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ABSTRACT

The rapid industrialization of agriculture has necessitated the implementation of programs which more effectively coordinate state supervision activities, industry participation, and teacher education. In order to meet this need, a structured occupational experience was designed to provide beginning teachers with agricultural industry-related occupational experiences. This was achieved through a three-phase program including: (1) pre-internship preparation, (2) occupational internship, and (3) post-internship analysis. These phases were integrated into a course entitled "Structured Occupational Internship for Experienced Vocational Teachers." A brief description and evaluation of this program is included in this report. (Author/JS)

STRUCTURED OCCUPATIONAL INTERNSHIP FOR EXPERIENCED VOCATIONAL TEACHERS

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FOREWORD

This paper presents the results of a project funded in 1968 by the Research Coordinating Unit, Board of Vocational Education and Rehabilitation, Springfield, Illinois. The contract was with Southern Illinois University at Carbondale. The project was designed and implemented by Dr. Thomas R. Stitt of the Agricultural Industries Department.

The cooperation of the Research Coordinating Unit Staff, State Department of Vocational Education Supervisorial Staff, participating firms serving as training stations, and agricultural subject matter specialists were essential program components. The internship was operated within the Southern Illinois University, Agricultural Industries 512 course entitled "Structured Occupational Internship for Experienced Vocational Teachers." Contributions made by the Agricultural Occupation instructors who enrolled in the course were also appreciated.

Interviews were conducted by Mr. Roger Ross, an internee of the Agricultural Industries 512 course who assisted in the follow-up study as part of the requirements for a Masters' Degree.

INTRODUCTION

This report presents the results of a research project entitled "Structured Occupational Internship for Experienced Vocational Teachers." The project proposal outlines the key objectives as follows:

1. Design and develop a course, including structured occupational experience, to provide the teacher on-the-job training in selected areas of agricultural related industries.
2. Field test the course with vocational agricultural teachers enrolled at Southern Illinois University.
3. Evaluate results of the structured occupational internship by:
   a. Comparing reported curriculum changes of participants with non-participants;
   b. Comparing reported competency levels of the participants with non-participants.
4. Make recommendations, based on the evaluation and experience gained from field testing the course.

The rapid "industrialization" of agriculture has necessitated the implementation of programs to more effectively coordinate state supervision activities, industry participation, and teacher education. In order to meet this need a structured occupational experience was designed which provides beginning teachers with agricultural industry related occupational experiences. This was achieved

through a three phase program including: 1) pre-internship preparation, 2) occupational internship, and 3) post-internship analysis. These phases were integrated into a course entitled "Structured Occupational Internship for Experienced Vocational Teachers."

Several months prior to the actual beginning date of class, a pre-enrollment session was held to obtain firm commitments and identify the agricultural occupation areas in which the participants were interested. It was established that three horticultural, five agricultural equipment, and nine agricultural supply and business firms would be required for a total of seventeen training stations.

The prospective training stations were contacted, given a complete explanation of the program, and asked if they would be willing to serve as an internee's training station.

DESIGN OF STRUCTURED OCCUPATIONAL EXPERIENCE

Pre-internship preparation:

Prior to the internship, the internees spent a week on intensive preparation. They were divided into three occupational committees: Agricultural Mechanics, Agricultural Business and Supply, and Horticulture. Members of each committee pursued a review of literature and references to provide acquaintance with published material pertinent to the specific area. Their pre-internship assignments were to: (1) develop as nearly as possible,

a complete list of potential places of employment and job titles in these areas, and (2) propose a list of competencies which might be required for entry into the various job titles.

Industry representatives presented a framework specific to agricultural business operations to the internees. In addition, representatives of the state agricultural occupations staff discussed the implementation of the agricultural occupation curriculum into the internees' existing programs. Also, selected agricultural occupational teachers, cooperating businessmen, and high school students who had previous experience in agricultural related high school programs formed discussion panels for the participants.

Occupational Internship:

During the three working weeks of the internship in the respective cooperating centers, two supervisory visits were made to each cooperating firm. The internees were to achieve the following goals:

1. Develop an understanding of how the agricultural business operates.
2. Evaluate the previously developed list of agricultural job titles making necessary additions and/or corrections.
3. Determine the level of skills and abilities which are required for successful entry into selected job titles. (This was to be accomplished through interviews with employees and observations using the previously developed list of competencies as a guide).

4. Compile a list of reference materials which could be used in training students in the specific occupational area.
5. List special tools and equipment which would be essential to facilitate a program in the local school.
6. Develop, through participation, as many skills and abilities as are feasible in the allotted time and under the circumstances available.
7. Spend one day in a related agricultural business to establish a base for making comparisons of the operations of similar businesses.

Post-internship Analysis:

Following the internship experience the teachers returned to the campus for the post-internship analysis program. The activities included speakers from the United States Department of Labor and the Horace Mann Insurance Group.

The agenda also provided time for the original three committees to integrate new information and skills into curricular changes.

The course's objectives do not presume that in the short internship the agricultural occupation teacher could become an expert in a selected area of agricultural occupations. However, the course was designed to provide an orientation to agribusiness firms and, hopefully, provide some basic skills and proficiency for the participants.

EVALUATION OF STRUCTURED OCCUPATIONAL EXPERIENCE

The final evaluation of internship instruction activities can only be established when present high school students, enrolled in programs offered by the participants, enter the active labor force. This evaluation, by necessity, is several years away.

In an attempt to provide some preliminary information regarding the impact of the "Structured Occupational Internship for Experienced Teachers" a follow-up study of the participants was initiated. A personal interview was completed to obtain the required information for an evaluation.

The interview form was designed to document:

(1) The instructor's educational aspirations and goals.

(2) The student population and school size.

(3) Curriculum changes.

(4) Skill competencies obtained.

In order to compare the intern program or participant population, a controlled population was selected which will henceforth be referred to as "non-participants". Of the seventeen who completed the occupational internship, five took different teaching assignments and were omitted from the results. For comparative purposes, twelve non-participants were selected. Four major factors were considered in the selection of non-participants. The factors were:

(1) Graduation from the same university.

(2) Geographical location of present teaching position.

(3) Size of total school enrollment.

(4) Equivalent educational level.

The instrument was field tested on the five participants who had changed jobs.

Comparison of Instructors Background and Educational Aspirations

In addition to the four factors considered in the original selection, personal interviews yielded additional similarities as reported in Table 1.

TABLE 1

Comparison of the Background for Participants and Non-Participants

	Average Age in Years	Average Number of Years Teaching	Average Number of Years Teaching in Present School
Participants	28.91	6.16	5.25
Non-Participants	28.50	5.75	5.16

The major differences were in educational and professional aspirations. Participants reported a more favorable attitude to the completion of further degree work. Motivation can only be surmised, but one cannot overlook the known but unreported fact of augmented salary for participants as a result of additional education.

Student Population Trends:

Comparisons of student population were made on the average number of students (Table 2) and the percentage of non-farm students in agriculture (Table 3).

TABLE 2

Average Number of Students Enrolled in Agriculture Departments

	1966-67	1967-68	1968-69
Participants	44.7	49.3	47.8
Non-Participants	41.8	43.5	44.6

TABLE 3

Percentage of Non-Farm Students 1/ in Agricultural Occupation Departments

	1966-67	1967-68	1968-69
Participants	16.83	28.08	30.25
Non-Participants	36.00	40.59	39.17

The student enrollment for both groups was above the state average of 39.88 for all departments of Agricultural Occupations for the 1968-69 school year. Comparisons of total high school enrollment for the three year period considered for participants

1/ For the purpose of this study, non-farm students were defined as those whose parents earn more than 50 per cent of their income from an off-farm source.

averaged 292, with 317 for non-participants. Summarizing student population relationships, the important difference was that participants have, over the past three years, had a greater increase in non-farm student population.

Curricula Changes in Participants Teaching Program:

The interview instrument considered four curriculum areas: General Agriculture, Machinery Technology, Horticulture, and Agricultural Business.

The "General" area included units on Orientation, Career Opportunities, Agricultural Salesmanship, Human Relations and Communication, Shop Skills, Parts Identification, Management, Safety, Business Structure and Procedure, Sales and Service, and Agricultural Mathematics.

The area of "Agriculture Mechanics" included units on Brakes and Steering, Power Transfer Systems, Automotive, Electricity, Equipment Operation and Repair, Cooling Systems, and Hydraulics.

The area of "Horticulture" included the units on Plant Propagation, Plant Processes, Pest Control, Landscaping, and Soil Conservation.

The area of "Agriculture Business" including units on Fertilizer and Agricultural Chemicals, Petroleum, Agricultural Supplies, Marketing, Grains and Seed Handling and Storage. (Selection of areas, units and the terminology involved is the result of the work of class committees.)

It was found that participants made significantly more curricular changes in the General and Agricultural Mechanics areas than in the Horticulture and Agricultural Business areas. To what extent this is an internship cause and effect relationship is conjecture at this point.

Competency Levels

Participants reported statistically significant increases in competency levels in 5 of the 11 units of "General" agriculture. The five included Orientation, Career Opportunities, Agriculture Salesmanship, Business Structure and Procedure, and Sales and Service. It is difficult to evaluate the areas of Agricultural Mechanics, Horticulture and Agricultural Businesses because not all participants were involved at the same level of exposure and therefore biased the results of the distribution.

Summary:

In summarizing the results of the follow-up study we found that:

(1) Participants and non-participant instructors were sufficiently similar to establish confidence that comparisons would be valid.

(2) When comparing participants with non-participants, a Chi Square Analysis indicated reported curriculum changes for participants were significant in the areas of General and Agricultural Mechanics.

(3) Reported participant competency levels were significantly greater in 5 of the 11 units under General when comparing participants to non-participants. Results

of the other three areas - Agriculture Mechanics, Horticulture, and Agriculture Business must be considered by individual groups and as such, participants report a higher degree of confidence than the average of non-participants.

ADDITIONAL CONSIDERATIONS FOR STRUCTURED OCCUPATIONAL EXPERIENCE

The preliminary evaluation of the Structured Occupational Internship for Experienced Vocational Teachers indicates that Agricultural Occupations Instructors report greater changes made in curricula and a higher degree of confidence in the area considered than reported by a non-participant control group. There was also a favorable verbal or "free response" by all of the participating teachers. These preliminary results are sufficient to recommend that the designed course be continued.

There are, as with any new effort, some suggested changes which should be experimented with in the future operation of the program.

(1) Multiple sections should be offered allowing for one section to be composed of occupational teachers interested in only that area, (i.e., Horticulture or Agricultural Mechanics).

(2) Length of pre-internship period could be reduced from one week to 2 or 3 days. This requires a more efficient utilization of class time and assumes the participant will have a greater knowledge of the area selected.

(3) Provide greater latitude of internship opportunities for the internees, (i.e., the participants of the Agricultural

Business and Supply area were exposed to the business at the local level). It would be desirable to provide exposure to the district, state, regional or national level of the business if the situation allows.

(4) Arrangements should be made to overcome the existing barrier presented by state lines. This ties in closely with recommendation (3) as the regional or national branches may cross state lines. There are also local level training stations in another state which could serve teachers whose home school is near the state line.

(5) Provide the opportunity for the secondary level and community college teachers to be enrolled in different sections. The secondary level teacher is interested in a general or overall view while the community college instructor is interested in becoming highly competent in a limited area of the field.

(6) Encourage small group follow-up throughout the year during which participants may meet to review the progress and problems they are experiencing. This will also provide an opportunity for the exchange of reference material, lesson and unit plans, and aid in the dissemination of material which has been acquired by each teacher during implementation of the program.

(7) Continue the development of a university level central source of materials which can be used as resource references.

(8) Continually encourage the Agricultural Occupations staff to assist in further development of a list of potential resource persons to be used in the class.

(9) Reduce the number of students to no more than 12 if only one staff member is to be involved in supervision. Assuming classes are composed of students from more than one area, (i.e., Horticulture and Agricultural Mechanization), consideration should be given to division of supervision responsibility based on subject matter specialty.