000 to 1,000,000 inhabitants according to 1970 census data.

Findings. A high degree of commitment was found among Extension professionals with 94 percent reporting that they were attempting to serve large numbers of people.

Extension professionals perceived that they were utilizing mass media most. However, data indicated that they actually used group methods most.

No significant differences were found between program assignments and the frequency of use of individual, group, and mass media methods and procedures. When the 33 selected methods were individually considered, significant differences were found on 15 of the 33 methods and procedures.

Variables which had a slight correlation to the frequency of use of one or more categories of educational methods and procedures included formal and informal training in behavioral sciences, formal training in communications skills, use of full-time para-professionals, securing funds beyond traditional budget, and utilization of funds beyond the traditional budget.

No correlation was identified on the variables academic degree, informal training in communications skills, use of part-time para-professionals, and attitudes towards serving large numbers of people.

HOUK, George; ERPELDING, Lawrence H.; and McCracken, J. David. "A Case Study Analysis of Selected Agricultural Supply and Service Programs in Ohio." Staff Study, 1977, The Ohio State University, Columbus.

Purpose. The study was conducted to determine the strengths and weaknesses of agribusiness programs, and to establish policy recommendations for the operation of agribusiness programs.

Method. Interview schedules were developed and used with students, alumni, employers, parents and administrators of agribusiness programs in Ohio. A team of four interviewers spent one day in each of six selected school districts conducting interviews. Interviewees were selected using a table of random numbers. The total number of interviewed persons in the six schools by group was as follows: 35 students, 30 alumni, 23 parents, 28 employers, and 21 administrators. Responses were summarized and cases were developed for each visited school.

Findings. Some major conclusions follow: (1) Students who may have formerly been enrolled in agribusiness programs pursuing an interest in horticulture, agriculture mechanics or natural resources in more recent years have been more likely to attend a joint vocational school to study specialty areas. Therefore, agribusiness programs do serve students who are studying for a narrower range of occupations. (2) A minimum of a two-year agribusiness program is necessary in most schools in Ohio. (3) The job outlook in agribusiness has been good. (4) Strong agribusiness programs had a good public relations program, a sincere teacher concern for students and the program, a sufficient number of training stations in agribusiness firms, appropriate school facilities and equipment, a course of study based upon community needs and teacher input in final student selection.

Recommendations for changes in program standards were made as a result of the study.

KING, Laretta E. "The Effectiveness of Self-Instructional Learning Packages with Young Adults." Doctor of Philosophy Dissertation, 1978, The Ohio State University, Columbus.

Purpose. The major objective of the study was to evaluate the effectiveness of self-instructional learning packages as one method of providing subject matter content to young families. An additional objective was to determine if follow-up assistance by telephone would enhance the effectiveness of the method.

Method. A stratified random sample of five Extension units in Virginia was selected for the study. A stratified random sample of 40 parents of pre-school children from each unit provided 200 subjects for the study. The post test only, control group design was used. Subjects were randomly assigned to experimental and control groups, levels of the manipulated variable were randomly assigned to each group. The primary independent variable was the use of self-instructional learning packages. There were four levels of this variable:

- Group 1. Parents were given the packages and asked to read them.
- Group 2. Parents were given the packages, asked to read them and told to call the Extension agent in their unit if they had questions or wanted to discuss the subject matter in the packages.
- Group 3. Parents were given the packages and asked to read them; they were also given periodic follow-up assistance on the subject matter content by telephone from the Extension agent in their unit.
- Group 4. Control group - Parents received no subject matter information prior to receiving the questionnaire.

Three packages consisting of subject matter on "parenting" were mailed to the parents one per week for three weeks.

Data were collected by mail questionnaire. The questionnaire gathered three types of information. Part I consisted of a 30 item multiple choice test on the subject matter content of the packages. Part II was a 14 item attitude scale regarding the use of self-instructional packages as a method of acquiring subject matter and Part III asked for demographic information. Analyses of data included analysis of variance, product-moment correlation and Kendall tau.

Findings. 1. There was no significance difference on achievement test scores of parents in the three experimental groups. However, there was a slight tendency for those who were given assistance and those told they could ask for assistance to score higher. There was a significance difference between test scores of the control group and the two groups with an opportunity for assistance (groups two and three).

2. There was no significant difference between the three experimental groups on the attitude scale.

3. There was no significant difference in the time spent reading the packages by parents in groups one and three. Parents in group two spent the least time reading the packages.

4. The four groups did not differ significantly on the variables age, educational level and income.

5. For those in the three experimental groups achievement test scores increased as educational levels and incomes increased.

6. There was not a significant relationship between age and achievement for the three experiment groups, however, for the control group older parents tended to score higher than younger parents.

LOVINGOOD, Miles Hillard. "Competencies Needed in Construction, Maintenance, and Engine Power by Teachers of Vocational Agriculture." Doctor of Philosophy Dissertation, 1977, The Ohio State University, Columbus.

Purpose. This study was designed to determine some of the more important agricultural mechanics competencies that vocational production agriculture teachers should acquire in the required pre-service construction, maintenance, and engine power courses taught in the Department of Agricultural Engineering at The Ohio State University. Additional objectives of the study were to determine the amount of preparation a relatively new teacher (two to four years experience) would require to teach or utilize important competencies, the source of the competency acquisition, and whether or not the competency was taught or utilized.

Method. A comprehensive list of 480 agricultural mechanics competencies was developed in the construction, maintenance, and engine power areas from textbooks, previous studies, and observation of university agricultural mechanics classes. No attempt was made to select or limit competencies except to edit them to a common format. This list of competencies was submitted to an 18-member panel of experts. The panel of experts was asked to react to each of the 480 competencies as to the degree of agreement (strongly agree, agree, disagree, strongly disagree) that the competency should be taught in the college level pre-service agricultural mechanics courses for prospective vocational agriculture teachers.

The 80 teachers of vocational production agriculture in Ohio who were completing two, three, and four years of service were asked to participate in the study. These relatively new teachers were chosen because they would be most likely to have had sufficient teaching experience to give knowledgeable reactions and yet would recall the primary source of agricultural mechanics competency acquisition. In order to shorten the time required to complete the questionnaire and still include a large number of competencies, teachers were divided into two groups. Each group was asked to react to a different half of the 240 highest ranked competencies as determined from the panel of experts survey. Teachers were asked the amount of preparation they would need to teach or utilize each competency, where they had acquired the competency, and whether or not the competency was taught or used.

There was a total of 53 usable responses from both groups of teachers. Teachers responding to the instrument had a mean of three years of teaching experience, and an average of 50 percent had elected one course involving agricultural mechanics beyond curriculum requirements.

Findings. On the whole, half of the teachers indicated they would require little preparation while the other half would require some to much preparation to teach or utilize agricultural mechanics competencies. Competencies were acquired while on the job by an average of 34 percent of the teachers and in college by an average of 29 percent. Work experience ranked third and high school last as sources of competency acquisition. A mean of 66 percent of the teachers taught or utilized the agricultural mechanics competencies included in the survey.

MALEKMOHAMADI, Iraj. "The Relationship Between Selected Characteristics and Professional Education Needs of First-Year Teachers of Vocational Agriculture in Ohio." Doctor of Philosophy Dissertation, 1978, The Ohio State University, Columbus.

Purpose. The purpose of the study was to investigate the relationship between nine selected characteristics of first-year teachers including: level of college training; attitudes toward the teaching job; kind of teaching certificate held; quarter hours of professional education courses taken; number of times teacher was supervised; teaching experience; taxonomy area or areas of teaching; number of hours teacher had taught in secondary school; and age, with the overall professional education needs of first-year teachers of vocational agriculture.

Method. The target population of the study included 89 first-year teachers of vocational agriculture in Ohio.

The data, for this study, were collected through a three part questionnaire which was mailed to the teachers.

Findings. (1) Attitudes toward the teaching job were the most important determinant of the level at which a first-year teacher of vocational agriculture needed pedagogical assistance. (2) First-year teachers of vocational agriculture in Ohio expressed only a little need for professional education assistance in performing the tasks involved in ten areas of competency. (3) Among the ten competency areas studied in this research, the competency area of "Student FFA Organization" was the area in which first-year teachers needed the most professional assistance. (4) The lowest level of professional education assistance needed by first-year teachers was the competency area of "Execution of Instruction." (5) Teachers who were highly positively interested in their job indicated lower professional education needs than those who were less positive in their attitudes toward the teaching job. (6) There was no significant difference in the level of professional education needs between teachers with four-year provisional teaching certificate and teachers with one-year vocational certificate. (7) First-year teachers of vocational agriculture with different levels of college education needed the same amount of pedagogical training. (8) The level of professional education needs of first-year teachers of vocational agriculture did not differ significantly with; the credit hours of professional education courses taken; the number of times teacher was supervised during the first year of teaching; taxonomy area of teaching; and age.

MANTY, Dale Edward. "Development of a Paradigm for Designing Public Communication Programs for Coastal Resource Management." Doctor of Philosophy Dissertation, 1977, The Ohio State University, Columbus.

Purpose. This study reports the results of an investigation into problems of public communication in coastal resource management (CRM). Public communication was defined to include three aspects: one-way communication or public information; two-way communication or interaction including decision making; and implementation or the political-administrative translation of public policy decisions into agency programs.

One important product of this investigation was a three-component paradigm of the public communication process. This paradigm was intended to mitigate problems of public communication programs in CRM under P.L.92-583.

Method. A framework of four goals for carrying out programs of CRM was offered. The four goals include equity in access to information and decision making; a rational balance of economic and environmental concerns; cost-effective administration; and compliance with statutes and regulations. Within this frame a decision model was derived from Olsen's Participatory-Democracy Model of the public decision making process. Based on this participatory-democracy decision model, bounded-rationality, derived from Kunreuther's concept of lexicography, was presented as one way to understand how people make decisions affecting public communication in CRM. The greater the freedom, resources, and latitude offered local governments to develop a CRM program, the more effective the program is likely to be.

A three-component public communication paradigm for CRM was proposed. The first component was an operational model of the policy implementation process. A second component presented a typological model and characterization of one-way and two-way public information and involvement techniques. A third component offered a systematic environmental problem-solving process to select appropriate information and involvement techniques.

Findings. By dealing with all three of these components through the proposed paradigm effective public communication programs can be designed and carried out for coastal resources management:

MOORE, Lucinda Berry. "Level of Importance of Competencies in Five Small Animal Care Occupations as Identified by Incumbent Workers." Master of Science Thesis, 1978, The Ohio State University, Columbus.

Purpose. The main purpose of this study was to identify the competencies needed for successful entry level employment in five chosen small animal care occupations identified as animal health assistant, laboratory animal assistant, kennel worker, pet shop worker, and dog groomer.

Method. An existing task inventory which had been validated in Ohio for small animal care was utilized for this study. A national sample was utilized by selecting 20 states using a table of random numbers. Except for the dog grooming occupation, an accessible list of individuals or firms representing incumbent workers was prepared for each of four small animal care occupations in the 20 states. A list of 80 dog groomers was developed representing six states. A total of 400 workers or firms represented the sample which consisted of 80 workers in each of the five occupational areas. List of workers was compiled from registers, directories, yellow pages and magazine classified advertisements. Data were collected by mail questionnaires using three follow-ups. Percentage response for each of the five areas range from 35 to 55.

Findings. Five validated task inventories were developed as a result of this study and published as a part of the "National Project for Identifying Competencies in Agriculture-Agribusiness Occupations." In general, the findings of this study were supportive of the findings of the Ohio Small Animal Care Study which had been previously conducted. All duty areas in this study were rated at a level to justify including these items in a broad-based small animal care curriculum.

MORGAN, John Paul. "Demand, Mobility, Tenure, and Professional Preparation of Agricultural Education Personnel in the Secondary Schools of Ohio." Doctor of Philosophy Dissertation, 1978, The Ohio State University, Columbus.

Purpose. The purpose of the study was to describe the demand, mobility, professional preparation, tenure, and occupations entered when leaving the profession for high school teachers, adult instructors, and local supervisors of vocational agriculture in the secondary schools of Ohio during the Period 1970-71 through 1976-77.

Method. The population was 1,101 high school teachers, adult instructors, and local supervisors in agricultural education who were employed in Ohio secondary schools during the six-year period. Data were obtained from annual directories of personnel compiled by the Agricultural Education Service, Division of Vocational Education, Ohio Department of Education, and from agricultural education faculty members at The Ohio State University and Kent State University.

Findings. Of the factors creating demand for 646 agricultural education personnel in the secondary schools of Ohio from 1971-72 to 1976-77, 50 percent was due to persons taking employment outside the agricultural education profession, 41 percent was due to growth in the number of positions, and 9 percent was due to death and retirement. Most of the growth in number of positions occurred in area vocational centers and large city schools and in the instructional areas of Horticulture, Agricultural Mechanics, and Production Agriculture.

In 1970-71 about 80 percent of the personnel employed in the agricultural education profession possessed a bachelor's degree in agriculture with a formal undergraduate teacher education program when they entered the profession. This percentage has steadily decreased over the six-year period such that approximately 60 percent of all personnel employed in the profession in 1976-77 possessed that type of professional preparation at the time of entry into the profession. During this same period of time those employed in the profession with no formal undergraduate teacher education program upon entry into the profession increased annually from 20 percent in 1970-71 to approximately 40 percent in 1976-77. Personnel who enter the profession with no formal undergraduate teacher education program generally are employed in area vocational centers and large city schools in the specialized instructional programs such as Agricultural Mechanics, Horticulture, Resource Conservation, Food Processing, and Small Animal Care.

The percentage of agricultural education personnel remaining in the profession after entering decreased from 84 percent one year after entering to 43 percent remaining six years after entering.

NIPAH, Sarah Constance. "Needs and Priorities of the Clientele Served by the Ohio Cooperative Extension Service." Doctor of Philosophy Thesis, 1977, The Ohio State University, Columbus.

Purpose. The major purpose of the study was to determine the needs and priority issues of clientele regarding the educational programs of the Ohio Cooperative Extension Service. Additional purposes were to determine the willingness of clientele to fund educational programs to solve identified priority problems; and to investigate the relationship between the demographic characteristics of the clientele and their perceptions of the issues.

Method. A stratified random sample of 27 counties from the ten extension supervisory areas of Ohio was used for the study. A sample of 60 adult clientele from each of the 27 counties provided a total sample of 1,620 respondents who have been served by or involved with the Ohio Cooperative Extension Service. Primary data were generated through mail questionnaires.

Generally, the clientele saw the issues related to the program areas in Agricultural Industry, Community and Natural Resource Development, 4-H and Youth, Home Economics and General as either moderate or small problems. The major problems were in the areas of:

Agricultural Industry	- Production costs and marketing prices
Community and Natural Resource Development	- Environmental conditions
4-H and Youth Development	- Volunteer leadership
Home Economics	- Management, nutrition and family communications
General Area	- Taxes, education, energy, and general confidence in government

Findings. The majority of the clientele indicated that the present funds should be maintained to conduct educational efforts in the program areas.

The demographic characteristics of the adult Extension clientele did not adequately explain the perceptions of the clientele concerning the seriousness of problems and the need for changing spending on educational programs.

Based on the findings, specific recommendations were offered.

REISS, William C. "A Comparison of the Importance of Major Landscape Design Concepts as Rated by Ohio Landscape Industry Personnel and Ohio Teachers of Vocational Horticulture." Master of Science Thesis, 1978, The Ohio State University, Columbus.

Purpose. The purpose of this study was to investigate the correlation between instructional hours allocated each major landscape design concept by Ohio high school vocational horticulture teachers and the importance rating accorded each concept by Ohio landscape industry personnel.

Method. The study was descriptive correlational research. The target populations for the study were Ohio high school vocational horticulture teachers and Ohio landscape industry personnel.

A random sample of 66 landscape industry personnel rated 20 major landscape design concepts by mailed questionnaire. A random sample of 50 Ohio vocational horticulture teachers rated the same 20 design concepts by mailed questionnaire.

Findings. Results of statistical analysis of the data generated by the mailed questionnaires included: 1) Ohio high school vocational horticulture teachers did not teach each concept of landscape design to the same extent (in terms of instructional hours allocated) as industry personnel indicated these concepts were important to their profession. This finding was evidenced by the Pearson Product Moment Correlation Coefficient of  $-0.52$ . 2) Ohio high school vocational horticulture teachers did include in their curricula the concepts of landscape design identified as not relevant by Ohio landscape industry personnel. 3) Ohio high school vocational horticulture teachers implemented the tasks that landscape personnel indicated were important to their industry. The moderate degree to which these tasks were implemented was evidenced by the Pearson Product Moment Correlation Coefficient of  $0.56$ .

ROHRER, John Daniel. "The Size, Structure and Source of Community Leadership in Four Rural Ohio Counties." Doctor of Philosophy Dissertation, 1978, The Ohio State University, Columbus.

Purpose. The size and structure of the community leadership pool was identified for each of the four counties studied in southeastern Ohio. In addition, the sources from which leadership was derived and exercised were determined.

Method. Community leadership was examined from the perspectives of social power and the process of community improvement programs.

A multi-staged survey approach was used to identify various leader groups. A panel of position leaders selected the "knowledgeables", who, in turn, nominated the community leaders groups.

A questionnaire was developed and sent to the selected knowledgeables to identify: community leaders groups, the organizational activity of leaders, the source of influence for the influential leader group, the issues associated with issue leaders, and the social-economic characteristics of the leader groups. Sixty knowledgeables were selected in each of the four counties. A total of 191, or 80 percent of the questionnaires were returned.

Findings. Citizens look to reputational leaders, group 1, to work in informal settings, such as a committee or task force, to solve community problems.

Influential leaders, group 2, were selected for their power or influence in community decisions, whether or not they were in a public position. Respondents ranked the source of community influence: 1) prestige, respect, 2) position held, and 3) economic wealth, as most important for the leaders nominated.

Issue leaders, group 3, were identified as being associated with the most pressing concerns of the community. The issue leaders tend to be associated with an issue by vocation rather than avocation. Of the issues or problems provided in the questionnaire, local school issues were indicated most often.

Respondent leaders, group 4, were selected as leaders or as being very knowledgeable of community leaders.

Community activist leaders, group 5, were those most active in voluntary organizations.

Extension activists, group 6, were selected according to an activity score of involvement with programs and activities conducted by the Cooperative Extension Service in community development programs.

The highest proportion of common membership between the groups was found between reputational and influential leaders.

In comparisons between leader groups and the general population or respondent non-members, leader groups tended to: be composed largely of males, be aged between 40 and 55 years, have a higher educational level, be residents for at least three generations, have a higher rate of home ownership, have a higher level of income, have a higher proportion of married people, occupy a higher occupational status, have a larger number of employees, and be of northwestern European parentage.

SAMPLES, David H. "The Southern Ohio Teen Camp as Perceived by Older 4-H Members." Master of Science Thesis, 1978, The Ohio State University, Columbus.

Purpose. This study was designed to provide information about older 4-H members who lived in the seven counties that were invited to attend The Southern Ohio Teen Camp in 1977. The obtained data provided information pertaining to the relationships of the following factors and attendance at the camp: (1) Time of year, time of week, and length of camp. (2) Place of residence and employment status. (3) Requirements to attend school related activities. (4) Prior camp experience and 4-H tenure. (5) Perceptions of Teen Camp Program activities.

Method. The study group consisted of camper and non-camper groups. All 92 campers at the 1977 Southern Ohio Teen Camp were administered a questionnaire while they were at camp.

A 10 percent random sample was drawn from each of the seven county non-camper lists resulting in 156 mailed questionnaires. Of that total, only 71 or 46 percent responded.

Findings. The major findings of the study indicate that (1) non-campers tended to have been in 4-H longer than campers; (2) more non-campers were employed away from home than were campers; (3) campers valued free time and dancing highest while non-campers valued recreation and vespers highest; and (4) campers generally preferred a summer teen camp, during weekdays and five days in length, while non-campers generally preferred a spring or fall teen camp, over weekends, and less than five days in length.

SEMAN, Dwight. "Sources of Consumer Information on Pork and Consumer Attitudes Relative to Pork in Akron, Ohio." Master of Science Thesis, 1978, The Ohio State University, Columbus.

Purpose. The purpose of this study was to determine the present levels of knowledge and attitudes concerning pork and pork products held by the urban population of Northeastern Ohio. The study also sought to determine the present sources of information available to the population regarding pork and other characteristics affecting the consumption of pork so that an accurate description and appraisal of their knowledge could be gained.

Method. A consumer survey was conducted in ten different supermarkets located in Akron, Ohio. Interviews were conducted on Fridays and Saturdays by two interviewers per store. Interviews were conducted during alternating hours of each day, beginning at 10:00 a.m. and proceeding at 12:00, 2:00, 4:00, and 6:00 p.m. Interviewers were instructed to interview the first person that crossed a predetermined line the third minute after the preceding interview.

Findings. (1) Most consumers used mass media channels of information, i.e. newspapers, television, magazines, and radio to gather information about pork. (2) Personal sources of information, i.e. meetings and demonstrations, high school home economics teacher, and county home economics agent were used little by consumers to gain information about pork. (3) Most consumers had a favorable attitude toward pork and perceived it to be a nutritious and wholesome meat. They did fault pork as being high in fat, difficult to store, and expensive. (4) Most consumers were not concerned about cholesterol in pork. (5) Most consumers felt pork was a safe meat to eat. (6) Pork was viewed as a versatile meat by most consumers. (7) Pork was considered easy to digest by most consumers. (8) The majority of consumers were not concerned about trichinosis in pork. (9) Beef items were served more frequently by consumers than were pork items.

STARLING, John T. "Farm Business Analysis Report of Programs Conducted by Teachers of Vocational Agriculture." Staff Study, 1977, The Ohio State University, Columbus.

Purpose. The purpose of this study was to provide farm business analysis teachers as well as teachers of agricultural production courses 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 421 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 \$233,493.00, an increase of \$28,987.00 over 1976. (2) The investment in land increased over \$15,000 per farm over 1976. (3) The average gross income per farm was \$65,515.00, a decrease of \$4,647.00 from 1976. (4) The average net farm income was \$18,385.00 a decrease of \$9,101.00 compared to 1976. (5) The picture was still gloomy for both beef feeding and cow-calf operations as they showed minus figures in terms of Management Income and Profit per cwt. produced. (6) Lower grain prices caused some increase in returns for swine farmers. Total cost per hundred weight of pork produced decreased about 9% compared to 1976 for swine feeding operations. (7) Crop farmers realized less profit compared to 1976. Lower grain prices and high land cost were the main contributing factors.

WILSON, Gary W. "The Importance of Motivational Appeals to Cooperative Extension Agricultural Clientele." Master of Science Thesis, 1978, The Ohio State University, Columbus.

Purpose. The purpose of this study was to determine the relationship of certain motivational appeals to the extent of participation of agricultural clientele of the Cooperative Extension Service (CES) and to the overall effectiveness of the CES Program in agriculture as perceived by these clientele.

Method. The study was descriptive correlational research. The target population for the study was the agricultural Extension clientele of the State of Ohio.

A stratified random sample of 27 counties from the ten supervisory areas of Ohio was used to conduct the research. A total sample of 395 adult agricultural clientele, who have been served by or involved with the Ohio Cooperative Extension Service were obtained for the study through correspondence with their county agents. A mailed questionnaire was used to generate the data.

Findings. The following motivational appeals were found to be positively correlated ( $p < .05$ ) with the extent of participation of agricultural clientele of the CES: (a) Stressing the importance of making more money; (b) Advertising programs to promote that work will be easier or simpler; (c) Advertising programs to promote the need for serving others and the importance of that service.

The following motivational appeals were found to be positively correlated ( $p < .05$ ) with overall effectiveness of the CES program in agriculture: (a) Stressing the importance of making more money; (b) Advertising programs to make people feel they will help maintain their health; (c) Advertising programs to challenge people (mentally) to accomplish more; (d) Advertising programs to promote how to enjoy leisure time; (e) Advertising programs to arouse curiosity; (f) Advertising programs by promoting that people will feel more worthwhile as a person; (g) Advertising programs to promote that work will be easier or simpler; (h) Advertising programs to promote the need for serving others and the importance of that service.

#### OKLAHOMA

ADEGBOYE, Johnson B. "The Present and Desired Involvement of Extension Agents, 4-H In Selected Tasks of Extension Programs As Perceived by Themselves and by Their County Directors." Doctor of Education Dissertation, 1977, Oklahoma State University, Stillwater.

Purpose. The primary purpose of this study was to compile the opinions of Oklahoma Extension Agents, 4-H and their County Extension Directors regarding the present and desired involvement of the former, in selected tasks of Extension programs.

Method. Questionnaires containing selected tasks of nine areas of Extension programs were developed and administered to the study population, consisting of 36 Extension Agents, 4-H and total 72 questionnaires administered through the mail in the spring of 1976, 65 or 90.27 percent of the instruments were returned. From this 65, 62 or 86.11 percent of the total were usable.

Findings. The Extension Agents, 4-H and the County Extension Directors indicated that the 4-H Agents' involvement should be increased slightly from what it is at present. In most of the tasks, desired involvement was rated slightly higher. The 4-H Agents' ratings were somewhat higher in desired involvement than the County Directors'. However, a limited number of significant differences between 4-H agents and County Extension Directors' ratings indicated they perceived the tasks almost identically.

The list of tasks developed was found to be valid as indicated by high ratings by both groups on all tasks with very few exceptions. Extension Agents, 4-H were perceived to be presently involved with almost all of the tasks to a moderate extent indicating they are presently doing an adequate job.

The overall proportion of increase in task involvement desired by both groups for all program areas was very similar except for "Professional Improvement" indicating need for consistent emphasis in all areas except the one. As the individual tasks were ranked by combined desired mean rating it became evident that a few tasks should have highest priority followed by a larger group of next higher priority. All tasks were desired to have at least a moderate priority.

AGYEMANG, James Ntow. "A Study to Determine the Extent and Means By Which Adult Farmers in Ghana Could be Involved in the Conduct of Agricultural Extension Education Programs." Doctor of Education Dissertation, 1978, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to determine the extent to which, and means by which, adult farmers of Ghana could be involved in Agricultural Extension Education Programs.

Method. A questionnaire, utilizing a five-point response scale, was developed from the Oklahoma Cooperative Extension Program Development Model to determine the extent and means adult farmers of Ghana could be involved in planning, implementing and evaluating agricultural extension education programs. The questionnaire was distributed among 60 Ghanaian students currently enrolled in institutions of higher learning in the state of Oklahoma and their Ghanaian spouses. Respondents were divided into two groups, those familiar and those not familiar with farming practices in Ghana and/or the work of the district agricultural extension officer in Ghana. Each item of the instrument was rated by respondents on a scale of 0 to 4, with 4 being the highest rating. Mean responses were computed for all items and a group T-test was utilized to determine what relationship existed between the two groups of respondents.

Findings. It was found that the respondents felt adult farmers of Ghana should have "much" involvement in 11 procedures of planning, 5 procedures of implementation and 2 procedures of evaluation. In addition, adult farmers were to have "some" involvement in 4 procedures of planning, 5 procedures of implementation and 6 procedures of evaluation. It was also found that the highest recommended methods of achieving the involvement of adult farmers would be through farmers selected by extension staff, farmers elected by other farmers in the district and representatives of farming organizations.

It was concluded that adult farmers should have much involvement in planning, implementation and evaluation of agricultural extension education programs. A suggested method of involving adult farmers was to form a committee which would include farmers selected by extension staff, farmers elected by farmers in the district and representatives of farming organizations in Ghana.

AQA, Mir. "The Perceptions of High School Vocational Agriculture Teachers and Their Graduates as to Curricular Needs for Vocational Agriculture in Afghanistan." Doctor of Education Dissertation, 1978, Oklahoma State University, Stillwater.

Purpose. The major purpose of this study was to evaluate the curriculum for Afghanistan Vocational Agriculture high schools (VAHS) through the perceptions of its teachers and graduates and to see if the respondents agree as to emphasis on various subjects and VAHS objectives.

Method. A questionnaire, utilizing a five-point response scale was developed from the syllabus for Afghanistan VAHS to find out how much emphasis was needed for each subject in VAHS and to find out how useful, applicable and effective were the objectives from the vocational agriculture subjects, as seen by the respondents. The questionnaire

was taken to the respondents in Afghanistan and personally administered by the investigator. A total of 182 were completed by 33 VAHS teachers, 62 graduates who were extension officials and 87 graduates who were college of agriculture students. The data were prepared for computer analysis at Oklahoma State University. Frequency counts and mean responses were computed for all subjects and objectives. The respondents were then divided into three groups of teachers, students and graduates and one-way analysis of variance was used to find the significant differences between them. These were then subdivided into six groups of young and old teachers and officials and Helmand or Baghlan school graduates, and the significant differences between these were computed by use of T-test.

Findings. It was found that all vocational agriculture subjects as well as math and study hall from the non-vocational subjects should be assigned higher emphasis. Based on a scale of 1-5, all objectives from the vocational agriculture subjects were at or above the level of 3.0. Plant pathology and agriculture extension were found to be the most favored subjects while agriculture engineering and botany were the least favored subjects. Most of highest responses were found under extent of use while most of the lowest responses were found under applicability. Of the three groups, teachers and officials recorded most of the highest responses while from the subgroups, young teachers and Helmand graduates recorded most of the highest responses. It was concluded that VAHS curriculum is satisfactory to the respondents and can be used as the basis for developing course materials.

CLAGG, Larry Phillip. "An Analysis of Selected Units of Instruction on Agricultural Mechanics as Included in the Core Curriculum and Taught in Traditional Programs of Vocational Agriculture in Northwest Oklahoma Supervisory District. Master of Science Report, 1978, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to identify units being taught and determine the level of importance of selected units of instruction in agricultural mechanics as included in the Oklahoma core curriculum being taught in the traditional programs of vocational agriculture I, II, III, and IV. Concurrently, efforts were made to determine the adequacy of selectors factors associated with the instructional program of agricultural mechanics.

Method. A questionnaire was administered in the Northwest supervisory district. A total of 52 completed questionnaires were returned and included in this study.

Findings. The study revealed that the departments surveyed had a large percentage of teachers of vocational agriculture that had taught less than five years and that a large percentage of teachers responding to the survey had less than five years of teaching experience at their present location. It was concluded that more instructional time was provided on units in agriculture mechanics as taught in Vo-Ag I and II as compared to Vo-Ag III and IV. This would indicate that more skills were being taught during the Vo-Ag I and II period while students in Vo-Ag III and IV were utilizing those skills in the construction of projects.

It was found that some units of instruction on Ag Mechanics were rated of high importance for students planning a career in Production Agriculture. However, some of these units were not being taught by all teachers of vocational agriculture of the Oklahoma Northwest supervisory district.

COSNER, Barney Lee. "An Analysis of Factors Influencing Termination of Leadership by Selected 4-H Leaders in the Northeast Wyoming 4-H District Between the Years 1974-1976. Master of Science Thesis, 1978, Oklahoma State University, Stillwater.

Purpose. The purpose of the study was to determine what factors led to the termination of leadership by first and second year 4-H leaders in five Northeastern Wyoming counties.

Method. Seventy-two dropout leaders or 52.9 percent of the population participated in the study. A questionnaire containing selected factors which influenced termination and descriptive data was developed and administered to the population of the study.

Findings. The 4-H leaders in the five counties of the Northeast Wyoming 4-H district, who dropped out of their leadership capacity after one or two years, indicated that being busy with other activities was some influence on their termination of leadership. Having conflicts with work at home, the amount of time required to be a leader, having conflicts with job duties, and the lack of cooperation and assistance from parents were all of very little influence on termination of 4-H leadership. These were the top five reasons given by the respondents influencing termination of leadership. The data indicates that these dropout leaders terminated their leadership in the 4-H program due to personal reasons.

Overall, the data indicates that the extension agents in the Northeast District are doing a good job working with 4-H leaders in their county.

FRICKENSCHMIDT, Michael Joe. "Factors Influencing Job Decisions of Male County Extension Agents in Oklahoma." Master of Science Thesis, 1978, Oklahoma State University, Stillwater.

Purpose. This study sought to take a close, candid look at the views of Cooperative Extension Service in Oklahoma based on the views of 100 male county extension agents located in 77 counties across Oklahoma.

Method. After gathering data from male county extension agents, an attempt was made to analyze it to identify reasons why extension agents in Oklahoma go through job transfers or resignations which could have been avoided and why extension agents find or do not find job satisfaction and fulfillment. This study sought to take a close, candid look at the views of Cooperative Extension Service in Oklahoma based on the views of Cooperative extension work. The respondents also answered nine true-false statements regarding their views of cooperative extension work in Oklahoma.

Findings. The study revealed that in terms of influence, the county extension agent and parents had the greatest influence on decisions to enter cooperative extension work. The high school counselor and fellow high school students were found to have the least influence. The factors "interesting work," and "desire to work with clientele" were the two highest ranking influential factors, while the lowest ranking items were "pleasant co-workers," and "social life." Factors which were most important to job satisfaction and fulfillment of county extension agents were "creative job freedom" and "working with clientele" while least important factors were "working hours" and "social life." The true-false statements revealed that over 85 percent of Oklahoma extension agents felt that: (1) new employees do not understand job responsibilities and duties when hired, (2) that the 4-H agent position was regarded as a "stepping stone" position, and (3) that district staff support was adequate. Analysis revealed that male extension agents came from all geographic areas of Oklahoma with four being the most from one location.

HARDIE, Hugh David. "Salaries, Working Conditions and Certificate Renewal Requirements of Vocational Agriculture Teachers in the United States." Master of Science Thesis, 1978, Oklahoma State University, Stillwater.

Purpose. The study covered six areas involving benefits and working conditions of vocational agriculture teachers.

Method. A questionnaire was written and sent to each state advisor or director of vocational education.

Findings. There were many improvements since 1976 in the area of salaries and benefits. Working conditions varied with many states recommending student load limits and better expense reimbursement. Salaries ranged from \$580 to \$1830 per month. Forty-two states had at least part of their teachers on a 12-month contract.

OBIUDU, Benedict C. "Extension Specialists' Perceptions of the Awareness of Commercial Peach Growers to Chemicals as "Potential" Thinning Agents and Suggested Methods to Promote Adoption." Doctor of Education Dissertation, 1978, Oklahoma State University, Stillwater.

Purpose. The purpose of this study is to determine extension specialists' perceptions of the awareness of commercial peach growers to chemicals as "potential" thinning agents and suggested methods to promote adoption.

Method. Data collected from 15 horticultural fruit specialists in the states, where it was thought that peaches were important to the agricultural economy, were analyzed: (1) to determine peach growers' awareness of chemical thinning of peaches, and (2) to provide suggested methods of promoting the adoption of "potential" chemical thinning method through Extension Education.

Findings. Extension horticultural specialists in about half of the states reported that peach growers were aware of the potential use of chemical thinning based on educational awareness programs and current research. Forty-seven percent of the 15 horticultural specialists reported that there had been an extension educational awareness program held in their state, while 53 percent of them indicated that there is some present research being conducted on chemical thinning for peach growers in their states.

In order to improve the adoption of "potential" chemical thinning methods in commercial peach production, the specialists recommended the following methods:

1. That definite results of research be transmitted to farmers through "field and result demonstrations in growers' orchards."
2. "Encourage influential growers to report success to others."
3. "Present research data on a wide range of varieties and conditions" and "use mass media."
4. "Conduct tours of orchards where chemical thinners were used."
5. "Publish articles in professional horticultural research publications" and "the use of cooperative extension service."

PETTIS, Bobby James. "A Comparison Between Non-farm and Farm Students in Relation to Course Enrollment and Involvement in Selected Activities in the Future Farmers of America." Master of Science Report, 1977, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to provide a comparison between non-farm students and farm students in relation to course enrollment and involvement in selected activities of the Future Farmers of America. A concurrent purpose was to identify leadership activities of the Future Farmers of America that tend to attract non-farm students.

Method. A questionnaire was administered to 37 schools in the Muskogee and Tulsa professional improvement groups.

Findings. The study revealed that the schools surveyed had a large percentage of teachers that had taught less than five years, and that the enrollment was composed of 55% farm students and 45% non-farm students. The non-farm students showed the least participation in live animal and crops projects. It was concluded that the non-farm student is involved in the majority of courses in vocational agriculture and activities of the Future Farmers of America offered in the schools surveyed.

QUARLES, Thomas Adrain. "Attitude Change of Selected Advantaged and Less-advantaged Oklahoma Youth in an Agricultural Careers Program." Doctor of Education Dissertation, 1977, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to measure any change in attitude which occurred as a result of the agricultural careers development curriculum taught to selected advantaged and less-advantaged youth among different ethnic groups in Oklahoma.

Method. Two hundred ninety-two students in seventeen experimental schools and sixty-two students in five control schools participated in this study. An attitude measurement instrument was administered to all students at the beginning of the 1976-77 school year and again at the end of the first semester (December or January). Between tests, students in experimental schools were taught the agricultural careers curriculum while students in control schools were taught the traditional vocational agriculture curriculum. Students in experimental schools were grouped ethnically and by the type of vocational agriculture class they were enrolled in. They were also identified as advantaged or less-advantaged and grouped accordingly. Descriptive statistics were used to describe changes in attitude and analysis of variance was used to test for significant differences in attitude change among ethnic groups and types of classes, and between advantaged and less-advantaged groups and types of schools.

Findings. A statistically significant difference was found among ethnic groups for general work attitude change. Caucasian students showed the greatest positive change followed by Blacks and Indians, respectively. Significant differences were also found between advantaged and less-advantaged students for agricultural work attitude change and attitude change toward career choice. In both instances, less-advantaged students had significantly larger mean changes than the advantaged students. The findings also revealed a significant difference between experimental and control schools for agricultural work attitude change in that students in experimental schools had a much higher positive change than students in control schools. The agricultural careers curriculum as taught did positively change the students' attitudes toward career development and specifically toward working in agriculture. The greatest positive attitude change occurred in the less-advantaged group, the Caucasian ethnic group, and seventh and eighth grade vocational agriculture classes.

SIKTA, Fawzia Abdalla. "An Analysis of Current Procedures Used in the Agricultural Extension Service in Libya with Recommendations for Future Improvement." Master of Science Report, 1978, Oklahoma State University, Stillwater.

Purpose. The purpose of this study was to determine the current status of activities of the Libyan Extension Service and suggest some specific recommendations for its improvement.

Method. A questionnaire was developed and mailed to two groups. The first was fifty Libyan students attending American universities. The second was eight extension

professionals working at the Libyan Extension Service in Tripoli. A total of 28 responses to the questionnaires were summarized and presented in different tables.

Findings. Based on data collected, certain conclusions were made. The extension service in Libya needs much change in the present organization, business procedures, personnel responsibilities and qualifications. It is not the advisory committee or local leaders who determine the needs of the farmers, but it is the government who has the highest influence on planning extension programs. Extension teaching methods based on person to person contact and mass media methods were used more frequently than those means requiring reading abilities. This is due to the fact that the great majority of Libyan farmers are illiterate. The following recommendations are suggested:

The extension service department should be provided with qualified personnel. A coordinating structure should be established between the extension service and both the research and teaching institutions in order to organize extension activities. The farmers themselves with the help of local leaders should be given a chance to discuss their needs and the extension agent should guide such a process. The government's role should be that of establishing priorities in using the available resources at the national level. More fields should be devoted for experimental investigation intended for demonstrations; and more programs should be broadcast through radio and television.

SLATE, Susan Marie. "The Identification of Selected Female Capabilities in Vocational Agriculture and Their Effect Upon the Instructional Program of Vocational Agriculture as Perceived by Vocational Agriculture Instructors in Oklahoma." Master of Science Thesis, 1978, Oklahoma State University, Stillwater.

Purpose. The major purposes of this study were: (1) to compare perceptions of Oklahoma Vocational Agriculture instructors with regard to female enrollment in Vocational Agriculture programs, and (2) to identify selected capabilities of girls in Vocational Agriculture, as perceived by teachers of Vocational Agriculture.

Method. Data was collected by the administration of a mailed questionnaire.

Findings. It was found that of the students in responding schools, only 9.4 percent of the students enrolled in Vocational Agriculture programs were female, out of a total enrollment of 6,295 students. Oklahoma Vocational Agriculture teachers felt that girls were capable of performing selected skills in Vocational Agriculture such as veterinary skills, agricultural mechanics skills, mathematical skills, and livestock showing skills. In addition teachers were in agreement that girls do possess leadership potential and are not considered a detriment to the classroom setting. However, it was reported that girls may have difficulty in securing a position of leadership in an agricultural profession.

Teachers generally reported being undecided as to whether a woman's place should primarily be in the home, and whether it is easier to discipline boys than girls. However, if a female should choose to enter Vocational Agriculture as a teacher, most respondents felt that it should be in a multiple teacher department.

#### PENNSYLVANIA

ALTHOFF, Ronald J. "The Attitudes of Young Farmers Related to Their Attendance at Activities of the Solanco Young Farmers Association." Paper, M.Ed., 1977. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The purpose of this study was to identify the attitudes of young farmers that were related to their attendance at young farmer association activities. It was also the purpose of the study to determine if certain demographic data and community participation in other organizations was related to young farmer class attendance.

Method. A survey instrument consisting of a personal data form, a community participation scale, and a semantic differential was completed by 30 young farmers in the Solanco School District, Lancaster County, Pennsylvania.

The farmers on the membership role of the Solanco Young Farmers Association were divided into three groups: high attendance--60-100%, low attendance--less than 60%, and no attendance. Ten farmers were then randomly selected from each group to complete the survey instrument. The data were summarized and tested by analysis of variance.

Findings. Certain factors such as years of farming experience and size of the farm appeared to be pertinent to attendance at young farmer activities. The attitudes of young farmers toward the subject matter of the meeting varied significantly. In general, those in the high-attendance group had a more favorable attitude toward young farmer activities.

BARRETT, Laverne A. "Effectiveness of Leadership Development Program for Vocational-Technical School Administrators." Thesis, D.Ed. 1978. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The purpose of this study was to determine if a one-week leadership development program could change the leadership behaviors and organizational effectiveness of vocational-technical school administrators.

Methods. Seventeen schools in southeastern Pennsylvania participated. Each school was represented by a participant leader and five randomly selected teachers. Nine schools represented the experimental (workshop) group and eight the control group.

Each teacher and administrator completed three questionnaires during pre-testing and post-testing. The teachers rated their administrator and the administrator completed the questionnaires as he saw himself and his school. The following questionnaires were used: the Likert Profile of a School, Teacher's and Principal's forms, the Supervisory Behavior Development Questionnaire (SBDQ), and the Job Objectives Questionnaire (JOQ).

The experimental group of administrators attended a workshop at the Pennsylvania State University. Workshop activities included skills in communication and inquiry; leadership behaviors of support, interaction facilitation, goal emphasis, and work facilitation; and finally a study of power, authority, and conflict management concluded the workshop. Learning facilitation included techniques such as role-playing, simulations, and personal encounters. Post-testing occurred four months after the workshop for both the experimental and control groups.

Findings. Several subscales of the Likert Profile reached significance in post-test scores, experimental over control group. Subscales reaching significance were: student peer team building, adequacy of communication, work facilitation, competence of the principal, support by central staff, decision processes of the system, and team cooperation. The total score of the Likert Profile reached a probability of .13, experimental over control.

Subscale and total scores on the SBDQ did not reach significance for either group. Several subscales of the JOQ reached significance while the total score did not. Subscales reaching significance were contingent personal reward and contingent personal punishment.

Relationships were tested between school size, years of administrative experience and number of graduate credits, and the scores on each questionnaire. For the most part,

school size did not have a significant relationship to any questionnaire. However, a number of subscale scores showed a negative relationship to years of administrative experience. The number of graduate credits reached the highest degree of relationship. The total score for graduate credits on the Likert Profile showed a score of  $-.54$ .

The findings of this study suggest that leadership education can have a positive influence on leadership behavior and organizational effectiveness.

CURTIS, Samuel M. and STINSON, R. F. "Revision of Curriculum Materials." Staff Study, 1977. Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The objectives of this project were to rewrite and update curriculum materials in agricultural production, ornamental horticulture, and occupational guidance.

Method. The procedures for curriculum revision were:

1. An ad hoc committee consisting of teachers of agriculture, university specialists, and agriculture industry personnel was formed to review materials and suggest changes.
2. Authors were selected from among teachers of agriculture, graduate assistants, and agricultural education faculty.
3. Authors reviewed the literature, collated, and analyzed reviewers suggestions.
4. Format and content decisions were made and the materials reviewed.
5. An ad hoc review committee read the revised materials and made suggestions; university specialist and authors analyzed comments. Preliminary copy was field tested with teachers.
6. Materials were rewritten, based on field testing experience and edited by university editors.
7. Revised materials were published.

Findings. The following publications were revised: Milk Marketing for Pennsylvania dairymen, Careers in Agriculture (student and teacher manuals), Farm Business Simulation: A Small Dairy Farm, and a competency based final examination for Dairy Sire Evaluation. Progress was made on revising Retail Flower Shop and Landscape Maintenance and Establishment.

GROSSBECK, John A. "Principle Responsibilities of Managers in Varying Size Meat Departments and Development of a Predictive Instrument to Access Aptitude Competency for Meat Cutting." Thesis, D.Ed., 1978. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The primary purpose of this study was to construct an instrument to successfully predict meat cutting abilities. Development, testing, and refinement of this instrument was an integral part of the study. A secondary purpose was to survey meat managers in order to gain information about their responsibilities and training. Such information would be useful for revising the meat cutting course at the collegiate level.

Method. The prediction test was administered to 58 students in a 1975 meat cutting course and to 35 students in a 1976 meat cutting course. The responses were analyzed to determine correlation with a laboratory evaluation grade.

The survey instrument was administered to meat managers in 20 supermarkets within a 40 mile radius of Cobleskill. The responses were analyzed to determine the skill responsibilities of the managers and the methods by which they acquired the ability to perform.

Chi-square, t-test, correlation and regression were used to test the hypotheses formulated.

Findings. A prediction test composed of three components: form perception, spatial relations, and manual dexterity was administered initially to 58 meat course students. The perception and dexterity components were not significant predictors. The spatial component was significant at the .05 level. An examination grade and laboratory practicum grade were significant at the .01 level when correlated with the laboratory evaluation grade. A second prediction test minus the manual dexterity component was administered to 35 meat course students with results similar to the original test.

A comparison of the responsibilities of managers in two supermarket chains showed few differences in responsibility levels as indicated by chi-square probabilities. Three of the 20 skill areas showed differences significant at the .01 level and three more at the .05 level. A comparison of the responses of managers divided according to number of workers in the department showed responsibility differences in one skill area at the .01 level of significance, one at the .05 level plus two at the .10 level.

A t-test computed on the means of the learning method perceived by the managers of the two supermarkets was significant at the .001 level. A t-test was used also to measure differences in the means of managers divided according to workers in the department. Chi-square was compiled on the learning methods perceived by the meat managers to determine differences.

Two components of the prediction test, perception and dexterity, were not useful for predicting meat cutters. The spatial component was useful as a prediction instrument.

Meat managers generally had high responsibility for most of the 20 skill areas. These areas would receive major emphasis in a course of study for meat managers. The other areas should receive some attention to make students aware that these are also duties of a meat manager.

Differences in learning methods of the two supermarkets indicate that one chain provides more in-service training for their managers than the other chain. Students should be cognizant of these differences in training methods when seeking employment with supermarkets.

HAWKES, Dennis A. "Stability of Student Vocational Interests from the Ninth to the Eleventh Grade in Frederick County, Maryland." Thesis, D.Ed. 1978. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The choice of a vocation is one of the most important decisions an individual must make. In order for students to make intelligent decisions about their academic and career plans, they need assistance in evaluating their vocational interests, abilities, and post-secondary plans. Since most students are required to select the high school curriculum they plan to follow by the ninth grade, it is important for counselors, teachers, and administrators to know if students' vocational interests and post-secondary plans are likely to be stable or unstable during the early high school years.

Method. In the spring of 1971, the Ohio Vocational Interest Survey (OVIS) was administered to ninth-grade students in Frederick County, Maryland. One of the major questions asked by both counselors and administrators was how stable are student responses on the OVIS instrument over a period of time. The OVIS test was administered to these same students two years later when they were in the eleventh grade.

A review of the literature indicated that although students' vocational interests and plans in the early adolescent stage are relatively unstable, female students are likely to have more stable post-secondary plans than male students. However, male students are likely to have more stable vocational interests than female students. Previous studies also indicated that students who have stable post-secondary plans during their high school years are likely to have more stable vocational interests. This researcher further hypothesized that students enrolled

in a vocational curriculum will have more stable vocational interest patterns than students enrolled in a non-vocational curriculum. The purpose of this study was to test these hypotheses using student responses on the OVIS test over a two-year period from the ninth grade to the eleventh grade in Frederick County, Maryland.

Findings. The results of this study support the hypotheses that female students are more stable than male students in their post-secondary plans. Fifty percent of female students had the same post-high school plans in the ninth and the eleventh grades, while 41 percent of the male students had the same post-high school plans during this period.

Male students had more stable vocational interests than female students. There were significant differences in the mean scores from the ninth to the eleventh grades on only three scales for male students, while female students had significant differences on 14 scales.

Male students who had the same post-secondary plans in the ninth and the eleventh grades had more stable vocational interests on the 24 OVIS scales than male students who changed their post-secondary plans during this period. However, female students who changed their post-secondary plans from the ninth to the eleventh grades had more stable vocational interests on the 24 OVIS scales than female students who had the same post-secondary plans.

Students enrolled in a vocational or business curriculum in both the ninth and the eleventh grades had a significantly more stable vocational interest pattern than students enrolled in a non-vocational program.

Counselors at the secondary and post-secondary levels in Frederick County who are aware of the stability of vocational interests and plans of male and female students, as found in this study, can provide additional information to assist these students in vocational decision making.

KARAMI, Ebatollah. "The Development of Equations to Predict Malt Quality of Barley by Use of Infrared Reflectance Spectroscopy." Thesis, M.Ed., 1977. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The objectives of this study were (1) to determine if an infrared spectro-computer system can be used to predict quantity of fine grind extract as is (FGE as is), fine grind extract dry basis (FGE dry), coarse grind extract dry basis (CGE dry), difference between FGE dry and CGE dry, diastatic power, alpha amylase, total protein soluble protein, and percent soluble of total protein and (2) to evaluate whether the procedure may have use in practical replacement of the micromalt analysis technique employed in the malting industry.

Method. Forty-eight barley samples with malt analysis data were sent to the Department of Agronomy, The Pennsylvania State University, by Froedtert Malt Corporation. Barley samples were ground through a 1 mm screen. Two subsamples were randomly selected from each barley sample for the infrared analysis. Each barley sample was scanned from 1.05 to 2.55  $\mu\text{m}$  and reflectance measurement taken every 20Å. This provided reflectance data at 751 different wavelength. The reflectance data were smoothed and expressed as  $\log(1/R)$ . A number of files were established from the initial IR data using different derivative, points per derivative, and points skipped in the data file. Multiple linear regression was used to calculate the prediction equations for each file. Equations were selected from these many combination of data processing on the basis of the lowest standard error of calibration.

Finding. The IPSCS has the potential to predict total protein, fine grind extract as is (FGE as is), fine grind extract dry basis (FGE dry), coarse grind extract dry basis (CGE dry), and diastatic power to a high degree. There was also some indication that alpha amylase and soluble protein could be predicted. The potential to predict percent soluble of total protein, and difference between FGE dry and CGE dry was very low.

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The prediction equations from the 48 barley samples were used to predict the malting quality of 19 barley samples from the crop of previous years. Agreement between predicted and actual malt data was not good. Possible reasons for this lack of agreement was discussed. The wavelengths proposed for commercial IR instruments were tested and apparently do not have the capability of predicting malting quality.

It may be generally concluded that IRSCS has the potential to predict chemical composition of malt from ground barley samples. More research is needed before this procedure could be commercially accepted.

MOORE, Richard D. "Educational Demonstration of Incidence and Effect of Gastrointestinal Parasites on Growth Rate of Dairy Calves and Heifers." Paper, M.Ed., 1978. The Pennsylvania State University, University Park, Pennsylvania

Purpose. The purpose of this study was to conduct a survey on the incidence of gastrointestinal parasitism in dairy calves and heifers and to determine by weight gain and egg count the anthelmintic activity of albendazole on naturally infected dairy calves on pasture. It was also the purpose of the study to determine whether the dairy farmers involved in the research project found it to be educational and beneficial to their dairy operation.

Method: A survey was conducted to determine the incidence of parasitism in naturally infected calves and heifers on twenty-two farms in Lebanon County. A total of 132 animals were sampled with the egg counts recorded as eggs per gram of feces of trichostrongyle-type parasites. In conjunction with the survey, a dairy replacement management checklist was completed by the farmers.

A follow-up 114 day calf growth study was conducted on six farms with naturally infected calves on pasture. On each farm, one-half of the number of calves were treated with an anthelmintic drug and the other calves served as untreated controls. Weight gains and egg counts were recorded for each animal. The data were summarized and analyzed to determine the level of significance. Also, an opinion survey was completed by the farmers to determine their attitude toward this type of educational demonstration and its effect on their dairy management practices.

Findings. Using a single fecal examination it was found that 85 percent of the 132 calves and heifers surveyed harbored gastrointestinal parasites, and that management practices were significantly related to the degree of parasitism existing in the herds. Also, calves on permanent pasture showed a faster rate of gain when treated with an anthelmintic compared to herdmates not treated. An opinion survey completed by the dairy farmers was highly supportive toward the use of on-farm research projects in support of the educational activities of the young farmer association.

MORTENSEN, James H. "A Personalized, Individual Performance and Competency Based Program for Preparing Teachers of Agriculture." Staff Study, The Pennsylvania State University, University Park, Pennsylvania.

Purpose. (1) To identify pedagogical competencies needed by teachers of agriculture for entry level employment; (2) to develop individualized competency based instructional materials for the professional education component of the baccalaureate degree program in Agricultural Education; (3) to implement the individualized, performance oriented, preservice teacher education program including an introductory agricultural education course at three Commonwealth Campuses; (4) to assess the effectiveness of the instructional materials and the individualized performance oriented, competency based mode of instruction.

Method. Three groups of agriculture teachers (inexperienced, intern, and cooperating) rated their competency level at teaching entry and the necessary competency level for beginning teachers of agriculture on a mail survey questionnaire. Analysis of variance was used to test the data.

Modules and instructional materials which encompassed the identified competencies were obtained and when not available new ones were prepared. An undergraduate learning resource center was developed to more fully implement the performance/competency based teacher education program.

An introductory course, Ag. Ed. 100v, "Agricultural Education Orientation", was developed and offered on five commonwealth campuses of The Pennsylvania State University. Experienced vocational agriculture teachers in proximity to the campuses served as course instructors.

Findings. Three groups of teachers identified 128 competencies needed for entry level employment as teachers of agriculture.

Nineteen teacher education modules recently developed by the Center for Vocational Education were utilized in preservice courses. Five Personal Study Units were developed for areas where appropriate instructional materials were not available. Staffed by a graduate assistant, the Learning Resource Center effectively aids preservice teachers develop professional competence.

Ag. Ed. 100v was offered to 49 undergraduate students on five Commonwealth Campuses of Penn State.

PANDYA, Himanshu. "Teacher Expectancy as Related to Student Performance in Vocational Education." Thesis, M.S., 1978. The Pennsylvania State University.

Purpose. The goal of every teacher is to motivate students for learning and to help students break any existing patterns of poor academic performance. Many researchers believe motivation and learning are influenced by what teachers do in their interaction with students, and that what teachers do is based mostly on their beliefs and ultimately their expectation for students. The purpose of the study was two-fold: (1) to discover the effect of teacher expectation on student performance and (2) to analyze students' feelings about teachers' expectations.

Methods. The study utilized two different units of instruction using Penn State curriculum materials. The quality milk production unit was used to teach cognitive skills with emphasis on class instruction and paper-and-pencil tests. The small gasoline engine unit was used to teach certain psychomotor skills. Each unit of instruction was taught in two different comprehensive high schools. Students were divided into three within-class groups. Group one, positive expectancy students, received praising comments on assignments and the appropriate behaviors from teachers during the experiments. Group two, constructive expectancy, received constructive comments on their assignments and the appropriate teacher behaviors during the experiment. Group three, control group students, received no comments on their assignments and no expectancy interaction from teachers.

After one month of instruction, the students in all three groups were tested in each subject area. Student's attitude toward teacher and subject was also measured at the beginning and following the experiment.

Findings. In this study teacher's expectations had no effect on the student achievement. Teacher's expectation changed student's attitude toward teacher and subject, but in this case change in the attitude did not lead to higher achievement. Written comments

by the teacher on student's assignments had no significant effect on level of student achievement.

In conclusion, it seems that the expectations of others played an influential role in the attitude of the individual, both in school and in the larger social arena. Furthermore, expectations and an individual's perception of the various expectations are complex and were generally not examined in this investigation.

QUADERI, Mohammed Z. "An Assessment of Agricultural Competencies Possessed and Needed by Beginning Agricultural Workers in Afghanistan." Thesis, Ph.D., 1977. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The purpose of the study was to assess the competencies of beginning agricultural workers in Afghanistan and to develop recommendations based on the assessment of competencies for the improvement of the curriculum in the College of Agriculture, Kabul University

Method. The six groups of agriculturists surveyed included 24 College of Agriculture faculty members, 23 agricultural administrators, 40 supervisors, 44 recent agricultural graduates, 70 farmers, and 49 seniors enrolled at the College of Agriculture.

A survey instrument was developed and validated. It consisted of two parts enabling collection of descriptive information and response to a list of 60 competencies in four major subject areas of agriculture, animal science, plant science, agricultural mechanics, and extension education. Likert-type rating scales were used to record the responses of six groups to the degree to which beginning agricultural workers possessed each competency and the importance of the competency in their job.

Findings. All six groups of agriculturists associated with the training and/or the work of beginning agricultural workers in Afghanistan indicated that they possessed significantly lower levels of competencies by total and by each of the four subject areas, than was needed. Administrators rated the possession of competencies significantly lower than did either the undergraduates or graduates. Farmers rated the need for competencies significantly higher than did faculty members, supervisors, graduates, and undergraduates.

Graduates with rural backgrounds perceived the beginning agricultural workers with significantly higher levels of agricultural mechanics competencies. No differences were observed in the mean total possessed or "needed" ratings of graduates with vocational and with academic backgrounds. No differences were found among the mean total ratings of competencies possessed or needed by beginning agricultural workers among the five agricultural regions of Afghanistan as rated by supervisors, graduates, and farmers.

Fifty-eight percent of faculty members did not consider "off-farm agriculture" as an important part of the curriculum. Half of the faculty surveyed spent 80 percent of their time lecturing. Seventy-nine percent of faculty expressed dissatisfaction with the current curriculum.

The administrators and supervisors expressed dissatisfaction with the level of competencies held by beginning agricultural workers especially in the area of plant science. The opportunity for administrators and supervisors to provide job orientation programs for beginning agricultural workers was observed. Both groups cited the lack of skill in practical work of beginning workers.

Recent graduates expressed strong dissatisfaction with their training backgrounds, and stressed the value to them of personal involvement and participation in learning activities. Thirty-five percent of the undergraduates indicated disappointment at the failure of the college to meet their expectations. This contrasts with the claim of faculty that students lacked interest.

Farmers not only complained that they have problems, but also that they did not receive advice and help from extension workers, when it was sought. Farmers preferred young extension workers who were graduates and had a farming background.

The fact that all groups, including the undergraduates and graduates, perceived higher needs for competencies than were perceived as being possessed offers empirical evidence of the need for a careful examination of the preservice as well as the in-service training programs for beginning agricultural workers. Implied also from the descriptive survey is the need to examine the College of Agriculture curriculum at Kabu' University, with respect to course content, teaching methods, and types of experiences, as required to enter the University and to complete a training program.

RINGLING, Dennis F. "The Feasibility of Incorporating a Sawmilling/Wood Handling Program of Instruction at the Williamsport Area Community College, Williamsport, Pennsylvania." Paper, M.Ed., 1977. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. Some vocational and technical fields suffer from, for one reason or another, shortages of trained personnel. There is a dire need for competent people knowledgeable in the sawmilling and wood handling industry not only in Pennsylvania but throughout the country. The purpose of this study is to ascertain the principle factors needed in the augmentation of a sawmilling/wood handling program of instruction to the Forest Technology curriculum at The Williamsport Area Community College.

Method. Two surveys were designed that pertained to industry and student interests. The Sawmilling and Wood Handling Technical and Semi-Professional Employment Survey and Questionnaire dealt with basic hands-on skill categories ranging from the debarking of logs and forklift operation and the maintenance thereof to the business and marketing principles and personnel relationships of any one operation. The Sawmilling/Wood Handling Interest Differential Survey and Questionnaire contained 65 statements that dealt with the many facets of the sawmilling/wood handling industry. Attitudes, personal attributes, and mental competencies were stressed as well as those of job classifications, skill categories, and physical characteristics of the work. Industry and student populations were limited to the service area of The Williamsport Area Community College.

Findings. Conclusions drawn from the two surveys confirm the fact that sawmilling and wood handling education has been totally circumvented and/or offered surrogate disciplines over the years. Industry and student interest was very much evident. The four hypotheses were answered directly. They are as follows: 1) There is beyond a doubt an untapped job-market for this type of technical education in The Williamsport Area Community College ten county servicing area; 2) students would choose this as a potential career if a likely job market existed; 3) certain skill areas received more emphasis than others but in general all twenty skill areas were rated quite highly; 4) industry would hire such a graduate when given the choice.

SPANGLER, Glenn. "Updating the Pennsylvania Agronomy Contest." Paper, M.Ed., 1978. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. "Updating the Pennsylvania Agronomy Contest" examines the possible need for revision of the agronomy contest used at the annual Pennsylvania FFA Activities Week. The results of this study were used to develop a new contest, contest format, and list of reference materials.

Method. Information for possible contest revisions was obtained by correspondence with out-of-state contest personnel and ideas from leading educators. A survey form was developed from this information. The FFA Activities Week Committee and 3 groups of agriculture teachers completed the survey. Contest parts with a means greater than 5.0 were selected for the revised

contest. Analysis of variance and t-test were used to determine if any significant differences between each group's data existed. Additionally correlation between the 1976 and 1977 part scores and total scores was tested. Revisions to the contest, contest format, and reference materials were based on these findings.

Findings. (1) Except for insect control, contestant's part scores were correlated with the contestant's total score during the 1976 and 1977 agronomy contest. (2) Agronomy contest parts with high possible part score values were more highly correlated to the total scores than parts with relatively less value. (3) By giving all contest parts equal value and and rescoring the contest, the final results for the 1976 and 1977 contests would have changed only slightly.

(4) Analyzing the responses of the 4 groups showed very little difference in the opinions as to the contests for the revised contest. When significant differences occurred, all groups responded well above or below the cut off point for the parts to be included. (5) All parts of the past contest will be included except seed identification and estimation of hay TDN in the revised contest. (6) New parts to be added to the revised contest include use of the soil and forage analysis kits, use of the entire Agronomy Guide, and general questions on agronomic principles. Parts of the old contest to be included in the revised contest will include weed identification, crop plant identification, insect identification, disease identification, weed control, insect control, disease control, and hay judging. (7) Part score values for the revised contest needed to be changed to agree with the means of the survey groups.

(8) Listings of weeds crop plants, insects, and diseases were changed to agree with the listings in the Agronomy Guide and experts in the areas of weed science, crop science, entomology, and plant pathology. (9) New reference materials were reviewed and selected to match the new listings of weeds, crops, insects, and diseases which students would need to identify. (10) The contest format was changed to allow smooth movement of contestants and aid contest officials in scoring.

STILLWAGEN, Frederic H. "Procedures for Developing a Youth Poultry Judging Manual." Paper, M.Ed., 1977. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. To develop a detailed, up-dated, Poultry and Egg Judging Manual that would fulfill the requirements for agriculture teachers for poultry science instruction in their classrooms. Also, the manual would aid youth poultry judging contestants to prepare for the state and national poultry judging contests.

Method. Poultry publications were reviewed from throughout the country as to the areas of poultry science included, detail, and clarity. This information was charted and compared to the proposed contents of the new manual.

Two groups of tenth grade students with no knowledge of poultry science were used to evaluate the effectiveness of the respective sections included in the new manual. Each section was treated as an entity and included a pretest, teacher demonstration, and post test for both groups. This data was recorded and analyzed as to the effectiveness and comprehension by the students.

Findings. The review of the resource materials revealed that there was no single publication that included in detail, all areas of poultry science. Also, most publications left the reader with many unanswered questions and lacked clarity. With the exception of the U.S.D.A. manuals, all materials were published prior to 1968.

The data recorded for the two test groups showed no significant difference between the two groups in the pretest. Also, the post test data revealed no significant difference between the two groups. However, there was a significant difference at .01 level between the pretest

and post test, which indicated the effectiveness of the teacher demonstration and comprehension of the new manual by the students. It was also evident that the students used to field test the manual were representative for this evaluation procedure.

Also, it was evident that the order of the sections in the new manual enabled a person with no knowledge of poultry science to have a clear understanding of the basics. This was reflected in the test results of the later sections. These sections required a person to have the basic knowledge for a clear understanding of the more difficult procedures.

It was concluded that published manual was complete and would aid students in learning poultry science and would increase their effectiveness in poultry judging contests.

STINSON, Richard F. "Development of a Job Opportunity Based Planning Model for High School Vocational Agriculture Programs." Staff Study, 1977. Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The purpose of this study was to develop a program model for vocational agriculture high school programs based on job opportunities.

The Objectives were:

1. Develop and test a survey instrument designed to determine the geographic pattern within which graduates of high school vocational agriculture programs seek employment.
2. Develop and test a survey instrument designed to determine jobs and job projections for agricultural businesses within the defined geographic area.
3. Develop a list of job titles, and the duty level competencies required by them, for the jobs identified in the business survey.
4. Describe a model which sequences steps that can be used for establishing or revising a vocational agriculture program, based on job opportunities.

Method. Three years of vocational agriculture graduates (702 persons) of 35 Pennsylvania high schools (5 schools for each of 7 instructional areas) were surveyed. Agricultural businesses (140 businesses) in the vicinity of 7 schools (each selected for a different instructional area) were surveyed. A list of duty level competencies for the job titles extracted from the surveys was compiled. A sequenced planning model unit was developed from the assembled information, was tested in one school, refined, and written

Findings. Key findings from the survey of graduates were: 96 percent held jobs within 30 miles of the school; 98.6 percent were willing to seek jobs within 25 miles of the school; the geographic pattern of the employment area might not be circular; 54.4 percent of graduates were employed in their area of study; graduates relied heavily on friends, advertisements, and employment agencies in locating jobs; graduates who had participated in Cooperative Work Experience had a very much higher full time employment percentage than others.

The survey of businesses showed up to a 65 percent response if appropriate follow-up is used, that there are virtually no jobs for high school graduates in the area of Natural Resources. The survey provided data on location, number, and titles of job openings, and projected openings within the area in which graduates seek employment.

The model "Job Opportunity Based Program Planning for Vocational Agriculture - A Working Model", Teacher Educ. Series, Vol. 19, No. 1, 1978, Pennsylvania State University,

including the following sequenced steps: (a) survey graduates, (b) survey agricultural businesses (c) assemble data, (d) revise/plan program, (e) conduct program, (f) placement, was written, tested, refined and published.

TYSON, Jared K. "Development and Evaluation of a 4-H Leader Management Model to Assist 4-H Agents in Curriculum Planning. Paper, M.Ed., 1978. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The basic research question addressed by the study was the effectiveness of a management model for teaching cognitive knowledge of citizenship to 4-H members eight to thirteen years of age. The management model was implemented in the 4-H program area of citizenship and a 4-H citizenship curriculum plan was formulated. A 4-H citizenship unit was constructed from the curriculum plan and the unit served as the vehicle to analyze the management model.

Method. Ninety 4-H members eight to thirteen years of age from nine selected clubs served as the experimental group. They were given an objective multiple-choice pretest, taught the citizenship unit, and given an objective multiple-choice post-test plus a unit evaluation instrument. Sixty-six 4-H members eight to thirteen years of age from six selected clubs served as the control group. They were given an objective multiple-choice post-test.

Findings. The 4-H members who studied the citizenship unit increased their level of cognitive knowledge of citizenship as measured in the study. It may be concluded that the management model was an effective means of increasing the cognitive knowledge of citizenship of 4-H members eight to thirteen years of age. The management model presents a plausible alternative for teaching cognitive knowledge to 4-H members in other 4-H program areas.

The 4-H members in the experimental group evaluated the citizenship unit generally, medium to high. It may be concluded that the unit will likely be enjoyed by other 4-H members.

ZERBY, Clair W. "The Use of Color Slides in Conjunction with Approved Practices for Sheep Breeding in Teaching for the Sheep Breeding Enterprise." Paper, M.Ed., 1977. The Pennsylvania State University, University Park, Pennsylvania.

Purpose. The purpose of this study was to determine if the use of a coordinated color slide series would make the revised Approved Practices for Sheep Breeding booklet more useful in studying sheep breeding management in Pennsylvania departments of vocational agriculture. The specific objectives of the study were, (1) to compare the post-test scores of students receiving the color slide series and Approved Practices for Sheep Breeding; students receiving only the Approved Practices for Sheep Breeding; and students receiving neither the color slide series nor the Approved Practices for Sheep Breeding, (2) to compare the practices planned for use by students exposed to the color slide series and the students not viewing the color slide series, (3) to determine if more practices are planned to be used after being exposed to the Approved Practices for Sheep Breeding than were used before the exposure.

Method. Nine schools were divided into three groups. Group A received the Approved Practices for Sheep Breeding booklets, the pre-test and post-test, and the survey form for approved practices used and planned. Group B received the same materials, plus the color slide series and the tape cassette containing the script. Group C was ask to use the usual method and materials in teaching the sheep breeding unit. The approved practice survey form and the post-test was used by Group C, also. Analysis measures used to analyze pre-test and post-test scores were t-test and analysis of variance.

Findings. It was found that there was significant differences in pre-test scores of Group A and Group B and significant differences in post-test scores of Group A, Group B, and Group C. The mean scores of the pre-test for Group A and Group B were nearly equal, as were the

post-test for Group A, Group B, and Group C. The mean scores did show a significant increase in the post-test over the pre-test for Group A and Group B. The number of students involved in the use of or planning of use of approved practices was too small to draw any definite pattern or conclusion. This study would indicate that students learn from strong instructors regardless of the types of prepared materials made available or the procedure of instruction.

#### RHODE ISLAND

MCELHANEY, Gordon S. "A Personal Learning Experience in Creating Self-sustaining Workshops at the North Kingstown Senior Citizens Center." Supervised Field Practicum, M.A., 1978, University of Rhode Island, Kingston.

Purpose. The purpose of this practicum was to provide the author with the opportunity to gain skills in organizing groups interested in learning horticultural skills, to develop skills in recruiting individuals from these groups who would become potential instructors of horticultural skills and to train individuals in conducting horticultural workshops.

Method. To achieve the objectives of this practicum, the author (1) researched literature concerning senior citizens, (2) developed questionnaires to survey the needs and interests of a senior citizen population, (3) consulted with the Director of the Senior Citizen Center to develop a philosophy and coordinate the practicum at the Center, (4) promoted the workshops through various news media, (5) organized a schedule of workshops, (6) recruited individuals to participate in the workshops, (7) trained workshop instructors in the aspects of conducting demonstrations, (8) coordinated a plant clinic and sale in which group members demonstrated horticultural skills, and (9) developed a resource sheet identifying group members and their identified skills to aid the group in sustaining itself after the practicum was completed.

Findings. The practicum provided the author with the opportunity to organize a group, recruit group members who would demonstrate before the group, and train group members in conducting demonstrations. The author gained valuable experience in developing surveys and evaluation tools, and identifying group members and horticultural skills. Finally, the experience gained in working with individuals and developing confidence in them while demonstrating skills before a group proved extremely valuable to the author.

REVILLE, David E. "A Personal Learning Experience Gained in Developing a Questionnaire and in Conducting Interviews about Cooperative Extension Methods and Materials." Supervised Field Practicum, M.A., 1978, University of Rhode Island, Kingston.

Purpose. The purpose of this practicum was to provide the author with increased knowledge and skill in consumer-home-horticulture with respect to the design and administration of a questionnaire, as well as in the preparation and execution of interviews with Cooperative Extension Horticulture Agents. A major focus of the practicum was for the author to gain experience in utilizing collected data, with respect to implementation of ideas from consumer-home-horticulture programs.

Method. The author achieved the objectives of the practicum by: (1) searching and reviewing existing literature, (2) contacting resource people for inputs into questionnaire design, (3) designing a questionnaire on Extension methods and materials, (4) pretesting questionnaire and refining questions, (5) obtaining Extension permission to conduct the

survey of consumer-home-horticulture agents, (6) preparing a mailing list for the questionnaire, (7) preparing a cover letter, (8) mailing the questionnaire to selected Extension Agents, (9) preparing an interview question sheet, (10) preparing an interview schedule, (11) conducting interviews, (12) tabulating data, (13) analyzing data for program ideas, and (14) constructing a resource manual of materials on consumer-home-horticulture requested in questionnaire.

Findings. The practicum enabled the author to gain increased confidence in developing, administering and interpreting a questionnaire and interviews. The practicum also created in the author a change of attitude in regard to questionnaires and interviews. He now finds himself critically examining questionnaires and evaluating these based upon his knowledge gained during the practicum. With respect to interviews, the author now has a more positive attitude toward the roles of interviewer and interviewee. Through the practicum the author was able to compile a list of nineteen program suggestions in consumer-home-horticulture methods and materials.

## TEXAS

BROWN, Herman D. And ERMIS, Larry J. "An Assessment of the Basic Curriculum Guide for Teaching Vocational Agriculture in Texas." Staff Study, 1977-78, Department of Agricultural Education, Texas A&M University, College Station.

Purpose. The purpose of this eighteen month study was to revise the Basic Curriculum Guide for Production Agriculture in Texas which would enable teachers of vocational agriculture to better prepare students for employment in the state's agricultural industry.

Method. A survey instrument presented to the 1449 teachers of vocational agriculture in the state by members of the curriculum revision committee was used to collect the data. The survey instrument was designed to secure from teachers their opinions of the changes proposed for the basic curriculum guide. These data were reported by mean ratings and by a ranking of the mean ratings.

Findings. As a result of the study, a revised curriculum guide for teaching vocational agriculture in Texas was developed. The guide incorporates the higher priorities of the fields of animal science, plant science, soil science, agricultural mechanics, agricultural management, supervised experience programs, and leadership development found to be most essential for entry and advancement in agriculture occupations.

Two new subject matter areas are included in the revised curriculum guide. "Opportunities in Agriculture" will enable vocational agriculture teachers to identify those occupations requiring the specific agriculture skills to be developed by their students. A social and Economic concern for the energy resources and the environment prompted the insertion of the "Environmental Protection and Energy Conservation" Subject matter area into the guide. Growing demands of a growing population of people necessitates efficient use of energy sources and a protection of our natural environment.

The revised guide suggests appropriate time allocations for each topical element. The revised guide at the same time suggest an allocation of time to be utilized for enrichment or additional emphasis in subject matter areas of high importance to the local community.

KOTRLIK, Joe W. "Suitability of Available Student Materials for Individual and Group Instructional Purposes in Texas Vocational Agriculture Programs." Doctor of Philosophy Dissertation, 1978, Texas A&M University, College Station.

Purpose. The purpose of the study was to evaluate the suitability of single topic student materials and state adopted textbooks for group instructional purposes and to evaluate the suitability of state adopted textbooks for individual instructional purposes.

Methods. A modified random sampling technique was used to select 417 teachers of vocational agriculture in Texas who had taught during the 1976-77 school year. Four hundred teachers completed and returned a closed-form opinionaire containing 42 perception statements, a 16 item semantic differential scale, and demographic questions pertaining to supervisory area, years of teaching experience, number of teachers within the respondents' departments, type of college degree held, and average number of students per teacher. Analysis of variance, the Duncan's Multiple Range Test, the Scheffé test, item means, and frequencies by percent and actual count were the statistical analyses used.

Findings. Both state adopted textbooks and single topic materials coincided well with the curriculum and were written at an appropriate reading level for students. State adopted textbooks were vital to instruction but were not perceived as being up-to-date or technically accurate. Single topic materials worked well when used with textbooks. Teachers held more positive attitudes toward single topic student materials than they held toward textbooks on all sixteen items of the semantic differential scale; 57.1% also preferred single topic student materials over state adopted textbooks.

WEBB, Earl S., STONER, Thomas M. and VACLAVIK, Randolph M. "The Relative Degree of Problems Experienced by First-Year Vocational Agriculture Teachers in Texas" (Progress Report). Departmental Information Report, 1977-1, Texas A&M University, College Station.

Purpose. The purpose of this study was to determine if curricular adjustments are needed in the preparation of teachers of vocational agriculture.

Methods. The technique used included a list of 20 potential problems that respondents were asked to rate according to the degree it constituted a problem using the following scale: 1 = no problem, 2 = slight problem, 3 = moderate problem, 4 = significant problem, 5 = great problem, and 0 = not applicable. The list was mailed to 106 first-year teachers who were listed in the Directory of the Vocational Agriculture Teachers Association of Texas. It was also sent to four who were not listed by the Association. A follow-up letter was sent to non-responders. Overall, 67.2 percent responded. Each of the 20 items was analyzed for mean and standard deviation overall.

Findings. Teacher education departments are preparing graduates well for teaching vocational agriculture. However, greater efforts should be made to prepare graduates to organize and conduct adult and young farmer education programs, develop a filing system, and acquaint graduating seniors with the proper procedures for obtaining equipment and supplies for vo-ag departments. Workshops and short courses should be developed specifically for first-year teachers based on problems found to be of major concern.

#### UTAH

HOFFMAN, Randolph. "Essential Tasks For Successful Sugar Beet Production." Master of Agricultural Education Report, 1977, Utah State University, Logan.

Purpose. Specific competencies are used as fundamental elements for curriculum development. The purpose of this study was to identify those competencies deemed important to employability. Sugar beet producers were judged to be the appropriate source for this judgement.

Method. This was essentially a survey of sugar beet producers in Utah. Experts representing producers and Agricultural Research Service researchers were used to prepare a survey questionnaire. The instrument was pilot tested with producers. Non-respondents were sampled to see if they would respond like respondents.

Findings. Eight duty areas were judged important or essential to sugar beet production. The eight duty areas determined to be important were: 1) Operating equipment correctly, 2) Handling pesticides, 3) Planning schedules of production, 4) General management, 5) Fertilizing methods, 6) Planting methods, 7) Irrigation methods, 8) Interpreting soil conditions. Of the above items 2, 5, 6, and 7 would normally be performed by service organizations. While items 1, 3, 4, and 8 should be primarily performed by co-op organizations or individual sugar beet producers. It was found that local application in Utah will require local study for relevant curriculum materials for Utah Vocational Agricultural teachers. The next step would be to develop a curriculum guide for use by teachers and the sugar beet industry. The employability of vocational agriculture students and college students by the sugar beet industry is high. It offers on-the-job training in agribusiness within co-op structures. Early spring through fall offers the best employment opportunities through co-op programs. Differences in cultural practices were observed between midwest and western producers.

KEYI, Nelson. "A Proposed Tractor Maintenance Program In Ghana Africa." Master of Agricultural Report, 1977, Utah State University, Logan.

Purpose. The purpose of this study was to develop tractor maintenance teaching outlines to aid the teacher in Ghana, to get students involved in programs that can evaluate student progress by behavior, to suggest a pattern for teaching, to provide an analysis of study guide questions, to stimulate interest and desire in students through organized lessons, and to update teaching materials and procedures to meet conditions in Ghana.

Method. A review was made of available references and instructional materials. Consideration was taken as to background of the people. Teaching units were assembled in a particular format using situation, objectives, motivation, study guide, suggested student activities, references, equipment and tools, and analysis. Also, the author used his personal experience in determining materials to present and how to present them.

Findings. Lessons were selected to motivate students, provide topics for discussion, and laboratory exercises for students. It was found that laboratory work was more meaningful when it immediately followed discussion. The extent of laboratory work depended on available facilities.

THOMSEN, Earl R. "A Manpower Study of The Utah Feed, Grain, and Seed Industry and The Idaho Seed Industry." Master of Science Report, 1977, Utah State University, Logan.

Purpose. The purpose of this study was to secure information from the feed, grain, and seed industry in order to: (1) Determine the manpower demand of the feed, grain, and seed industry of Utah (2) Determine the manpower demand of the seed industry of Idaho (3) Determine a list of job titles used by the feed, grain, and seed industry is grown locally and what percent is shipped in from out of state.

Method. A mailed questionnaire was sent to the businesses in Utah who sold, processed or manufactured feed, grain, or seed. A mailed questionnaire was also sent to the businesses in Idaho who processed seed. Information pertinent to the businesses (a) past, present, and future employment numbers, (b) job titles of employees and (c) grain use was requested in the survey instrument. These data were reported in terms of total numbers, percentages, and frequencies.

Findings. The major findings of this study were as follows: forty-four different job titles need agricultural competencies in the Utah feed, grain, and seed industry; 493 more persons were employed in the Utah feed, grain, and seed industry in 1977 than in 1975; 699 additional persons will be employed in the Utah feed, grain, and seed industry by 1979; 133 more persons were employed by the Idaho seed industry in 1977 than in 1975; 446 additional persons will be employed in the Idaho seed industry between 1977 and 1979; 50.42 percent of the grain used by the Utah feed, grain, and seed industry is locally grown; 91.95 percent of the grain used by the Idaho seed industry is locally grown.

## VIRGINIA

BURNETTE, David J. "A Study of the Extent of the Need of Selected Peanut Producers in Southampton County, Virginia, for Extension Educational Programs in Farm Estate Planning." Master of Science Thesis, 1978, Virginia State College, Petersburg, Virginia.

Purpose. The purpose of this investigation was to gather information on the extent of estate planning in a selected group of commercial peanut farmers, the value of their assets, personal desire for an extension educational program on estate planning, and appropriate times to hold such programs from their point of view.

Method. The respondents in this study were selected from a list of the larger peanut producers in Southampton County, Virginia. This county leads the state in peanut production annually. The initial list of prospective respondents consisted of those peanut-producing landowners in Southampton County having a minimum of forty acres of peanut allotment. The minimum forty-acre allotment for each producer was verified by the local U. S. Department of Agriculture Agricultural Stabilization and Conservation Service (ASCS) Office. Verified respondents' names were alphabetized and every fourth producer randomly selected for the survey. Each respondent was personally interviewed by the author, using a standard questionnaire, previously prepared, reviewed, and tested.

Findings. The majority of the farmers owned their land solely in their names. Very few of the farmers reported any type of retirement plan, other than Social Security and ordinary savings. Nearly two-thirds of the respondents did not have wills, and almost four-fifths of their spouses did not have wills. The presence of estate plans was reported in twenty percent of the cases investigated, and these plans were primarily designed to provide equitably for the children and to reduce inheritance taxes. Each farmer indicated a need for extension education in estate planning.

COFFEY, David M. "Factors Associated with Membership and Non-Membership Status of Black Tenth Graders from Former NFA States." Doctoral Dissertation, 1978, Virginia Polytechnic Institute and State University, Blacksburg.

Purpose. The purpose of this study was to investigate the effect of selected socio-demographic variables and attitudinal variables on membership vs. non-membership in the FFA.

Method. Schools selected for the study had to meet two criteria (1) must have a vocational agriculture program and (2) must have at least 10 per cent black enrollment in vocational agriculture. A total of 602 tenth grade vocational agriculture students from 66 schools in five former NFA states were selected. The primary statistical analysis tools utilized were chi-square and Pearson Product-Movement Correlation.

Findings. FFA members are more likely to attend rural schools, be children of farmers, live in areas of less than 2,500 population, believe that anyone can be successful in FFA, and respect farmers and farming than vocational agriculture students who are not FFA members. No significant difference between members and non-members could be found on the following variables: the name of the organization, the attitude toward agriculture, race of student and his/her advisor and reasons for enrolling in vocational agriculture. Fifty-two percent of the students sampled were FFA members. A significant relationship was found between percentage black vocational agriculture enrollment and percentage black FFA membership.

CRINKILTON, John R. "An Assessment of the Pedagogical Skills Taught to Agricultural Education Undergraduates." AATEA Ad Hoc Committee on Teaching Techniques, Members - Doug Bishop, L.H. Newcomb, and Nick Paul, 1977, Virginia Polytechnic Institute and State University, Blacksburg.

Purpose. The purpose of this study was to assess the degree to which pedagogical skills are taught to undergraduates in agricultural education.

Specific objectives of the study were:

1. To determine the number and the percent of instructional topics contained in methods courses which are devoted to the teaching techniques.
2. To identify which teaching techniques are specifically taught in methods courses.
3. To assess the amount of time spent in methods courses on the various teaching techniques.
4. To determine how various teaching techniques are taught to students in methods course, and
5. To identify innovative approaches currently being used in the teaching of teaching techniques.

Method. The Directory of Agricultural Teacher Education compiled in March 1977 was used to identify those institutions which should be contacted for this study. Eighty-four institutions were identified. A questionnaire was developed to provide data needed to meet the specific objectives. The first draft of the questionnaire was reviewed by the AATEA President and the ad hoc committee members for their recommendations. Revisions, as deemed appropriate, were made in the questionnaire.

The cover letter and questionnaire were mailed to the 84 head teacher educators in agricultural education. The request was made that the person teaching the "methods course" be the teacher educator to complete the questionnaire. In an effort to secure the syllabi for methods courses, a request was made on the questionnaire for the institution to return a copy of their methods course syllabus with the questionnaire.

Findings. 1) The teacher educators responding to the questionnaire had been teacher educators for an average of 12 years. The range was from 1 to 36 years. 2) Of the 77 institutions responding to the question of when methods courses are taught, 93.5 percent indicated that their methods courses are taught prior to student teaching. 3) Methods courses are offered specifically for Agricultural Education undergraduates in 92.5 percent of the institutions. 4) The number and the percent of institutional topics included in methods courses dealing with teaching techniques were difficult to accurately assess. A random check of questionnaires and their accompanying syllabi reflect conflicting information. For example, it was indicated on the questionnaire that the institution provided instruction to undergraduates on how to conduct class discussion, but the topic could not be identified on the syllabus. A review of some method syllabi indicated that a major portion of the class would be devoted to pedagogical skill development while other method syllabi reflected very little in the area of pedagogical skill development. 5) Demonstration, as a teaching technique, was reported as being included in the methods courses of all the institutions responding. Instruction on education TV was included the

least and was reported in only 32 percent of the institutions. 6) Only three institutions included all seventeen teaching techniques in their methods courses. 7) The predominant approach used by teacher educators to teach about the various teaching techniques was with the teacher educator actually employing the specific technique during the course. The least used approach was through audio tutorial/programmed instruction. 8) Of the 21 possible instructional topics for a methods course included on the questionnaire, lesson planning received the highest rating on a Strongly Agree to a Strongly Disagree scale. The instructional topic of 4-H received the lowest rating. 9) Teacher educators were in agreement that 20 of the 21 instructional topics should be included in a methods course for undergraduates in agricultural education. 10) When all of the 21 instructional topics were listed in order of degree of agreement, the ten topics receiving the highest rating could all be related to pedagogical topics. The other eleven topics dealt with other instructional areas of an agricultural education program. (For example, FFA, SOEP, and so forth) 11) In response to the question regarding innovative approaches being used in methods courses, using videotape and microteaching were the concepts mentioned the most.

GALLIMORE, Gerald G. "A Study of Selected Problems Encountered by Certain Farmers in Confinement Farrowing." Master of Science Thesis, 1978, Virginia State College, Petersburg, Virginia.

Purpose. The purpose of this study was to secure information which could serve as the basis for designing a program which would improve the knowledge and skills of confinement farrowing farmers.

Method. In Southeast Virginia most farmers utilize a three sow grouping system with a few following a four or five sow grouping. In response to many producers and others in the swine industry, additional systems were developed as alternatives to those currently in use. The additional systems are basically subdivisions of those currently in use. Those systems most likely to be utilized by producers were selected to be used in this study. A review of the prevailing systems was made by the writer.

Findings. Subgrouping of the three sow group system created six groups of ten sow units, with a twenty-six day farrowing schedule. The maximum age for weaning was less for the seven sow group system than it was for either the three or the six sow group systems. The seven sow group system also produced twenty-four percent more pigs. Subgrouping reduced the initial capital requirements for buildings and equipment. The net cash income from the six and the seven sow grouping systems was greater than that which was realized from the three sow grouping system. Labor income was increased when subgrouping was employed. Producers, in general, were not aware of the effects of subgrouping.

GRINER, Charles P. "An Assessment of the Relationships Between Lesson Topics Presently Taught and Lesson Topics That Should be Taught in Exploratory Agriculture Classes in Virginia." Doctor of Education Dissertation, 1978, Virginia Polytechnic Institute and State University, Blacksburg.

Purpose. The purpose of this study was to identify the lesson topics that are being taught in exploratory agriculture classes in Virginia and compare these lesson topics to lesson topics that should be taught in exploratory agriculture classes as perceived by exploratory agriculture teachers, State Department of Education agricultural education supervising staff, teacher education in agriculture, and vocational directors in those school systems offering exploratory agriculture classes.

Method. Two instruments were developed to collect data, one for exploratory teachers and one for the other respondent groups. A list of 49 possible lesson topics

were identified through a review of literature, panel of experts, and field testing. All respondents were asked to indicate lesson topics that should be taught and rate the importance of the topic on a Likert 5 point scale. Teachers were also asked to indicate lesson topics they were presently teaching.

Findings. Major findings were: 1) The lesson topic taught the most was "Understanding the Meaning of Agriculture and Agribusiness;" 2) 39 of the 49 lesson topics were identified as topics that should be taught in exploratory classes; 3) 52 percent of the teachers added technical agricultural topics to the list; 4) the lesson topic "Exploring the Occupational Opportunities in Agriculture" ranked as the most important lesson topic; and 5) 12 of the 39 lesson topics had significant differences between respondent groups on what topics should be taught.

HILLISON, John. "The Concerns of Vocational Education Methods Students and Student Teachers." Staff Study, 1978, Virginia Polytechnic Institute and State University, Blacksburg.

Purpose. The purpose of this study was to monitor the concerns of vocational education methods students and student teachers at Virginia Polytechnic Institute and State University during school year 1977-78.

Method. Students completed an open ended instrument which asked "When you think about your teaching, what are you concerned about?" The concerns expressed were coded into the four categories of 0 = non teaching, 1 = self, 2 = task and 3 = impact. Both a pre-observation and a post-observation were made for each quarter. A total of 452 instruments were coded.

Findings. For all vocational students the lowest median concern value occurred at the methods post-observation with a median of 1.38. For the next observation, which occurred at the pre-observation for student teaching the total median for all program areas went to 1.49. All four direct comparisons from methods post-observation to student teaching pre-observation showed an increase for each program area.

When sex was examined as a variable, two interesting points could be noted. A relatively small difference was noted in the total median values. Males had a median concern level of 1.39 while females had a median concern level of 1.46. However, when minority sex within a program area, e.g. females in agricultural education, males in business education, etc., were compared to majority sex within a program area, e.g. males in agricultural education, females in business education, etc., a much larger difference was found. The median concern level for majority sex was 1.40 while the median concern level for minority sex was 1.79.

HILLISON, John. "The Determination of the Need to Revise the AGDEX Filing System and Its Market Potential." Staff Study, 1978, Virginia Polytechnic Institute and State University, Blacksburg.

Purpose. The purpose of this study was to determine the desirability of revising the AGDEX filing system used by public school agricultural education teachers.

Method. Eight states, two from each AATEA region, were purposefully selected. One contact person in each of the eight states was used as a member of a panel of experts for the instruments utilized and to identify teachers who could be subjects for the survey. A total of 46 teachers were identified with 31 returning the mailed questionnaire. Descriptive statistics were used for the data.

Findings. Of the 31 subjects returning instruments 18 (58%) were users of the AGDEX system. The majority of AGDEX users (n = 10, 55.6%) taught in the taxonomy area of agricultural production. A total of 20 respondents indicated a willingness to purchase a revised copy of the AGDEX filing system. Of this total 10 (55.6%) were users of AGDEX and 10 (76.9%) were non-users of AGDEX. The mode response for the amount of money both groups were willing to pay for a revised filing manual was \$10.00.

#### WASHINGTON

TADLOCK, Larry E. "An Analysis of the Vocational Education Needs in Washington State for Youth With Handicapping Conditions." Ph.D. Dissertation Education, 1978, Washington State University, Pullman.

Purpose. The primary purpose of this study was to identify the vocational education needs of secondary school youth with handicapping conditions who reside in Washington State. Additionally, the study sought to identify alternative solutions to the expressed needs and to analyze differences of opinions among the various groups of educators who combined to make up the sample.

Method. A questionnaire was developed to obtain the opinions of selected groups of educators and parents. The educator group included vocational teachers, vocational directors, superintendents from first and second class districts, and special education coordinators. They were selected in part as a group with and without experience in dealing with handicapped children. The parent group consisted of individuals with handicapped and non-handicapped youth. The instrument included an assessment of the following selected areas: 1) individual/personal needs, problems and issues and 2) program/process needs. The statistic chi square was used to evaluate the data.

Findings. The five most frequently cited needs in rank order were: 1) local communities do not know the true abilities of the handicapped, 2) staff members lack an adequate knowledge of special education, 3) vocational teachers lack the knowledge to appropriately use specialized teaching, 4) local schools lack sufficient resource personnel, 5) teachers need more release time for planning. The five most frequently cited solutions rank ordered were as follows: 1) teacher training programs should teach all teachers how to mainstream handicapped students into regular classrooms and laboratories, 2) the state department of education should sponsor more inservice for vocational teachers, 3) the state department should increase its efforts to disseminate promising ideas and research findings about vocational-handicapped programs, 4) the state department should improve the communication network between the high schools and other vocational training agencies, and 5) better communication is needed between the regular, special, and vocational teaching staffs.

JENSEN, Carl E. "A Study to Identify Information Needed for Entry Employment for Graduates of High School Ornamental Horticulture Programs in Snohomish County, Washington." Master of Science, Non Thesis Report, 1978, Washington State University, Pullman.

Purpose. The purpose of this study was to determine units of instruction important to new employees of the retail florist, wholesale florist, retail nursery, wholesale nursery, and landscape construction and maintenance businesses in Snohomish County, Washington.

Method. A direct mail questionnaire was used to contact 63 businesses related to the ornamental horticulture industry. The instrument requested information about the following principle items: need for selected program areas in the ornamental horticulture curriculum for potential employees, the extent of employment for high school graduates with a background in vocational horticulture and employment potential for high school students.

Findings. The results of the survey indicated the following: (a) important units of instruction for ornamental horticulture were identified by the groups as plant identification, customer relations, plant diseases, insects, plant growth, fertilizers, salesmanship, telephone etiquette, pesticide safety, and leadership development, (b) twenty three of the forty five businesses responding indicated they had hired fifty eight students in the last five years, (c) employees of the ornamental horticulture industry total over 500 full time and part time and (d) a total of 80% of the responding businesses indicated a desire to participate in a cooperative work experience.

BRANSON, Scott S. "Selected Reasons Why Washington High School Vocational Agriculture Teachers Leave the Profession and Professions Subsequently Entered." Master of Science, Non Thesis Report, 1978, Washington State University, Pullman.

Purpose. The purpose of this study was to ascertain why graduates who majored in Agriculture Education at Washington State University in the years 1960-1977 left high school vocational agriculture teaching. The study also endeavored to determine what employment vocational agriculture teachers entered after leaving the profession.

Method. A mail questionnaire was sent to 70 ex-vocational agriculture instructors. The instrument allowed the individuals to rank 40 selected items to identify reasons for leaving the profession. Additionally, information was requested pertaining to job advancement. Basic biographical data was collected to initiate categories for analysis. The response rate was 77 percent.

Findings. The major findings of this study to determine why instructors left the profession include: (a) position advancement, (b) salary, (c) farming opportunities, (d) student discipline and (e) community attitudes and support. The profession subsequently entered after leaving the profession were other teaching areas (35.2%), farming (27.8%) and private business (14.8%).

SCHRAG, Michael. "A Study to Determine Why Some School Districts in Washington Do Not Offer Vocational Agriculture in The High School Curriculum." Master of Science, Non Thesis Report, 1978, Washington State University, Pullman.

Purpose. The purpose of this study was to identify factors which were perceived as reasons why vocational agriculture programs are not offered in certain school districts in eastern Washington.

Method. A questionnaire and cover letter were prepared and sent to 29 secondary school superintendents in eastern Washington state. Principle areas of investigation were: past administrative experiences with Vo-Ag, high school size, program initiation, reasons for non-solicitation of programs and availability of facilities, funds and other vocational program offerings. All data were summarized and reported in tabular form.

Findings. The principle findings of the study are as follows: 1) one half of the 26 superintendents reporting indicated that the size of their high school was a major limiting factor in establishing a vocational agriculture program, 2) four superintendents indicated they would definitely recommend the initiation of a vocational agriculture program. Ten superintendents would only partially support a vocational agriculture program, while 12 superintendents would not recommend a vocational agriculture program, 3) the main reason offered for not including a vocational agriculture program was "not enough student interest," followed by the reasons of lack of community interest and lack of facilities, 4) factors that are needed in communities for the initiation of vocational agriculture programs are more student and community interest, shop facilities, and additional students enrolled in the high school, 5) eigh-

teen schools do not presently have facilities to initiate a vocational agriculture program. Facilities needed are new shops or remodeled shops with additional classroom space, 6) twenty administrators felt their schools did not have funds to support an ongoing vocational agriculture program in their school district and 7) seventeen superintendents indicated they had received no inquiries concerning the establishment of a vocational agriculture program.

#### WEST VIRGINIA

CULLEN, John William, Jr. "Parental Opinions of Vocational Agriculture in West Virginia". Master of Science Thesis, 1977, West Virginia University, Morgantown.

Purpose. Purposes of the study were to determine what parents of third-year vocational agriculture students expect the vo-ag program to do for their children, whether the program is meeting perceived needs and expectations, and importance attached to various aspects of the program.

Method. A mail questionnaire sent to a random sample of 220 parents was used to collect information concerning opinions of expectations and evaluations of local vocational agriculture programs.

Findings. Parents believe vo-ag instructors are doing a good job teaching their children subject matter in the classroom and shop. Only two-thirds of the parents felt their children were receiving adequate supervision of occupational experience programs. Supervisory visits have a definite effect on parental opinions--the greater the number of supervisory visits the more positive opinions are toward various aspects of the program. Parents believe that skills their children learn in vo-ag and FFA will prepare them for future employment. Perceived weaknesses in the instructional program included forestry, fruit production, horticulture, records and agricultural mechanics.

LIU, Jen-Jyh. "Factors Which Agricultural College Students Consider Important in a Job". Master of Science Thesis, 1977, West Virginia University, Morgantown.

Purpose. This study was conducted to determine factors which agricultural college students consider important in a job in order to provide useful information to teachers, counselors and advisors in understanding needs and concerns of agricultural students.

Method. The inquiry form technique was used. Freshmen and senior students completed the form in classes. Those missed classes were mailed the form. Responses were obtained from 231 students representing the Divisions of Plant Sciences, Animal Sciences and Resource Management.

#### Findings.

1. Self-actualization and Security factors were considered most important in choosing a job, followed by Education, Environment, Love and Belonging, Economic and Esteem factors.
2. Agricultural Education majors consider Love and Belonging, Economic and Esteem factors to be of greater importance in occupational selection than do majors in other curricula.
3. Males are more concerned about prestige and monetary rewards in occupations than are females.
4. Rural students are more concerned about Self factors than urban students, whereas urban students are more concerned about Reality factors than are their rural counterparts.
5. Experiences in vocational agriculture and FFA greatly influence a student's outlook on job selection. 4-H Club experience has little or no effect.

WATSON, Larry W. "The Efficacy of Educational Gaming in Teaching Vocational Agriculture. Master of Science Thesis, 1977, West Virginia University, Morgantown.

Purpose. The purpose of this study was to compare the effectiveness of conventional instruction with teaching by a mode utilizing conventional and educational gaming methods.

Method. Data used in this study were obtained from pre-test and post-test scores from 204 first-year vocational agriculture students in nine West Virginia schools. Four teachers used the experimental conventional method with gaming and five taught by conventional means. Both the gaming methods and lessons containing identical information involving an introduction to the Future Farmers of America organization were developed by the researcher. Additional data included basic and verbal ability scores obtained from the West Virginia State-County Testing Program.

Findings.

1. Conventional instruction utilizing gaming procedures was more effective than conventional instruction alone.
2. Student basic or verbal ability levels are not as important as method in producing cognitive gain.
3. Students with low verbal ability can perform at a level not significantly different from those with high verbal ability.
4. Students with low basic and low verbal ability can achieve as much cognitive gain as those with high basic and high verbal ability.

STUDIES IN PROGRESS  
1978-79

ALABAMA

BYRD, Taylor and IVERSON, Maynard J. "Comparative Status of Agricultural Teacher Education Programs Administered Under Different Colleges at Public Universities in the United States." Joint Staff Study, A & M University, Normal, and Auburn University, Auburn.

IVERSON, Maynard J. and BYRD, Taylor. "The Role of the Alabama High School Vocational Agribusiness Program in the Occupational Success of Graduates." Joint Staff Study, Auburn University, Auburn, and A & M University, Normal.

ARIZONA

AUNE, Patricia. "Competencies of EFNEP Aids." Master's Study, The University of Arizona, Tucson.

ETLING, Arlen. "Program Development and Evaluation in Extension Education." Staff Study, The University of Arizona, Tucson.

ETLING, Arlen. "Development and Evaluation of Field Guides on Selected Aspects of Extension Education." Staff Study, The University of Arizona, Tucson.

GILROY, James J. "Cultural Beliefs, Values and Norms of Etiquette Related to Agricultural Education on Navajo Reservation." Master's Study, The University of Arizona, Tucson.

GROSETA, Andrew P. "Follow-up of Vocational Agriculture Graduates from Amphitheater High School, 1967-1977." Master's Study, The University of Arizona, Tucson.

MILLER, Joel. "Agency Coordination for Community Education: Future Perspectives for Non-Metropolitan Arizona." Master's Study, The University of Arizona, Tucson.

JACOBS, C. O. "Model/Unit Instructional Concept for Teaching Operating Principles of Electric Motors." Staff Study, The University of Arizona, Tucson.

MCCORMICK, Floyd G. "Development and Evaluation of Instructional Units for Teaching Inductive Principles of Agricultural Science." Staff Study, The University of Arizona, Tucson.

RIGO, Maureen. "The Effect of Teachers' Attitudes and Perceptions of S.O.E.P. Upon the Quality of the Students' S.O.E.P." Master's Study, The University of Arizona, Tucson.

ZURBRICK, Phillip R. "Occupational Opportunities in Agriculture in Arizona - 1978." Staff Study, The University of Arizona, Tucson.

#### IDAHO

BOIAN, Lester. "A Study to Assess Those Competencies Commonly Required for County Cooperative Extension Service Personnel in Idaho." Thesis, M.S., University of Idaho, Moscow.

DELOS, William. "A Study to Determine Entry-Level Employment Attitudes and Skills Common to Selected Agricultural Occupations in Idaho." Thesis, M.S., University of Idaho, Moscow.

MORTENSEN, Jay. "A Follow-up Study to Determine the Effectiveness of the Agriculture Cooperative Education Programs in the Blackfoot High School from 1970-77." Thesis, M.S., University of Idaho, Moscow.

#### ILLINOIS

BENNETT, Floyd L. "A Comparison of the Mail Questionnaire and Personal Interview Methods of Data Collection for Curriculum Development in Vocational Education." Master's Thesis, Southern Illinois University, Carbondale.

BURKE, Lon. "Development of Teaching Materials for Gun Safety." Master's Thesis, Southern Illinois University, Carbondale.

HEMP, Paul E. "Activities of Citizens' Advisory Councils." Staff Study, University of Illinois, Urbana.

HEMP, Paul E. "Standard for Agricultural Occupations Programs in Illinois Community Colleges and Metropolitan High Schools." Staff Study, University of Illinois, Urbana.

LEGACY, James W., STITT, Thomas R., and WOOD, Eugene S. "Competency Based Curriculum for Agricultural Occupations Programs--Phase II--Curriculum Development and Matrix Completion." Staff Study, Southern Illinois University, Carbondale.

NELSON, Allan. "A Model for Discriminating Population Characteristics Dependent on Standards for Vocational Agriculture." Master's Thesis, Southern Illinois University, Carbondale.

- PEUSE, H. Gene. "Factors Affecting Illinois Vocational Agriculture Teachers' Classroom Use of an Instructional Unit on International Agriculture." Master's Study, University of Illinois, Urbana.
- RENDELMAN, Matt. "Development of a Self-Instruction Package for Use by Part-Time Vocational Instructors." Master's Thesis, Southern Illinois University, Carbondale.
- STITT, Thomas R. "Cooperative Occupational Education Workshops (Summer, 1978)." Staff Study, Southern Illinois University, Carbondale.
- STITT, Thomas R., LEGACY, James W., and WOOD, Eugene S. "Standards for Illinois Agricultural Occupations Secondary Programs--Phase II--Implementation of the Standards." Staff Study, Southern Illinois University, Carbondale.

#### INDIANA

- CAMP, William G. "Identification of Specific Student Discipline Problems In Indiana High Schools." Staff Study, Purdue University, West Lafayette.
- CAMP, William G., Director, LOWE, Phillis K. and PCLLARD, Nancy, Principal Investigators. "Performance Based Curriculum Development for Disadvantage and Handicapped Students." Staff Study, Purdue University, West Lafayette.
- MOORE, Gary E. "The Status of Women Vocational Agriculture Teachers." Staff Study, Purdue University, West Lafayette.
- RICHARDSON, William B., Director and MOSS, Jeff W., Principal Investigator. "Curriculum Development in Landscaping for Vocational Horticulture Programs." Staff Study, State Board for Vocational and Technical Education and Purdue University, West Lafayette.
- RICHARDSON, William B. "V-TECS Catalog Development in Vocational Horticulture." Staff Study, Purdue University, West Lafayette.
- RICHARDSON, William B. "Development of an Employer Follow-up Model of Former Vocational Students." Staff Study, Purdue University, West Lafayette.
- RICHARDSON, William B., Director, and MOSS, Jeff W., Principal Investigator. "Purposive Study and Curriculum Development in Nursery Operations." Staff Study, Purdue University, West Lafayette.
- RICHARDSON, William B., Director, HAMILTON, W. H. and MOSS, Jeff W., Principal Investigators. "Development of Performance Based Vocational Education Curriculum Materials for Agribusiness Programs." Staff Study, Purdue University, West Lafayette.

IOWA

- AAONSON, Donald W. "Factors Related to the Occupations of Male Graduates of the Britt Community High School, Britt, Iowa." Master of Science Thesis, Iowa State University, Ames.
- CARTER, Richard I. "Analysis of the Role of the Vocational Agriculture Instructor as a Community Leader in Agriculture." Staff Study, Iowa State University, Ames.
- GAY, Roger L. "A Comparison of Selected Vocational Agriculture Teachers Occupational Tasks as Perceived by Virginia and Iowa Principals and Vocational Agriculture Teachers." Master of Science Thesis, Iowa State University, Ames.
- HASSELMAN, Elvin E. "Factors Related to the Effectiveness of Production Agriculture Programs for Veterans." Master of Science Thesis, Iowa State University, Ames.
- HILLYARD, Landen L. "Educational Needs of Adult Farmers in the West Liberty, Iowa School District." Master of Science Thesis, Iowa State University, Ames.
- HILTON, James W. "Perceptions of Vocational Agriculture Teachers and High School Administrators Concerning Summer Programs as an Integral Portion of Vocational Agriculture Education Curriculum." Doctor of Philosophy Dissertation, Iowa State University, Ames.
- HOLMES, Timothy L. "Perceptions of Administrators and Teachers Toward Selected Vocational Agriculture Teacher Summer Activities in Florida." Master of Science Thesis, Iowa State University, Ames.
- JANSSEN, Danny L. "Factors Related to the Importance of Stressing Mathematical Concepts as a Part of Instruction in Vocational Agriculture in Iowa." Master of Science Thesis, Iowa State University, Ames.
- JOHNSON, Rufus W. "An Analysis of the Skills Which Should be Taught to Vocational Agriculture Students Concerning Service and Repair of Farm Tractors." Doctor of Philosophy Dissertation, Iowa State University, Ames.
- KAHLER, Alan A. "Factors Affecting the Continued Establishment of Young Operators in Farming in Iowa and Implication for Agricultural Education." Staff Study, Iowa State University, Ames.
- LOCHMANN, Allan F. "Perceived Importance of the Agriculture Resource Management Principle in Agriculture and Agribusiness Education." Master of Science Thesis, Iowa State University, Ames.
- ROWE, Andrew. "A Comparison of Selected Vocational Agriculture Teachers' Occupational Tasks as Perceived by Virginia and Iowa Principals and Vocational Agriculture Teachers." Master of Science Thesis, Iowa State University, Ames.

SHARSHAR, Abdul-Hameed. "Acceptability of Evaluative Criteria for County Extension Program Development by Selected Groups of Iowa Cooperative Extension Service Staff." Doctor of Philosophy Dissertation, Iowa State University, Ames.

WILLIAMS, David L. "Student Perceptions of Assistance Received from Parents and Teachers with Supervised Occupation Experience Programs." Staff Study, Iowa State University, Ames.

WUBBEN, Neil M. "Perceptions of Selected Groups Toward Stressing the 'Ten Imperative Needs' as a Part of Instruction in Agriculture and Agribusiness Education." Master of Science Thesis, Iowa State University, Ames.

ZUMBACH, Galen R. "A Comparison of Selected Vocational Agriculture Teachers' Occupational Tasks as Perceived by Colorado and Utah Principals and Vocational Agriculture Teachers." Master of Science Thesis, Iowa State University, Ames.

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ALLEN, Larry D. "A Study of Various Factors Related to Dropout and Non-Reentry Rates in Vocational Agriculture." Doctoral Dissertation, Louisiana State University, Baton Rouge.

KOTRLIK, Joe W. and SMITH, Charles W. "A Five Year Follow-up of Louisiana Vocational Agriculture Students." Staff Study, Louisiana State University, Baton Rouge.

SMITH, Charles W. and ATHERTON, J. C. "The Development and Evaluation of Employment Seeking Skills Instructional Materials." Staff Study, Louisiana State University, Baton Rouge.

UDO, Sunday. "The Use of Land Laboratories in the Teaching of Vocational Agriculture in the United States with Implications for Agricultural Education in Nigeria." Doctoral Dissertation, Louisiana State University, Baton Rouge.

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ASAY, Merrill. "Diploma Level Agricultural Education, Follow-up Study, Institute of Agriculture and Animal Science, Rampur, Nepal." Ph.D. Dissertation, University of Minnesota, St. Paul.

AZAR, Mahmoud. "An Analysis of Combine Grain Harvesting Competencies Taught in Minnesota Agricultural Education Programs." Master's Study, University of Minnesota, St. Paul.

HARTLE, Darrell. "Establishing a Need and Format for an Instructional Manual on Livestock Management Techniques to be Taught in Animal Science Courses." Master's Study, University of Minnesota, St. Paul.

- INGVALSON, Brian. "An Evaluation of a Classroom Instructional Unit or Supervised Occupational Experience for Beginning Vocational Agriculture Students in Minnesota." Ph.D. Dissertation, University of Minnesota, St. Paul.
- KIM, Sung Soo. "A Study of the Relationship of FFA Advisor Cognitive Knowledge and FFA Chapter Activeness." Ph.D. Dissertation, University of Minnesota, St. Paul.
- LESKE, Gary, SALEM, M. Nagi, and PETERSON, Roland L. "An Analysis of the Work Load of Adult Farm Management Instructors in Minnesota." Research and Development Series No. 6, University of Minnesota, St. Paul.
- MUMFORD, Sabra. "Perceptions of the Role of the University Supervisor of Student Teachers by Members of Their Role Set in Selected Schools in Maine." Ph.D. Dissertation, University of Minnesota, St. Paul.
- PETERSON, Roland and LESKE, Gary. "Time Utilization by Agricultural College Graduates." Staff Study, University of Minnesota, St. Paul.
- RIESENBERG, Lou. "An Investigation of the Differences in Agricultural Education Background for Accident Involved and Non-Involved Farm Tractor and Machinery Operators in Minnesota." Ph.D. Dissertation, University of Minnesota, St. Paul.
- SALEM, M. Nagi. "Toward an Understanding of the Stability of Job Selection by Vocational Education Graduates." Ph.D. Dissertation, University of Minnesota, St. Paul.
- SCHROEDER, Dennis. "Agricultural Machinery Competencies Used in Southwest Minnesota." Master's Study, University of Minnesota, St. Paul.

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- COOK, Rebecca Caye. "An Evaluation of Dissemination Efforts on the Attitude of Extension Home Economists Toward Instructional Material on Rural Recreation." Master of Science Thesis, Mississippi State University, Mississippi State.
- LEE, Jasper S, BROWN, Ronald A, and MOORE, Susan F. "Programs for Training Vocational Teachers in Areas of Teacher Shortage." U.S.O.E. funded research, Mississippi State University, Mississippi State.
- SHINN, Glen C. "Opinions of School Administrators Concerning the Programs of Vocational Agriculture/Agribusiness in Mississippi." Staff Study, Mississippi State University, Mississippi State.

SHINN, Glen C. "Agricultural Mechanics Units Taught and Instructional Time Spent in Vocational Agriculture/Agribusiness in Mississippi." Staff Study, Mississippi State University, Mississippi State.

SHINN, Glen C. "Validating Essential Competencies Needed for Entry and Advancement in Agricultural Mechanics Job Titles in Mississippi." Staff Study, Mississippi State University, Mississippi State.

SULLIVAN, Karen S. "Perceptions Extension Youth Agents and Local Volunteer Leaders Have of the Roles of Each Other." Master of Science Thesis, Mississippi State University, Mississippi State.

WINDHAM, Mike. "An Evaluation of Extension Communication in Mississippi." Master of Science Thesis, Mississippi State University, Mississippi State.

#### NEW YORK

BALDWIN, Kenneth R. "Suggested Techniques for Improving College Teaching." M. S. Thesis, Cornell University, Ithaca.

BERKEY, Arthur L. and DRAKE, William E. "Competency Identification, and Materials and Program Development for Competency Based Teacher Education in Agriculture." Staff Study, Cornell University, Ithaca.

KAKU, Hiroki. "Palau Community Action Agency Agricultural Development Program: A Case Study." M. S. Thesis, Cornell University, Ithaca.

MENSAH, Eric A. "Managing Adult Education in Ghana." Ph.D. Dissertation, Cornell University, Ithaca.

#### OHIO

BOUCHER, Leon. "An Analysis of Professional Performance Activities of Student Teachers in Agricultural Education 1977-78." Staff Study, The Ohio State University, Columbus.

BOUCHER, Leon. "The Identification of a Teacher Profile Associated with Teacher Success in Vocational Agriculture in Ohio." Staff Study, The Ohio State University, Columbus.

BURNETT, Michael F. "Position Analysis of Selected Occupational Areas of Agribusiness." Ph.D. Dissertation, The Ohio State University, Columbus.

- HARRISON, Fred, Jr. "The Projected Role of Cooperative Extension Service in Relation to Program and Delivery Methods in Those States Containing Both 1862 and 1890 Land-Grant Institutions as Viewed by County Extension Agents, State Specialists and Administrators Employed by These Institutions." Ph.D. Dissertation, The Ohio State University, Columbus.
- HEIMAN, James. "The Effects of Language Modeling on the Aquisition and Comprehension of Vocational Skills." Ph.D. Dissertation, The Ohio State University, Columbus.
- HERRON, Clifford J., "Relationships of Selected Factors and Quality of Housing in Guernsey County, Ohio, Ph.D. Dissertation, The Ohio State University, Columbus.
- KNIGHT, James. "Summary of Research on Supply and Demand of Vocational Agriculture Teachers." Staff Study, The Ohio State University, Columbus.
- KNIGHT, James. "Supervised Visitations of Vocational Agriculture Students in the Inner Cities." Staff Study, The Ohio State University, Columbus.
- LARKINS, Willie. "An Analysis of the Methods and Techniques Used by County Extension Agents to Measure the Personal Growth and Development of 4-H Club Members." Ph.D. Dissertation, The Ohio State University, Columbus.
- MCCRACKEN, J. David, and BURNETT, Michael. "Occupational Analysis of Selected Positions in Agribusiness." Staff Study, The Ohio State University, Columbus.
- MCCRACKEN, J. David, and THORPE, Sarah Jane. "Supervised Occupational Experience Programs for Production Agriculture Students with Limited Opportunity." Staff Study, The Ohio State University, Columbus.
- MCCRACKEN, J. David and WOLFF, Chris. "Time Utilization by Vocational Agriculture Teachers." Staff Study, The Ohio State University, Columbus.
- MILLER, Odell. "Evaluating the Internship Program in Regard to Number of Visits Needed, Length of Time Spent on Each Visit and Whether the Student Has Received a Variety of Skills During the Internship Program." Staff Study, The Ohio State University, Columbus.
- MGHAMED, Mohamed. "The Relationship of Selected Factors to Ratings of Competencies by Personnel Engaged in Occupations in Agricultural Production." Ph.D. Dissertation, The Ohio State University, Columbus.
- MOKMA, Arnold. "An Evaluation of the Agricultural Production Program of the Institute of Agricultural Technology at Michigan State University." Staff Study, The Ohio State University, Columbus.

- MOKMA, Arnold. "The Faculty Development Needs of the Agricultural Technical Institute, The Ohio State University." Staff Study, The Ohio State University, Columbus.
- MORTON, Raymond H. "The Relationship Between the Quality of Supervised Occupational Experience and Achievement on a Criterion-Referenced Test of Eleventh and Twelfth Grade Students in Vocational Agriculture." Ph.D. Dissertation, The Ohio State University, Columbus.
- NEWCOMB, L. H. "Preparation of the 3rd Edition of the Review and Synthesis of Research in Agricultural Education." Staff Study, The Ohio State University, Columbus.
- PAPRITAN, James. "The Effect of Calculators Versus Paper and Pencil Procedures on Algorithm Achievement of Sophomore Students in Vocational Agriculture." Ph.D. Dissertation, The Ohio State University, Columbus.
- SCARLON, Dennis. "The Effects of Task Instructional Sheets and Student Performance and Its Interaction with Verbal and Non-Verbal Aptitudes of Vocational Horticulture Students." Ph.D. Dissertation, The Ohio State University, Columbus.
- SHANNON, Theodore. "Programs of Certification and Teacher Education for Vocational Teachers in State Correctional Institutions." Ph.D. Dissertation, The Ohio State University, Columbus.
- THORPE, Sarah Jane. "Supervised Occupational Experiences in Production Agriculture for Students with Limited Opportunity." Master's Thesis, The Ohio State University, Columbus.
- WOLFE, Chris. "Development of an Instrument to Measure Time Utilization by Vocational Agriculture Teachers." Master's Thesis, The Ohio State University, Columbus.

#### OKLAHOMA

- ABOUGBALL, Hameed. "Perceptions as to Manpower Needs in Agriculture as Expressed by Selected Groups of Agriculturists in the Eastern Province of Saudi Arabia." Master's Thesis, Oklahoma State University, Stillwater.
- BULLARD, Gerald Joe. "Factors Influencing Vocational Agriculture Teachers to Return to the Profession After Having Left." Master's Report, Oklahoma State University, Stillwater.
- COPELAND, Leroy A. "An Analysis of Selected Units of Instruction on Animal Science as Included in the Core Curriculum and Taught in Traditional Programs of Vocational Agriculture in Oklahoma." Master's Report, Oklahoma State University, Stillwater.

- GORDON, Monica. "Teacher Response to the Development of Curriculum Modules for Grade 7 Students in Jamaica." Master's Thesis, Oklahoma State University, Stillwater.
- JOHNSON, Byron. "A Follow-up of the 1973-74 Graduates in Vocational Agriculture in Oklahoma." Doctor of Education Dissertation, Oklahoma State University, Stillwater.
- KEY, James P. "Impact of Selected Aspects of the Division of Agriculture Upon Communities in Oklahoma." Staff Study, Oklahoma State University, Stillwater.
- LAING, Lincoln. "A Study of the Impact of Agricultural Education on Jamaica's Agricultural Development Since 1972." Master's Thesis, Oklahoma State University, Stillwater.
- PIERRE, Joseph N. "The Status of Education and Agricultural Practices Among the Rural Population in Seven Selected Areas of Haiti." Master's Thesis, Oklahoma State University, Stillwater.
- RUDOLPH, James. "Selected Aspects of Equine Science Programs at the Post Secondary Level." Doctor of Education Dissertation, Oklahoma State University, Stillwater.
- WHITE, James. "Factors Influencing Vocational Agriculture Teachers to Remain in the Profession." Doctor of Education Dissertation, Oklahoma State University, Stillwater.

#### RHODE ISLAND

- BAYZON, Ronald D. "A Learning Experience in Management Procedures Within an Outdoor Recreational Facility." Supervised Field Practicum, M.A. University of Rhode Island, Kingston.
- TATT, Judith R. "The Relationship of Motivation and Safety Attitudes." Supervised Field Practicum, M.Ed. University of Rhode Island, Kingston.
- MAINE, Ronald A. "A Learning Experience in the Design and Administration of the Requirements and Expectations for a School of Commercial Fisheries." Supervised Field Practicum, M.A. University of Rhode Island, Kingston.

#### SOUTHERN REGION

- BROWN, R.; BROWN, J. D.; DAVID, Glen; JOHNDROW, Jim; PATTERSON, Doug; and IVERSON, M. J. (Chairman), Regional Research Project Coordinating Committee. "The Role of the High School Vocational Agriculture Program in the Occupational Success of Graduates--A Cooperative Project of the Southern Research Conference in Agricultural Education." (13 states participating), Auburn University, Auburn.

TEXAS

CEPICA, M. J. "Development of Guidelines for Summer Vocational Agriculture Programs in Texas." Staff Study, Texas Tech University, Lubbock.

STOCKTON, Jerry. "Determining Vocational Agriculture Teachers' Attitudes with Regard to Their High School Students' Selection of a College of Agricultural Sciences." Staff Study, Texas Tech University, Lubbock.

UTAH

BIGO, Charles H. "Identification of Competencies Requested by Employers in the Utah and Idaho Feed, Seed, and Grain Industry." M.S. Thesis, Utah State University, Logan.

SUMMERS, James O. "A Survey of Job Competencies, Demands, and Perceived Training Needs in Production Agriculture in Northern Utah." M.S. Thesis, Utah State University, Logan.

WOLFE, Kirk J. "Survey of Job Skills in the Beef Cattle Industry in the Uintah Basin." M.S. Thesis, Utah State University, Logan.

VIRGINIA

CRUNKILTON, John R. "Current Status of Undergraduate Methods Courses in Agricultural Education." Staff Study, Virginia Polytechnic Institute and State University, Blacksburg.

CRUNKILTON, John R. and HILLISON, John. "The Influence of Personalized Instructional Programs on Agricultural Education Pre-Service Students." Staff Study, Virginia Polytechnic Institute and State University, Blacksburg.

HILLISON, John. "A Follow-Up Study of 1974 Virginia Agricultural Education High School Graduates." Staff Study, Virginia Polytechnic Institute and State University, Blacksburg.

LYONS, Dan. "The Relationship of Selected Factors to the Attitude of Eastern Region Secondary Agricultural Teachers Toward the FFA." Ed.D. Dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

MCMILLION, Martin B. "Why Agricultural Teachers Return to Teaching." Staff Study, Virginia Polytechnic Institute and State University, Blacksburg.

RENEAU, Fred. "Factors Associated with Vocational Use of Adult Horticulture Instruction." Ed.D. Dissertation, Virginia Polytechnic Institute and State University, Blacksburg.

SILLETTO, Thomas and HILLIOM, John. "The Development of a Competency Based Tractor Mechanic Curriculum." Staff Study, Virginia Polytechnic Institute and State University, Blacksburg.

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RENEAU, William E. "Professional Competencies Perceived Important and Acquired During Student Teaching in Vocational Agriculture by Teacher Trainees at West Virginia University During 1971-72 through 1976-77." Master of Science Thesis, West Virginia University, Morgantown.

MPANGA, Hlelons J. "Evaluation of the Secondary School Agricultural Program in Tanzania to Determine Its Effectiveness as Perceived by Ex-Students, Teachers and Administrators." Master of Science Thesis, West Virginia University, Morgantown.

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- 1974-75 Dr. William D. McCracken, The Ohio State University  
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