COMPETENCY BASES FOR AN AGRICULTURAL EDUCATION PROGRAM FOR THE COLLEGE OF MICRONESIA

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in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
December, 1980

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PROGRAM FOR THE COLLEGE OF MICRONESIA

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ACKNOWLEDGMENTS

I wish to express my sincere appreciation to Dr. H. Robert Terry Chairman of my graduate committee and Head of the Department of Agricultural Education, for his guidance in completing this research and in my graduate program. I am also indebted to the other members of my graduate committee: Dr. James P. Key, Dr. Robert Price and Dr. Lloyd L. Wiggins. Their valuable advice and assistance were certainly well appreciated.

I am grateful to the Office of Vocational and Adult Education of the U.S. Department of Education for providing financial support during my graduate studies through the Graduate Leadership Development in Vocational Education Program.

I also wish to thank my friends and colleagues in Micronesia for their support and contribution to this study.

Finally, I am deeply grateful to my dear wife, Nenon; our daughter, Teresa; and our son, Jay; for their love, patience and understanding.

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CHAPTER I

INTRODUCTION

The College of Micronesia in Ponape, one of the islands of the U.S. Trust Territory of the Pacific Islands, is presently an Associate of Science degree-granting institution in the fields of nursing, business, and elementary education. The addition of new programs and the relocation of the College have been in the Territorial Master Plan since 1974 (1) but are not yet implemented due to lack of sufficient funds for the construction of physical plant at the proposed site and for underwriting increased operational costs. In April, 1976, the U.S. Congress passed Public Law 94-255 which authorizes up to $8 million for the construction of a four-year college in Micronesia (Appendix A). "Construction" in this context means putting up the buildings and implementation of curricular offerings and training of teachers to institute these curricula. By passing the law (PL 94-255), the U.S. Congress clearly intended to help Micronesia develop a quality institution in higher education where programs in agriculture, marine resources, and basic trades and vocations are emphasized (2).

The "constituency" of the College consists of 140,000 Micronesians (3) living under the administration of the U.S. Federal Government on widely scattered islands located west of the State of Hawaii and east of the Philippines (Appendix B). Under the provisions

of the trusteeship agreement between the United Nations and the United States Government, the U.S. was entrusted with the responsibility for the social and economic development of Micronesia in preparation for self-government or for some form of political union with the United States (4).

Agriculture is vital to the overall economic development of Micronesia. The inability of the local agriculture industry to develop to its full potential and to produce sufficient food to meet the local demand has been creating negative impacts on Micronesia's balance of payments. In 1979, the total cost of imported processed food was five times the total of the earnings from all exports (5). Such horrendous trade imbalance obviously can not go on year after year with out detrimental effects on Micronesia's economic development.

The U.S. Government has belatedly made strong commitments to the development of agriculture, along with fishery, in Micronesia. In recent years, agriculture development study teams from the Food and Agriculture Organization of the United Nations, the U.S. Department of Agriculture, and private economic consultant firms have been brought in to help the local governments develop short- and long-range plans for agriculture development. Vocational agriculture courses designed to promote interest and to provide basic training in agriculture among the students were also included in the secondary school curriculum. The local departments of agriculture have also started conducting adult education classes for farmers in the villages for the purpose of increasing the farmers' efficiency. However, real progress in the promotion of agriculture either in schools or in the villages has been

slow, limited and tentative primarily due to the scarcity of personnel whose qualifications measure up to the requirements of the task at hand.

Statement of the Problem

At present, no agricultural education program in higher education is offered in Micronesia. Formal pre-service training for vocational agriculture teachers and agriculture extension agents is acquired abroad by very few individuals. Recent emphasis on "relevance" discourages the sending of more Micronesian students to agricultural colleges and universities in the United States. This emphasis on relevance stems from the belief of many Micronesian leaders that Micronesians taking agriculture in the United States in large measure are (a) studying the wrong subjects and (b) learning concepts and skills that are not applicable in Micronesia even when they are studying the right subjects. An agricultural education program that provides training and experience geared toward the realities of the tropical climate and is relevant to Micronesia's current stage of economic development is what the leaders perceive as desirable and want their students to have (6).

The study was concerned with securing information useful for the development of a pre-service agricultural education program for vocational agriculture teachers and agriculture extension agents which can provide relevant training to these field-level personnel on their professional competency needs at the College of Micronesia. The availability of indigenous and qualified agriculture teachers and extension

agents will meet one of the most critical areas in the agricultural development of Micronesia.

Purpose of the Study

The main purpose of the study was to develop a proposed pre-service agricultural education program for vocational agriculture teachers and agriculture extension agents for the College of Micronesia. In order to accomplish the main purpose of the study, the following specific objectives were formulated:

1. To identify the professional competency needs of vocational agriculture teachers which should be included in the curriculum of the planned agricultural education program for the College of Micronesia.

2. To determine if differences in perception exist among three groups of respondents as to the importance of the different competencies for satisfactory job performance of vocational agriculture teachers in Micronesia.

3. To identify the professional competency needs of agriculture extension agents which should be included in the curriculum of the planned agricultural education program for the College of Micronesia.

4. To determine if differences in perception exist among three groups of respondents as to the importance of the different competencies for satisfactory job performance of agriculture extension agents in Micronesia.

5. To identify policies, practices and procedures considered desirable by department heads of agricultural education departments of different colleges and universities in the United States which may have significant implications on the establishment of the agricultural education department of the College of Micronesia.

Definition of Terms

The following terms are operationally defined for clarity and consistency in this study:

1. Pre-Service Agricultural Education Program: Refers to all the curriculum requirements that prospective vocational agriculture teachers and agriculture extension agents have to satisfy before they are granted their degrees.

2. Vocational Agriculture Teacher: A teacher certified to teach agricultural courses in the secondary schools.

3. Agriculture Extension Agent: Refers to an employee of the agriculture department hired to help farmers solve farm problems and take advantage of opportunities present in the farms and communities through educational programs.

4. Curriculum: The sum of the learning activities and experiences that a student has under the auspices or direction of the school.

5. Instruction: A methodical and structured presentation of what is to be learned.

6. Competency: Refers to the knowledge, skill, ability or attitude a person needs to have to satisfactorily perform a task.

7. Task: Refers to the most discreet performance undertaken to complete a job.

8. Job: The work that a person does for a living.

9. Vocational Agriculture: Refers to a course taught in high school to train students for careers in agriculture.

10. Evaluation: Refers to a process of determining the worth of something.

Assumptions in the Study

The following assumptions were made in the study:

1. The questionnaires developed and used in the study would adequately measure the perceptions of the respondents relative to the items included in the questionnaires.

2. Persons in the position to know could and would express their honest perceptions of the items listed in the questionnaires if they decided to participate in the information gathering process.

3. The persons requested to provide the information needed for the study were, by the nature of their professions and locations when the study was conducted, the most qualified persons to provide such information.

Scope of the Study

Data needed in the study were obtained by means of three different questionnaires sent to persons located in the six administrative districts in Micronesia, and in 50 agriculture teacher training institutions in the United States. The first questionnaire listing the identified vocational agriculture teacher competencies was sent to all the district vocational education supervisors, high school principals and vocational agriculture teachers employed in Micronesia when the study was conducted. The second questionnaire designed to seek judgments on the relative importance of the listed agricultural extension agent competencies was sent to all the district agriculturists, extension agents and selected farmers. The selected respondents for the questionnaire used to gather views and opinions relative to administrative policies and practices common among vocational agriculture teacher training institutions, were 50 heads of agricultural education departments which graduated no more than 20 certifiable teachers of vocational agriculture at the end of the 1978-1979 school year (7).

It should be recognized that the findings from the first and second questionnaires have built-in limitations with respect to time and location. Since the ratings on the different competencies were based on the apparent competency needs of the incumbent vocational

agriculture teachers and agricultural extension agents in Micronesia when the study was conducted, the validity of those findings are limited to the main objective of the study.

CHAPTER II

REVIEW OF LITERATURE

This review contains five main topics. These are (1) impact of educational programs on a country's economic development; (2) educational reforms and social values; (3) factors to consider in curriculum development; (4) related studies in other countries; and (5) summary.

Impact of Educational Programs on a Country's Economic Development

In many developing countries, education is perceived as a panacea for the country's problems. This perception is so persuasive that many of these countries annually allocate up to a quarter of the national budget to underwrite public education (8).

There are many instances where such sizeable investment in human resource development as essential element in economic development and progress have paid off handsomely. In the United States, Denison and his co-workers obtained evidence that a significant fraction of output growth in the economy is attributable not to increases in physical inputs but to improvement in the quality of the human agent of production (9). Other similar studies done in developing and newly developed countries have produced results that adequately support the following generalizations:

1. Educational investments tend to be characterized by high rates of return.

2. The rate of economic development achieved by a society is some function of the rate of investment in human resource development.

3. One basic reason for low rates of economic growth in some developing nations is their failure to make adequate investments in education (10, p. 108).

Not all the developing countries which have invested considerably in education, however, have seen the expected returns of their investments. Many developing nations which have imported or expanded on traditional educational systems still have what Miller (11) characterized as:

1. Education for unemployment - The schools are turning out graduates faster than the economy can create jobs for them.

2. Education for disappointment - Raised hopes, aspirations and expectations as results of schooling are not being or in fact impossible to be met.

3. Education for inequality - Educational systems established primarily for the elite still remain discriminatory against the poor, certain ethnic groups, females, and members of religious minorities.

4. Education for incompetence - Rote learning, strongly liberal arts oriented curriculum, large class size, and noncompetency-based instruction contribute to the incompetence of graduates in the world of work (p. 206).

Educational Reforms and Social Values

Attempts to institute educational reforms are often times met with strong resistance from various groups due to cost and, more significantly, the length of time involved in the process of reformation. This is particularly true in developing countries where a

strong feeling of "immediacy" -- a sense that there is a great deal to be accomplished and it must be done immediately -- exists (12). The same feeling of urgency very often forces educational leaders in developing countries to duplicate foreign educational systems in toto, instead of trying and adopting one at a time what works well (13). The adoption of foreign educational systems with no or little regard to what is needed for the country invariably results in having an educational system that is irrelevant, not responsive, and very expensive both in terms of actual expenditures and social discontentment.

The tendency to duplicate curricula that have worked well abroad permeates to the singular units of the educational complex -- the schools. This is very common in vocational and technical education due to the paucity of local talents and expertise in the field. As in the past, developing nations turn to foreign agencies and institutions for help in the planning and development of the curricula that the vocational and technical schools are going to offer. Whether the developed curricula will be relevant and functional or not, will depend to a very large extent on the perceptions and experiences of the expatriates brought in to work with counterparts from the host country.

Factors to Consider in Curriculum Development

Successful curricula in all areas and levels of education are not developed through one simple task, but a set of tasks that must be systematically planned, executed and analyzed (14). This set of tasks includes a complex process of identifying needs, ascertaining desired

learning outcomes, planning and preparing instructions to achieve the desired learning outcomes, and working with the cultural, social and personal values and interests of the clients whom the curriculum is going to serve (15). Taba (16) suggested the following steps for developing successful curriculum: (1) diagnosis of needs; (2) formulation of objectives; (3) selection of content; (4) organization of content; (5) selection of learning experiences; (6) organization of learning experiences; and (7) determining the "what" and "how" of evaluation. These subjects are briefly reviewed in the succeeding paragraphs.

Diagnosis of Needs

The diagnosis of needs is considered by many workers in curriculum development as the most important step in planning and developing educational curriculum. Need in this context may mean as the gap between the ideal and the real. Needs are sometines thought of as the psychological and educational needs of the learners; the kind and quality of the students that the school wants to have; and the knowledge, skills and attitudes of the products that the school wants to turn out. The more comprehensive the assessment of needs is, the more responsive the curriculum development process to both individual and group of learners will be (15). Needs are usually assessed through survey-questionnaires, survey-interview, observation and analysis, administration of normative and criterion-referenced tests, studies on trends, and use of panels of experts.

Formulation of Objectives

Objectives in curriculum development may mean, in the broadest sense, as all the educational purposes espoused by Tyler (17) to Mager's (18) simple definition as goals to be achieved at the end of the course or program. In any case, the curriculum objectives selected or formulated should not only be important competencies to be learned by the learners in order to participate in contemporary society, sound in terms of the subject matter involved, and in accord with the educational philosophy of the school, but also they should be of interest or meaningful to the learner, or capable of being made so in the process of instruction (19).

Selection of Content

While it appears that the selection of curriculum content is just a simple matter of putting into the curriculum all the pertinent learning activities that will lead the learner toward the achievement of the curriculum objectives, this impression is far from reality. In most educational settings, the curriculum developer is faced with various factors such as the quality of students, qualifications of teaching and support staff, school facilities, and availability of funds which can determine the nature and scope of his or her selection of what is to be taught.

Organization of Content

The organization of curriculum content is another important challenge confronting the curriculum developer. Aside from the task

of sequencing learning activities, the curriculum developer has to consider the purposes of the institution where the curriculum is going to be implemented. The curriculum content of terminal institutions needs to be organized to make it possible for the learner to master the minimum job entry requirements upon completion of the program. Preparatory and credit-transfer institutions need to have well articulated curricula not only to have logical instructional flow from one level to another, but also to reduce or eliminate costly and unnecessary duplication of instructions among institutions.

Selection of Learning Experiences

The selection and organization of learning experiences are not only determined by the resources available at hand for the school, but more significantly by the learners for whom the curriculum is being designed and developed. The learners' individual and group differences need to be properly identified in order to provide the learners with interesting and meaningful learning activities. Learning activities that do not relate to or ignore the learners' experience, their values and the realities of the society they live in, will have little meaning for them (20). In the quest for relevance in instruction, the curriculum developer can avail himself or herself of the studies on the nature of learners and the learning process, on the variety of teaching methods to suit to different situations, and on sophisticated teaching equipment that came along with the rapid advance in educational technology.

The "What" and "How" of Evaluation

Evaluation is by far the most difficult among the steps in curriculum development suggested by Taba. In this day of accountability, it is becoming more and more unusual for the tax payers to accept from curriculum evaluators and managers, evaluative decisions based on John Kenneth Galbraith's conventional wisdom - which associates truth with convenience and the good with the familiar and comfortable (21). What the public wants and expects is an evaluative process that is data-based, reflecting the goals or objectives of the curriculum, and containing the evaluative procedures involved and statement of results. Since value judgments are still very much involved in the total curriculum evaluative process, the curriculum evaluator needs to acquire and develop an enormous variety of skills and competencies. Curriculum evaluation can become extremely critical when it is used as a means of judging the effectiveness of the total educational system (22).

Related Studies in Other Countries

A number of studies on professional competency needs and task analysis done for the purpose of curriculum development and program proposal have already been conducted in several developing countries. Using five groups of respondents in rating 100 professional competencies required and attained by elementary and secondary agriculture education teachers in Northeast Brazil, Da Silva (23) found that there was a large number of similarities in the levels of proficiency required for and attained by elementary and secondary agricultural

education teachers in regard to the 100 professional education competencies. He strongly recommended that his findings be utilized as base-line data in the planning, development and implementation of four-year college programs for elementary and secondary agriculture education teachers in Northeast Brazil. In another professional competency needs study relative to the teaching of agricultural science in the secondary schools in the state of Ondo, Nigeria, Olaitan (24) reported that the perceived pre-service training needs of prospective teachers were in the areas of professional ethics, teacher-professional relationships, program management, guidance in agriculture, school discipline, student organizations, program planning, organization and implementation. In regard to the professional improvement of teachers who were already in the field, the study suggested that the teachers needed competency improvement in planning, implementation and evaluation of instruction, school discipline, school-community relationships, recruitment and selection of students and guidance in agriculture.

In a study where the teachers' task in and out of school were analyzed, Chit-Anan (25) found that in Thailand the agriculture teachers in the secondary schools have high frequency of task performance in in-school programs and low task frequency performance in out-of-school programs, even though almost all of the 89 identified professional tasks were rated as "important" and one-fourth of the tasks as "very important" by the three groups of respondents. A pre-service teacher training curriculum that emphasizes out-of-school programs so that agriculture teachers will be prepared to organize and carry out out-of-school learning activities, was recommended as a result of the study.

In a library-type research where the improvement of the organization, administration and supervision of agricultural education was considered as a major factor for increased farming efficiency, raised farm family income and increased national agricultural production in Nigeria, Okoye (26) gathered enough information to make it possible for him to give, among others, the following recommendations:

1. Because agricultural development is a critical issue, the mass population must be taught the need for agricultural education designed to promote the welfare, social and economic progress of the entire nation.

2. Teacher education is the critical factor in having successful programs in agricultural education.

3. Teacher education programs should give adequate consideration to teaching people in the villages and other rural areas.

4. Teachers should be trained in programming and curriculum development.

5. The curriculum at all levels of agricultural education must express the real life in the community and emphasize the value and dignity of agriculture.

6. A strong, systematic, aggressive and dynamic recruiting program of young and able Nigerians to the agriculture teaching profession is imperative (p. 227).

In another research effort relative to the rationale and guidelines for developing agricultural education programs in selected developing countries in Southeast Asia, Shah (27) reported that the development of human resources is a prerequisite for the development of natural resources. He suggested that local and national governments should allocate more funds to be used in opening more schools, training and hiring more qualified agriculture teachers, and establishing farms, workshops and school laboratories.

Using programs from 10 selected Departments of Agricultural Education in the United States as bases for comparison and development of the agricultural program for pre-service training for agriculture teachers in one state university in Pakistan, Lodhi (28) found that 51.8 per cent of the total five-year program was devoted to the area of specialization at that particular university, which was 15 per cent more than the average requirements in the 10 selected institutions in the United States. He also found that professional education and electives constituted only 7.6 per cent of the total five-year program which was 18.0 per cent less than the average requirements in the selected 10 institutions in the United States. He concluded that more emphasis be given to professional education and elective courses in the five-year agriculture teacher training program.

In an attempt to obtain bases for departure from the French -- introduced agriculture curriculum then existing in teacher-training institutions in South Vietnam and which he considered too oriented toward replicative use of knowledge, Nam (29) did an intensive review of official documents and analysis of national goals. Based on his research and analysis, he was able to conclude that the curriculum in the agriculture teacher-training institutions in South Vietnam, in order to be relevant and responsive to the training needs of the agriculture teachers relative to national goals, have to be radically changed to make equal emphasis for cognitive learning and training in manipulative skills possible.

Several investigations conducted for the purpose of identifying the professional competency needs of agriculture extension agents in

developing countries have produced results that were not radically different from those findings of similar research done in the United States. Using the critical incident technique in identifying the professional training needs of extension agents in Western Nigeria for the purpose of developing a curriculum at the college level, Williams (30) reported that the agriculture extension agents required training in the following major categories of behavior:

1. Creating appropriate teaching-learning activities for the clientele.
2. Planning, organizing and implementing agriculture extension programs and projects.
3. Demonstrating interperonal relationships with staff members within the extension agency and with other agencies.
4. Working with groups of clientele.
5. Conducting and organizing training programs for co-workers and clientele.
6. Providing technical aid to clientele (p. 160).

Williams' findings have striking similarities with those of Bajaj (31) in Oklahoma and of Czarniecki (32) nation-wide in the United States.

Other studies yielded more or less the same information. Using the questionnaire-survey technique to ascertain the training needs of potential agriculture extension agents and to use the findings as bases for the development of a training program that can provide the agents with the skills, knowledge and attitudes they need to be competent in their jobs, Onazi (33) found that the extension agents in the northern states of Nigeria needed intensive training in the areas

of technical knowledge in agriculture, agricultural extension philosophy, organization, administration and communications.

In a study done in Ghana (34) the three groups of respondents to the questionnaire generally identified the pre-service training needs of agricultural extension agents in that country as in the areas of extension program organization and administration, human resource development, educational process, communications, technical knowledge, and evaluation of programs.

Summary

The review of the literature revealed the need for a relevant and responsive agricultural education program for training agriculture teachers and extension workers especially in developing countries. The importance of having trained and dedicated agriculture teachers and extension workers participate in national social and economic development was eloquently stressed by the late Dag Hammerskjold, Secretary General of the United Nations, when he declared:

> Great economic development programes have been planned which are held back more by lack of men to direct them than by lack of capital. Great national programes of social welfare are failing to move forward, primarily for lack of experienced officials to undertake the manifold administrative tasks which these programes entail. Fundamentally, man is the key to our problems. Funds are valuable only when used by trained, experienced and devoted men and women. Such people, on the other hand, can work with miracles even with small resources and draw wealth out of barren land (35, p. 77).

CHAPTER III

METHODOLOGY

As stated in Chapter I, the main purpose of the study was to develop a pre-service agricultural education program for prospective vocational agriculture teachers and agriculture extension agents for employment in Micronesia. In order to accomplish that main purpose of the study, the following specific objectives had first to be attained:

1. To identify the professional competency needs of vocational agriculture teachers and agriculture extension agents who would be working in Micronesia.
2. To identify some important and common policies, practices and procedures connected with the operation and administration of four-year agriculture teacher-training institutions.

The data and information necessary for the achievement of the specific objectives of the study were collected and made meaningful with the use of the following steps and procedures:

1. Development of the data-gathering instruments.
2. Determination of research populations and samples.
3. Formulation of data-gathering procedure.
4. Treatment of collected data.

Development of the Instruments

After due considerations were given to the possible sources of information, time, and resources available to the researcher, it was

decided by the researcher and his dissertation committee that the most practical means of collecting the needed information was through the use of self-administrered questionnaires. In coming up with the list of professional competencies considered to be associated with successful teaching in vocational agriculture, the researcher referred to the list of competencies for vocational and technical education teachers found in DeVaughan's study (36). Some of the competencies found in DeVaughan's list were modified and added to the ones which the researcher, with the help of two experienced and perceptive friends, had already prepared.

The first draft of the questionnaire intended for soliciting judgments on the competency needs of vocational agriculture teachers in Micronesia was sent to the dissertation committee for review. The suggestions from the committee were carefully carried out and included in the second draft of the instrument. To determine if there were difficulties in reading and understanding the competency statements, the second draft was pilot-tested with a group of five agriculture teachers teaching at Ponape Islands Central School. The third and final draft of the instrument (Appendix C) was set for printing and mailing to prospective respondents after no really critical and unfavorable comments as to difficulties in understanding the wordings in the questionnaire and the length of time to fill it out were brought out by the teachers who participated in the pilot-test.

The second questionnaire developed was designed to collect information as to the importance of some competencies for agriculture

extension agents working in Micronesia. Included in the list of competencies to be rated were some that were taken from the instrument used in the study done by Czarniecki (32). The rest were the results of successive discussions on competency needs of Micronesian agriculture extension agents between the researcher and two knowledgeable and well-meaning friends with considerable number of working years spent in Micronesia. As with the case of the instrument used to draw out responses on the competency needs of vocational agriculture teachers, the first draft of the second questionnaire was sent to the dissertation committee for review. Suggested changes, deletions, and additions were again carefully carried out. The third draft of the instrument was also pilot-tested with six agriculture extension agents for possible problems in wordings and understanding of the statements before printing and mailing to prospective respondents. The final draft of the second questionnaire is found in Appendix D.

The third instrument (Appendix E) was designed to solicit information on desirable policies and procedures connected with staffing and administration of four-years agriculture education programs from department heads of agricultural education departments of different colleges and universities in the United States. The members of the dissertation committee reviewed the questionnaire twice before it was printed and mailed to selected prospective participants in the opinion survey.

Selection of Study Populations and Samples

The relatively small number of district vocational education supervisors (N=6), secondary school principals (N=6), and vocational agriculture teachers (N=24) who were employed during the time of the study, made it possible to use the entire population of each of the three groups from which judgments on the competency needs of vocational agriculture teachers teaching in Micronesia could be drawn out. The reason behind the grouping of sample subjects based on job position incumbency, was to find out if the three groups of respondents, i.e., district vocational education supervisors, secondary school principals, and vocational agriculture teachers, differed in their perceptions as to the importance of identified vocational agriculture teaching competencies.

In the rating of identified job competencies as to their importance for satisfactory performance of agriculture extension agents working in Micronesia, the entire populations of district agriculturists (N=6) and agriculture extension agents (N=50) who were on the government personnel roster when the study was conducted, were used as research samples. A stratified-random sample (N=24) from the population of farmers who were known to be knowledgeable and cooperative enough to contribute significantly to the study by the district agriculturists, formed the third sample used in the investigation. As in the case of the ratings on vocational agriculture teachers competency needs, three groups of respondents (district agriculturists, agriculture extension agents, and farmers) were utilized as research samples to determine if there were differences in group opinions among

the three groups on the identified job competencies as to their importance to satisfactory performance of Micronesian agriculture extension agents.

A stratified sample (N=50) from a population of heads of agricultural education departments of different colleges and universities in the United States was used to respond to the third quesionnaire. The selection of subjects that were included in the sample was based on one criterion and that criterion was having 20 or less number of certifiable vocational agriculture graduates for the school year 1978-1979. The basis for the criterion was the assumption that large agriculture education departments, as evidenced by their larger numbers of graduates every year, are operated on different plane so that inputs from these institutions will be of little value in this study.

Procedure of Data Collection

The questionnaires designed to gather information relative to the professional competency needs of vocational agriculture teachers and agriculture extension agents in Micronesia were sent to prospective respondents on May 1, 1980, with attached cover letter (Appendix F) which explained the purpose of the study and a copy of letter of enforsement from either the Director of Bureau of Education (Appendix G) or Director, Bureau of Resources and Development (Appendix H) of the U.S. Trust Territory of the Pacific Islands. The recipients of the questionnaires were requested to complete and return the instruments on or before June 30, 1980, if possible. A follow-up letter

(Appendix I) was sent to each of the district vocational education supervisors and district agriculturists as an attempt to increase the percentage of return of questionnaires, on July 7, 1980, one week after the initial June 30, 1980, deadline.

The third instrument was mailed, together with a cover letter (Appendix J), to the selected heads of agricultural education departments of different colleges and universities in the United States on July 7, 1980.

From late May, 1980, through late July, 1980, completed questionnaires were received by the researcher at his home address and at the Agricultural Education Department, Oklahoma State University. After realizing the fact that no more questionnaires were received after a period of five days from July 20, the researcher, with the consent of his major adviser, set July 31, 1980, as the final cut-off date for all responses that could be included in the data analysis.

Treatment of Data

The number of questionnaires were compared with the number of questionnaires mailed out at the beginning of the study to get the percentage of returns for each group of respondents. Those data are shown on Table I.

The respondents' ratings on the competency statements on the questionnaires having modified Likert scales (37) of no importance to extremely important to satisfactory job performance were assigned numerical point values in order to allow statical treatment of ratings. The point values assigned for the rating categories were:

No Importance = 1

Some Importance = 2

Important = 3

Very Important = 4

Extremely Important = 5

TABLE I

PERCENTAGE OF RETURNED QUESTIONNAIRES BY GROUP

Group	Number Surveyed	Number Responded	Returned Percentage
VOCATIONAL AGRICULTURE GROUP:			
Dist. Vocational Education Supervisors	6	5	83.3
High School Principals	6	5	83.3
Vocational Agriculture Teachers	24	18	75.0
Total Persons Surveyed	36	28	77.8
AGRICULTURAL EXTENSION GROUP:			
Dist. Agriculturists	6	6	100.0
Extension Agents	50	36	72.0
Farmers	24	14	58.3
Total Persons Surveyed	80	56	70.0
SCHOOL ADMINISTRATORS GROUP:			
Agricultural Education Department Heads	50	39	78.0

The values derived from the quantified ratings were used in computing for the percentages and frequency distribution of ratings;

individual group and combined group means for each competency statement; and area means for each group of respondents.

The criteria for determing whether a given competency was important to a professional performance or not, were established by the researcher in consultation with his major thesis advisor. The established response ranges for the different importance categories to satisfactory performance in a particular job are as follows:

4.50 - 5.00 = Extremely Important

3.50 - 4.49 = Very Important

2.50 - 3.49 = Important

1.50 - 2.49 = Some Importance

0 - 1.49 = No Importance

The responses on the questionnaire which was sent out to gather information relative to staffing, policies, practicies and procedures common in agricultural education programs in higher education from agricultural education administrators were used to get frequencies, percentages, and consensus of opinions.

CHAPTER IV

PRESENTATION, ANALYSIS AND DISCUSSION OF DATA

This chapter includes the presentation, analysis and discussion of summarized data which were gathered through the use of self-administered questionnaires. Descriptive statistical methods were applied on raw response data for the purpose of obtaining central values that were necessary for the accomplishment of the specific objectives of the study.

The data from the vocational agricultural group, the agriculture extension group and the agricultural education administrators group are presented, analyzed and discussed separately in this chapter.

Vocational Agriculture Group Data

Based on the established criteria for determining the relative importance of each competency to the pre-service training needs of Micronesian vocational agriculture teachers, 2 (2.2%) out of the 88 vocational agriculture teacher competencies listed in the first questionnaire were rated as extremely important and 73 (83.0%) as very important competencies by the three groups of respondents and should be given special emphasis in the proposed curriculum for the agricultural education program at the College of Micronesia. Twelve (13.7%) other competencies were judged as important to the pre-service training needs of the Micronesian vocational agriculture teachers and,

therefore, should be included in the proposed curriculum. One (1.1%) competency was considered to be of some importance to the teachers' pre-service training needs by the same three groups of respondents.

Table II shows the relative ratings and rankings of the vocational agriculture teacher's competencies connected with "Planning" as applied to teaching vocational agriculture in Micronesia. Based on the established criteria for determining the relative importance of each of the identified teacher's competencies to the pre-service training needs of the Micronesian vocational agriculture teachers, one (9.1%) of the competencies was rated as extremely important. Seven (63.3%) competencies were judged as very important and the remaining 3 (27.3%) as important by the three groups of respondents. A closer look at the rankings will reveal that pre-service training needs for the vocational agriculture teachers are perceived by the respondents as more critical in teaching methodology, student's educational needs assessments, formulation of educational objectives to meet the educational needs of the students, and development of instructional contents than teacher preparation for the teaching of students with special needs, and formulation and utilization of program advisory councils.

The summarized reponses of the three groups of respondents on the competency statements relative to the execution of pedagogical skills in vocational agriculture are shown in Table III. Fully 95 percent of the 20 competencies in this area were rated as very important and 1 (5%) as extremely important for vocational agriculture teachers. A high grand mean value of 4.16 is indicative of the felt need for more

TABLE II

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF PLANNING

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Select and develop methods and techniques in teaching.	4.60	4.40	4.50	4.50	1
Form objectives of the vocational agriculture program based on the needs of the students.	4.40	4.00	4.50	4.39	2
Identify the student's vocational education needs in agriculture.	4.40	4.20	4.28	4.28	3
Use a variety of teaching aids.	4.00	4.00	4.39	4.25	4
Identify competencies the student needs to have in order to be able to enter an agricultural occupation.	4.00	4.00	4.28	4.18	5
Select and develop appropriate instructional contents for the achievement of the objectives.	4.00	3.80	4.22	4.11	6
Write educational objectives in behavioral terms.	3.20	3.60	3.94	3.75	7
Use the advisery council in developing curriculum content, keeping abreast with new developments and emerging jobs related to agriculture.	2.40	3.20	3.66	3.36	8

TABLE II (Continued)

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Plan for the agricultural training of the handicapped students.	3.00	3.60	3.33	3.32	9
Organize a vocational agriculture advisory council.	2.00	2.60	3.72	3.21	10
Group Area Mean	3.55	3.75	4.07	3.92	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

TABLE III

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF EXECUTION

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Develop lesson plans or teaching units.	4.60	4.40	4.78	4.68	1
Maintain and use safety rules and regulations.	4.60	4.40	4.44	4.46	2
Prepare and conduct demonstrations in class.	4.00	4.20	4.61	4.43	3
Create situations which will cause the students to be motivated to learn.	4.00	4.40	4.55	4.43	3
Present lectures in class.	4.40	4.20	4.44	4.39	4
Exercise classroom control effectively.	4.20	4.20	4.44	4.36	5
Use effective questioning skills.	4.20	4.20	4.39	4.32	6
Supervise laboratory exercises and work periods.	3.80	4.00	4.50	4.28	7
Develop and administer unit tests.	3.80	3.80	4.50	4.25	8
Reproduce educational materials for classroom use efficiently.	4.40	4.20	4.11	4.18	9
Maintain equipment and facilities properly.	3.80	4.40	4.22	4.18	9

TABLE III (Continued)

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Direct group discussion.	4.00	3.80	4.33	4.17	10
Use reinforcement techniques effectively.	3.60	4.00	4.33	4.14	11
Present educational information.	4.20	4.20	4.05	4.11	12
Use motivational approaches effectively.	4.20	4.20	4.05	4.11	12
Use other appropriate methods for evaluating student's performance.	3.20	3.80	4.28	4.00	13
Recognize and interpret student classroom behaviors.	3.80	3.80	4.05	3.96	14
Plan and conduct educational field trips.	4.00	4.00	3.81	3.75	15
Utilize resource persons in the classroom.	3.20	3.80	3.55	3.53	16
Conduct home-farm visits.	3.40	3.80	3.44	3.50	17
Group Area Mean	3.97	4.09	4.24	4.16	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

intensive pre-service training in classroom and laboratory teaching skills and performances by all three groups of respondents.

The teachers, as a group, rated lesson planning, maintenance of safety rules and regulations, methods of teaching, and effective classroom performance competencies higher than the competencies related to home-farm visitations, use of resource persons in the classroom, and education field trips. A similar trend in rating was also followed by the other two groups of respondents. However, the teachers' ratings on the "Execution" competency needs were higher than those of the vocational education supervisors and high school principals as reflected in the group area means.

The relative importance of the competencies connected with evaluation in teaching vocational agriculture as viewed by the three groups of respondents are presented in Table IV. Based on the established criteria for determining the importance of the competencies to the pre-service training needs of the vocational agriculture teachers, all the competency need statements connected with evaluation were rated as very important. The district vocational education supervisors considered competencies of being able to evaluate students' progress in meeting their educational needs, being able to evaluate the usefulness of textbooks and other instructional materials, and being able to establish criteria for evaluating the students' classroom and field performances more important to the needs of the teachers than the rest of the competencies under the area of evaluation. The high school principals and vocational agriculture teachers

TABLE IV

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF EVALUATION

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Evaluate the usefulness of available textbooks and instructional materials in helping the students accomplish the stated objectives.	4.20	4.40	4.44	4.39	1
Evaluate his or her own methods of teaching.	4.00	4.40	4.33	4.28	2
Evaluate the students' progress in meeting their educational needs.	4.60	4.40	4.05	4.21	3
Establish evaluation criteria for classroom and field performances.	4.20	4.60	4.05	4.18	4
Establish evaluation criteria for lessons, instructional units and courses in vocational agriculture.	3.80	4.40	4.22	4.18	4
Construct and administer a variety of testing methods, including objective and subject types of tests.	3.80	3.80	4.22	4.07	5
Evaluate farm tools and equipment in relation to cost and usefulness in the teaching process.	3.80	4.20	4.05	4.03	6

TABLE IV (Continued)

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Establish evaluation criteria for the selection of instructional materials.	4.00	4.00	4.00	4.00	7
Involve students in the evaluation of their progress in meeting their educational objectives.	3.40	3.80	3.89	3.78	8
Interpret test results to students and parents.	3.60	3.60	3.66	3.64	9
Group Area Mean	3.94	4.16	4.09	4.07	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

gave rating and ranking patterns that were similar to those of the district vocational education supervisors.

Table V shows the summarized responses of the three groups to the competency statements connected with guidance activities of vocational agriculture teachers. Seventy percent of the competencies listed under the area of guidance were judged as very important and the remaining 30% as important to the pre-service training needs of the vocational agriculture teachers. The competencies given very high ratings were those connected with helping the students with their future educational plans, with job opportunities and job requirements. These data show that there is a need for teacher training in career education. Academic and personal counseling competency needs were rated comparatively lower by the three groups of respondents. The group means show that there was considerable similarity of perceptions among the groups on guidance competency needs of vocational agriculture teachers.

The vocational agriculture groups' ratings and rankings of the competency needs related to classroom management are shown in Table VI. Based on the established criteria for judging the importance of each competency to the pre-service training needs of the Micronesian vocational agriculture teachers, eight competencies listed under the area of classroom management were rated as very important competencies. Two of the competencies were judged as important competencies by the three groups of respondents. The respondents considered competency needs dealing with students' safety and efficient management of school supplies, materials, and proper maintenance of farm machineries

TABLE V

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF GUIDANCE

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Help the students decide on their future educational plans.	4.40	4.20	4.22	4.25	1
Present agriculturally related occupations existing in the islands to the students.	4.20	4.40	4.17	4.21	2
Cognizant of the different competencies related to different agriculturally related occupations.	3.40	4.00	4.00	3.89	3
Help the school counselors in the selection of students for vocational agriculture.	3.80	4.00	3.89	3.75	4
Aware of the employment records of vocational agriculture graduates.	4.20	3.60	3.66	3.75	4
Aware of the occupational trends in the Trust Territory.	3.60	3.60	3.72	3.68	5
Help the student in their search for employment.	4.00	3.80	3.50	3.64	6
Assist students with academic problems.	3.40	3.20	3.44	3.39	7

TABLE V (Continued)

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Evaluate students' data for selection purposes.	3.00	3.20	3.50	3.36	8
Assist students with personal and readjustment problems.	3.00	3.00	3.39	3.25	9
Group Area Mean	3.70	3.70	3.75	3.72	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

TABLE VI

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF CLASSROOM MANAGEMENT

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Establish a procedure for handling accidents and other emergency situations in the school shops and farm areas.	4.50	3.80	4.44	4.36	1
Establish a system of minimizing unauthorized appropriation of tools, supplies and materials.	4.00	3.80	4.28	4.14	2
Establish a system of maintaining a constant supply of consumable materials needed in the classroom and school farm.	4.20	4.00	4.11	4.11	3
Establish a workable preventive maintenance system for farm machineries and equipment.	3.80	4.00	4.17	4.07	4
Explain to the students the rights and responsibilities of both the teacher and the student in the teaching-learning process.	3.60	4.00	4.05	3.96	5
Conduct educational field trips.	4.20	4.00	3.83	3.93	6
Maintain cummulative records of students enrolled in the program.	3.80	3.80	3.83	3.82	7

TABLE VI (Continued)

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Provide educational activities suited to students' individual differences.	3.80	3.80	3.72	3.75	8
Maintain employment and activity records of graduates.	3.80	3.40	3.33	3.43	9
Handle socially maladjusted students.	3.20	3.60	3.22	3.28	10
Group Area Mean	3.90	3.82	3.90	3.90	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

and equipment as more critical then those competency needs dealing with handling of students' records, individualized instruction, and student discipline problems. The group area means show that there was very little discrepancy in the rating of the competencies between the groups of respondents.

Table VII presents the mean ratings and rankings of the competency needs statements listed under the area of Public and Human Relations performed by the three groups of respondents. Nine (75%) competency needs were rated as very important to the pre-service training needs of the vocational agriculture teachers and three (25%) were judged as important for the teacher to acquire during the teacher-training program. A closer look of the rankings reveals that the competencies that were ranked relatively higher were the competencies connected with the promotion of the vocational agriculture programs to the public. The competencies that were directly concerned with the vocational agriculture teachers' personal public and human relation needs were considered less important by the three groups of respondents at the time the study was conducted.

As a whole, the competency need statements listed under the area of public and human relations were rated lower, as shown by the group area and grand mean ratings for all areas by the three groups of respondents.

The three groups of respondents rated all the competency needs listed under the area of Professional Role as very important to the pre-service training needs of the vocational agriculture teachers in Micronesia (Table VIII). The ranking shows that informal professional

TABLE VII

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF PUBLIC AND HUMAN RELATIONS

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Establish good working relationships with co-teachers, supervisors, principals, and other employees connected with the school.	4.40	4.40	3.67	3.93	1
Keep close contact with the advisory council in promoting the vocational agricultural program in the community.	3.80	4.20	3.83	3.89	2
Participate actively in the planning and staging of the annual agricultural fairs.	4.20	3.80	3.67	3.79	3
Keep the community informed of the vocational agricultural program and its annual activities.	3.60	4.00	3.67	3.71	4
Establish good rapport with parents and teachers in the community.	4.20	4.20	3.39	3.68	5
Conduct educational "open house" during the annual vocational education week.	4.20	3.80	3.50	3.68	5

TABLE VII (Continued)

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Keep close contact with agencies and individuals whose interests lie in the promotion of vocational agriculture programs.	3.20	3.40	3.83	3.64	6
Maintain good relationships with current and prospective employers of vocational agriculture graduates.	3.60	3.60	3.55	3.57	7
Conduct incidental extension work during home-farm visits.	3.80	3.20	3.50	3.50	8
Keep regular consultation with the program advisory council for the improvement of the program.	3.00	4.00	3.39	3.43	9
Participate in community social activities.	2.00	2.80	2.67	2.57	10
Participate in non-instructional school activities such as coaching and judging in athletic events.	2.00	3.00	2.11	2.25	11
Group Area Mean	3.50	3.70	3.40	3.47	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

TABLE VIII

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF PROFESSIONAL ROLE

Competency	Mean Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Keep abreast with the changing agricultural technology and methods of teaching through readings and correspondence with agriculture colleges and universities.	4.40	4.60	4.33	4.39	1
Actively seek opportunities to participate in in-service training programs.	4.40	4.40	4.28	4.32	2
Join professional organizations which promote and support vocational agriculture.	4.40	4.40	3.94	4.11	3
Prepare a personal professional improvement plan.	3.80	3.80	4.11	4.00	4
Subscribe to journals and magazines published by vocational education organizations.	3.80	3.60	3.83	3.78	5
Help re-organize the vocational agriculture teachers organization in Micronesia.	3.00	3.60	3.78	3.61	6
Group Area Mean	3.97	4.07	4.05	4.04	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

improvement activities were viewed as very desirable by all groups of respondents. Even though professional improvement through readings of trade journals, magazines, and active participation in the re-organization of a local vocational agriculture teachers' association was also perceived as possible, the respondents rated the above mentioned means toward that end, lower that the other competencies listed under the Professional Role area.

Taken together, the competency need statements listed under the area of Professional Role were rated relatively high by the three groups of respondents. The computed group area mean and grand mean ratings are only slightly lower than the group area mean and grand mean ratings of the competencies listed under the areas of Execution and Evaluation, but much higher than the rest of the group area mean and grand mean ratings found in other areas.

Table IX shows how the three groups of respondents rated competency need statements under the area of Student Organization, according to their importance to the pre-service training needs of Micronesian vocational agriculture teachers. Eighty percent of the competencies were rated as very important and the rest as important. However, the group area mean ratings and the grand mean rating are the lowest among the central values yielded by different areas of competencies.

Table X presents the three groups of respondents' judgments on the competency statements which were, for the most part, very useful in the recruitment of future vocational agriculture teachers. As the mean rating show, having work experience in the farm and being

TABLE IX

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF STUDENT ORGANIZATIONS

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Promote the formation of vocational agriculture student organizations.	3.20	3.80	3.78	3.68	1
Encourage the vocational agriculture student organizations to participate in the community improvement projects and activities.	3.80	3.80	3.55	3.64	2
Provide guidance in the selection of activities and projects for the vocational agriculture student organizations.	3.20	3.60	3.61	3.53	3
Provide leadership training for elected officers of the vocational agriculture student organizations.	3.20	3.60	3.61	3.53	3
Help the elected officers of the vocational agriculture student organizations in seeking support for the organizations from the community.	3.00	3.60	3.33	3.32	4

TABLE IX (Continued)

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=29)	Competency Ranking
Group Area Mean	3.28	3.68	3.59	3.52	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

TABLE X

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY VOCATIONAL AGRICULTURE TEACHERS IN THE AREA OF BACKGROUND AND EXPERIENCE

Competency	Mean by Groups DVES (n=5)	HSP (n=5)	VAT (n=18)	Overall Mean (n=28)	Competency Ranking
Have work experience in farming.	5.00	4.60	4.17	4.39	1
Be physically healthy.	3.40	4.20	4.11	4.00	2
Communicate in the dialects of the district.	3.40	4.00	3.67	3.68	3
A resident of the district.	2.60	2.80	2.89	2.82	4
Group Area Mean	3.60	3.90	3.71	3.72	

DVES = District Vocational Education Supervisors
HSP = High School Principals
VAT = Vocational Agriculture Teachers

physically healthy were considered very desirable qualifications of vocational agriculture teachers while being a resident of the district where one teaches was not viewed as very important factor for successful teaching in vocational agriculture in Micronesia.

Agricultural Extension Group Data

All the competency need statements listed on the questionnaire sent for response to the district agriculturists, agriculture extension agents and farmers were judged by those three groups of respondents as important to the pre-service training needs of the Micronesian agriculture extension agents and should all be considered in the development of the curriculum for the proposed agricultural education program for the College of Micronesia. Based on the same established criteria for determining the relative importance of each competency to the extension agents' pre-service training needs, 35 (70%) out of the 50 competencies were rated as very important and 3 (6%) as extremely important competencies which should be given emphasis in instruction.

Table XI shows how, as groups, the district agriculturists, agricultural extension agents, and farmers rated the competency need statements under the area of Planning as to their importance to the pre-service training needs of the agricultural extension agents. Forty percent of the competencies were rated as very important and another 50 percent as important. One (10%) competency was judged as extremely important for the extension agents to have during their incumbencies.

The respondents rated the competencies related to actual dealings with problems and opportunities that the farmers meet, as more

TABLE XI

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY AGRICULTURE EXTENSION AGENTS IN THE AREA OF PLANNING

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Help farmers identify the common problems and opportunities in their farming activities.	4.33	4.50	4.86	4.57	1
Help the farmers arrange their problems and opportunities in order of priority based on needs and available resources.	4.00	4.05	4.36	4.12	2
Help identify the educational needs of the farmers that will enable them to solve the problems and profit from the opportunities in their farming operations.	3.66	3.97	3.71	3.87	3
Identify the human and material resources needed in order to achieve the educational objectives.	3.16	3.75	4.43	3.86	4
Put the educational objectives into the plan of work.	3.50	3.75	3.86	3.75	5
Convert the educational needs to educational objectives.	3.50	3.31	3.64	3.41	6

TABLE XI (Continued)

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Organize a program planning advisory committee.	3.50	3.50	3.14	3.51	6
Design educational experiences for the farmers that are appropriate to the educational objectives.	3.00	3.19	3.79	3.32	7
Utilize the program planning advisory committee in designing the annual plan of work.	3.50	3.42	3.00	3.32	7
Identify and select the membership in the program planning advisory committee.	3.00	3.06	2.78	2.98	8
Group Area Mean	3.51	3.65	3.75	3.66	

D.A. = District Agriculturist
E.A. = Extension Agents

important than the competencies related to program planning advisory committees. The farmers, as a group, were more critical in their judgments with regard to the relative importance of the "Planning" competencies to the pre-service training needs of the extension agents than the district agriculturists and agricultural extension agents were when the study was conducted.

The mean ratings given by the three groups of respondents on the competency needs listed under the area of Execution as to their importance to the pre-service training needs of Micronesian agriculture extension agents are presented in Table XII. One competency was rated as extremely important. Seventy percent of the competencies were also rated as very important and another 25 percent as important for the extension agent to acquire in training.

The respondents viewed the competencies related to extension methodology, the ability to provide sound technical services, and interactions involving groups as more important than the competencies pertaining to the use of mass media communications in extension work, and to extension agents' routine but nonetheless important tasks.

Table XIII shows the summarized responses of the three groups of respondents regarding the relative importance of the competency needs statements listed under the area of Evaluation as applied to successful job performance for agricultural extension agents. A big majority (87.5%) of the competencies were rated as very important and the rest as important competencies. As in the case of the rating on the competencies listed under the area of "Execution," the respondents considered the evaluative competencies related to extension program

TABLE XII

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY AGRICULTURE EXTENSION AGENTS IN THE AREA OF EXECUTION

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Plan and conduct demonstrations.	5.00	4.53	4.57	4.59	1
Provide technical services to the farmers.	4.50	4.36	4.64	4.45	2
Promote agricultural development to the public.	4.67	4.28	4.36	4.34	3
Select and use appropriate teaching methods and techniques.	3.66	4.31	4.50	4.28	4
Develop simple instructional materials that can be used in meeting the educational needs of the farmers.	4.16	4.22	4.43	4.26	5
Plan and conduct farmers' meeting.	4.50	3.83	4.29	4.02	6
Organize and conduct educational tours for farmers.	3.83	3.81	4.64	4.02	6
Follow a written plan of work.	3.66	4.00	3.36	3.80	7
Provide leadership training to recruited leaders of farmers associations.	3.83	3.64	3.93	3.73	8

TABLE XII (continued)

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Have access to sources of information needed in the course of his or her work.	3.67	3.72	3.71	3.71	9
Plan, organize and conduct agricultural fairs.	3.66	3.55	4.14	3.71	9
Prepare a monthly and annual report of activities.	3.67	3.89	3.14	3.68	10
Operate audio-visual equipment.	4.00	3.47	3.86	3.62	11
Keep accurate and useful records of his or her daily activities.	3.67	3.75	3.21	3.61	12
Present educational information.	3.50	3.41	3.86	3.54	13
Prepare and present a speech effectively.	3.50	3.39	3.50	3.47	14
Keep a personal library or resource file.	3.50	3.61	3.07	3.46	15
Recruit leaders of farmers associations.	3.50	3.14	4.07	3.41	16
Write farm news for radio broadcast and newspapers.	3.16	3.36	3.29	3.32	17
Write newsletters.	3.33	2.86	3.07	2.96	18
Group Area Mean	3.85	3.76	3.88	3.80	

D.A. = District Agriculturists
E.A. = Extension Agents

TABLE XIII

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY AGRICULTURE EXTENSION AGENTS IN THE AREA OF EVALUATION

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Evaluate the effectiveness of the different teaching methods and techniques used in extension work.	4.17	4.03	3.93	4.02	1
Help form criteria for evaluating the effectiveness of educational programs planned for farmers.	3.83	3.97	4.14	4.00	2
Help evaluate the individual farmer's progress in meeting his or her educational needs.	3.67	3.83	3.93	3.84	3
Evaluate program results against program objectives.	4.00	3.78	3.86	3.82	4
Help identify factors which prevent or come in conflict with the farmer's progress in meeting his or her educational needs.	3.17	3.81	3.93	3.77	5
Effectively use evaluation information for the improvement of the teaching-learning process.	3.67	3.69	3.93	3.75	6
Evaluate his or her own performance as an extension agent.	3.67	3.64	3.57	3.63	7

TABLE XIII (Continued)

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Evaluate the performance of those who work for or with him or her.	3.33	3.39	3.50	3.41	8
Group Area Mean	3.69	3.77	3.85	3.78	

D.A. = District Agriculturists
E.A. = Extension Agents

planning and extension work methodology more important to the extension agents' pre-service training needs than the evaluative competencies dealing with personal and co-workers' performance evaluations. The group area mean ratings show that the three groups of respondents did not differ markedly in their perceptions regarding the relative importance of the evaluative competencies to successful job performance for agricultural extension agents.

Table XIV records the ratings given by the three groups of respondents on competency needs statements related to public and human relations according to their importance to the pre-service training needs of the agricultural extension agents. All the competencies were rated as very important, based on the established criteria for determining the relative importance of each competency. The respondents considered public and human relation competencies directly related to interpersonal interactions in extension work and other activities dealing with rural economic development as more important to the pre-service training needs of the agricultural extension agents than the competencies not directly related to agricultural extension work. As a whole, the public and human relation competencies were rated higher than any of the other four areas. The district agriculturists, as a group, gave the highest group area mean rating among the three groups of respondents.

The respondents' ratings on the importance of some competencies related to the future extension agents' background and experiences are shown in Table XV. The three groups of respondents regarded having work experience in farming as extremely important for successful

TABLE XIV

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY AGRICULTURE EXTENSION AGENTS IN THE AREA OF PUBLIC AND HUMAN RELATIONS

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Develop good working relationships with his or her supervisors, colleagues and other persons involved in the economic and rural development of Micronesia.	4.67	4.47	4.43	4.48	1
Interpret and relate his/her role and responsibilities as an extension agent to the members of the community.	4.67	4.44	4.50	4.47	2
Relate to local elected officials and traditional leaders in order to establish and maintain strong support for the extension service in the community.	4.33	4.33	4.00	4.25	3
Establish good communication with the district agriculture station personnel.	4.17	4.03	4.21	4.09	4
Keep the public informed on the extension service's goals, programs and results.	4.17	4.05	3.93	4.04	5

TABLE XIV (Continued)

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Actively participate in community social activities.	3.83	3.72	4.21	3.86	6
Provide leadership to local groups involved in community development activities.	4.00	3.66	4.07	3.80	7
Establish good working relationships with the vocational agriculture teachers in the district.	3.83	3.72	4.00	3.80	7
Group Area Mean	4.21	4.05	4.17	4.10	

D.A. = District Agriculturists
E.A. = Extension Agents

job performance among agriculture extension agents in Micronesia. Being physically healthy and also able to communicate in the dialects, or being a resident of the district were also considered very important competencies for the extension agents to have during their incumbencies.

TABLE XV

RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED COMPETENCIES NEEDED BY AGRICULTURE EXTENSION AGENTS IN THE AREA OF BACKGROUND AND EXPERIENCE

Competency	Mean by Groups D.A. (n=6)	E.A. (n=36)	Farmers (n=14)	Overall Mean (n=56)	Competency Ranking
Have work experience in farming.	4.83	4.53	4.79	4.62	1
Physically healthy.	4.33	3.97	4.07	4.04	2
Communicate in the dialects in the district.	3.67	3.92	3.86	3.87	3
A resident of the district.	2.33	3.19	3.50	3.18	4
Group Area Mean	3.79	3.90	4.06	3.93	

D.A. = District Agriculturists
E.A. = Extension Agents

Heads of Agricultural Education Departments Data

The data to be presented in this section were derived from the responses of 39 heads of agricultural education departments who

represented a cross-section of the research population, to the questions listed on the third questionnaire.

To the question of what they considered the minimum educational attainment the head of an agricultural education department should have 32 or 82.1% of the respondents indicated that a Doctor of Philosophy/Doctor of Education degree was their considered minimum educational attainment. Six (15.4%) respondents were of the opinion that the minimum educational attainment for the head of the department should be a masters degree and one (2.5%) suggested that a bachelors degree should be the minimum.

Thirty (76.9%) of the respondents preferred that the incumbent head of the agricultural education department have had administrative work experience, while 9 (23.1%) did not think that previous administrative work experience was necessary. Of the 30 respondents who preferred that the head of the agricultural education department should have had previous administrative experience, 15 (50.0%) considered two years as the minimum number of years for that experience. Seven (23.3%) indicated their preference for three years of previous administrative work experience for the incumbent head of the department, 4 (13.4%) thought one year was sufficient, and 3 (10%) suggested that the minimum number of years of previous administrative experience should be at least five years.

On the question of whether the head of the agriucltural education should have had college teaching experience in agriculture or not, 36 (92.4%) responded with the affirmative and only 3 (7.6%) did not think that previous college teaching experience in agriculture was

necessary. Twenty-two or 61.1% of those with the affirmative considered three years as a minimum number of years for the college teaching experience in agriculture for the head of the agricultural education department, 9 (25%) indicated their preference for the five-year minimum, 4 (11.1%) thought the minimum should be two years and 1 (2.8%) responded with a four-year minimum of college teaching experience in agriculture for the head of the agricultural education department.

To the question of should the incumbent head of the agricultural education department have previous vocational agriculture teaching experience or not, 38 (97.4%) thought the head of the agricultural education department should have that experience and only 1 (2.6%) did not consider the experience as important or necessary. To the supplementary question of what should be the minimum number of years for that vocational agriculture teaching experience that the head of the agricultural education should have, 30 (78.9%) out of the 38 who considered vocational agriculture teaching experience as necessary, indicated that three years should be the minimum for that experience, 5 (13.2%) showed that they preferred a five-year minimum and 3 (7.9%) suggested that the minimum should be two years.

The respondents considered also the qualifications of the teaching staff of the agriculture teacher and extension agent training program. Twenty-eight (71.8%) out of the 39 respondents considered a masters degree as a minimum educational qualification, nine (23.1%) preferred a doctorate degree as the minimum and two (5.1%) respondents would

accept a bachelors degree as the minimum educational qualification for the teaching staff members.

On the question of whether the teaching staff members should have had previous college teaching experience in agriculture or in other related sciences, 28 (71.8%) did not think that experience was necessary and only 11 or 28.2% of the respondents considered that the experience was important.

Thirty-seven (94.9%) out of the 39 respondents indicated that they preferred the teaching staff members to also have vocational agriculture teaching experience. The other two respondents did not view that kind of experience as necessary. On the question of what should be the minimum number of years spent by the staff member in teaching vocational agriculture, 29 (78.4%) of the respondents agreed that it should be three years, 5 (13.5%) preferred five years and 3 (8.1%) responded with two years.

The respondents were asked for their opinions on having experience or formal training in teaching students with special needs as a requirement in hiring staff members. Twenty-seven (69.2%) reported that previous experience or formal training in teaching handicapped students should not be a requirement in hiring staff members while twelve (30.8%) said it should be a requirement.

To the questions of who should be responsible for the selection of instructional materials and equipment, 14 (35.9%) respondents said it should be the responsibility of the individual staff member. An equal number of respondents felt that that should be a group responsibility with the staff members, head of the department and the members of an

in-house curriculum committee making the membership of the group. Eight (20.5%) believed that the selection of instructional materials and equipment should be the responsibility of the curriculum committee and three (7.7%) of the respondents suggested that it should be the responsibility of the head of the department.

A majority (53.8%) of the respondents agreed that the responsibility for the evaluation of instruction be given to an outside evaluation team. Seven (17.9%) of the respondents wanted that responsibility be assigned to an in-house evaluation committee, while nine (23.1%) suggested that the head of the department be given the responsibility of evaluating instruction. Two (5.2%) respondents felt that each staff member should be responsible for the evaluation of instruction.

The responses on the question of should the department assume full responsibility for the staff's professional improvement were mostly on the negative side. Twenty-three (59.0%) of the respondents were strongly opposed to the idea that the department be responsible for the staff's professional improvement. Sixteen (41.0%) of the respondents were for having the department assuming that particular responsibility. Sixty-two and a half (62.5%) percent of those who felt that it was the department's responsibility also suggested that 10 percent of the department's operational budget be set aside for that purpose. Four others thought 5 percent of the budget spent for staff's professional improvement was a better arrangement, and two respondents considered 15 percent of the budget alloted to staff's professional improvement as sound investment.

On the question of how often should the evaluation of faculty members' performances be conducted, majority (61.5%) of the respondents were of the opinion that faculty evaluation be conducted annually. Eleven (28.2%) suggested that the faculty members be evaluated continuously. Semestral evaluation of faculty members was recommended by three (7%) and one (2.6%) considered faculty evaluation conducted every two year as more practical.

When asked on who should be doing the staff members performance evaluation, 27 (69.2%) of the respondents felt that a group or committee made up of staff members, students and the head of the department should be doing the evaluation. Eight (20.5%) reported that they wanted the head of the department to be the person responsible for faculty performance evaluation. Two respondents (5.1%) believed that students should be doing the evaluation of staff members and another two thought that staff members' performances can be more effectively evaluated if the evaluation is performed by colleagues. Not even one respondent felt that self-evaluation is preferrable.

The respondents were unanimous in their opinion that student-teaching for prospective vocational agriculture teachers, or internship for future agriculture extension agents to be a requirement of the Bachelor of Science degree. As to the length of time the student-teaching or internship experience should last, majority (59.0%) of the respondents considered one semester (14 to 16 weeks) as the most appropriate length of time for student-teaching or internship. Ten (25.6%) respondents indicated their preference for one quarter student-teaching or internship while six others (15.4%) suggested a

year long student-teaching or internship experience. With regard to the scheduling of the student-teaching or internship, 34 (87.2%) respondents would prefer having the students take the student-teaching or internship during the fourth or last year in their program. Three (7.7%) suggested the third year and two others (5.1%) felt that the student-teaching or internship can be taken by the students at any time the students are in the program.

The respondents were nearly unanimous (94.9%) in their opinion that the department should assume the responsibility for student placement and follow-up. Only two respondents disagreed for what ever reason.

On the question of having the department establish and maintain a separate clinical and counseling service unit, 33 (84.6%) were against it and only 6 (15.4%) felt that the department should establish and maintain such kind of service unit.

The respondents were of the general opinion that, other things being equal, smaller class sizes are preferable to larger ones. Nearly half (48.7%) of the respondents showed preference for a student-teacher ratio of 15:1. Thirteen (33.3%) of the respondents favored a student-teacher ratio of 20:1 and six (15.4%) indicated their preference for 25 students for every one teacher. Only one (2.6%) respondent would go with a student-teacher ratio of 30:1.

To the question of should the department conduct research to complement instruction, 92.3 percent of the respondents felt that the department should, with only three (7.7%) voicing their opposition to having the department conduct research in order to strengthen

instruction. Among those who agreed that the department should conduct research to complement instruction, 38.9 percent were in favor of allocating 10 percent of the department's budget for research; nine (25.0%) would set aside 15 percent of the budget for that purpose and eight (22.2%) suggested that 20 percent of the budget be spent for research. Five respondents (13.9%) would go as high as 25 percent of the operational budget of the department to be ear-marked for research in order to improve instruction.

The respondents were almost equally divided on the question of whether or not the department maintain a separate learning resource unit. Twenty-one or 53.9 percent of the respondents were in favor of having a separate learning resource unit for the department and eighteen (46.1%) were against it. Of those who were in favor, seven (33.3%) would set aside 10 percent of the department's budget for the unit, eight (38.1%) felt that 15 percent of the budget should be used and two (9.5%) favored a 20 percent budgetary expenditure for the learning resource unit annually. Four (19.1%) respondents considered spending 25 percent or a quarter of the budget for the maintenance of the learning resource unit as reasonable.

On the question of who should be performing the departments maintenance and custodial needs, 2 (5.1%) of the respondents would give that assignment to the department employees, 2 others preferred that it should be done by work-study students, 9 (23.1%) would rather have it contracted with an outside contracting firm and 14 (35.9%) considered giving the job to all three. Twelve (30.7%) respondents

favored giving the responsibility for meeting the department's maintenance and custodial needs to the university's buildings and grounds department.

Some relevant recommendations connected with the operation of the program were offered. One respondent strongly suggested that instruction should be more concerned with substance than form. Another respondent recommended that field experience should be emphasized in subject matter and teaching. One respondent would like the faculty members in teacher education to be field oriented. Another respondent commented that in order to insure understanding of the meaning of decisions, the decisions should be made with professional staff inputs. One respondent wrote that he strongly believed that the department head should be the type of individual who designates responsibilities and keeps his faculty members well informed.

CHAPTER V

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The main purpose of the study was to propose a pre-service agricultural education program for future vocational agriculture teachers and extension agents at the College of Micronesia in Ponape, Eastern Caroline Islands, U.S. Trust Territory of the Pacific Islands. In order to identify competency needs of the vocational agriculture teachers and agricultural extension agents which should be considered in the development of the curriculum designed to meet those needs, the views and opinions of persons who were known by the researcher to have professional or occupational dealings with the problem of not having a pool of highly trained vocational agriculture teachers and extension agents, were gathered through the use of self-administered questionnaires. Some operational policies, practices and procedures common to the establishment and administration of vocational agriculture teacher and extension agent training departments of college and universities in the United States which could be easily and effectively implemented at the proposed program, were identified from the responses on the questionnaires completed by 39 incumbent heads of agricultural education departments of different colleges and universities across the mainland United States.

Summary of Findings

The mean responses regarding the relative importance of each of the identified vocational agriculture teacher competencies to the pre-service training needs of Micronesian vocational agriculture teachers as perceived by the incumbent district vocational education supervisors, high school principals and vocational agriculture teachers are summarized in Table XVI. Fifty percent of the competencies rated by the three groups of respondents above the median rating level of 3.95 were in the area of classroom and laboratory teaching performance. The other competencies that the respondents considered "very important" based on the established response ranges for the different importance categories (4.50 - 5.00, extremely important; 3.50 - 4.49, very important; 2.50 - 3.49, important; 1.50 - 2.49, some importance and 0 - 1.49, no importance) and ranked above the median were in the areas of evaluation, planning, and professional improvement through self-directed learning. The competencies dealing with the teachers' public relations and student organization activities were all ranked below the median. Seventy-two competencies were judged by the respondents as "very important" to the pre-service training needs of the vocational agriculture teachers. Two others were rated "extremely important" and one was regarded of "some importance" to the professional preparation of vocational agriculture teachers.

To find out if the competency mean ratings truly reflect the agreegate judgments of the members of the groups for each competency need, close examinations were conducted on the rating frequency distributions on the rating scale for both the top ranked ten percent

TABLE XVI

SUMMARY OF RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED VOCATIONAL AGRICULTURE TEACHER COMPETENCIES

Competency	Combined Mean	Rating	Competency Ranking
Develop lesson plans or teaching units.	4.68	Extremely Important	1
Select and develop methods and techniques in teaching.	4.50	Extremely Important	2
Maintain and use safety rules and regulations.	4.46	Very Important	3
Prepare and conduct demonstrations in class.	4.43	Very Important	4
Create situations which will cause the students to be motivated to learn.	4.43	Very Important	4
Form objectives of the vocational agriculture program based on the needs of the students.	4.39	Very Important	6
Present lectures in class.	4.39	Very Important	6
Evaluate the usefulness of available textbooks and instructional materials in helping the students accomplish the stated objectives.	4.39	Very Important	6
Keep abreast with the changing agricultural technology and methods of teaching through reading and correspondence with agriculture colleges and universities.	4.39	Very Important	6
Have work experience in farming.	4.39	Very Important	6
Exercise classroom control effectively.	4.36	Very Important	11

TABLE XVI (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Establish a procedure for handling accidents and other emergency situations in the school shops and farm areas.	4.36	Very Important	11
Use effective questioning skills.	4.32	Very Important	13
Actively seek opportunities to participate in in-service training programs.	4.32	Very Important	13
Identify the student's vocational educational needs in agriculture.	4.28	Very Important	15
Supervise laboratory exercises.	4.28	Very Important	15
Evaluate his or her own methods of teaching.	4.28	Very Important	15
Use a variety of teaching aids.	4.25	Very Important	18
Develop and administer unit tests.	4.25	Very Important	18
Help the students decide on their future educational plans.	4.25	Very Important	18
Evaluate the students' progress in meeting their educational needs.	4.21	Very Important	21
Present agriculturally related occupations existing in the islands to the students.	4.21	Very Important	21
Identify competencies the students need to have in order to be able to enter an agricultural occupation.	4.18	Very Important	23
Reproduce educational materials for classroom use efficiently.	4.18	Very Important	23

TABLE XVI (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Maintain equipment and facilities properly.	4.18	Very Important	23
Establish evaluation criteria for classroom and field performance.	4.18	Very Important	23
Establish evaluation criteria for lessons, instructional units and courses in vocational agriculture.	4.18	Very Important	23
Direct group discussion.	4.17	Very Important	28
Use reinforcement techniques properly and effectively.	4.14	Very Important	29
Establish a system of minimizing unauthorized appropriation of tools, supplies and materials.	4.14	Very Important	29
Select and develop appropriate instructional contents for the achievement of the objectives.	4.11	Very Important	31
Present educational information.	4.11	Very Important	31
Use motivational approaches effectively.	4.11	Very Important	31
Establish a system of maintaining a constant supply of consumable materials needed in the classroom and school farm.	4.11	Very Important	31
Join professional organizations which promote and support vocational agriculture.	4.11	Very Important	31
Construct and administer a variety of testing methods, including objective and subjective types of tests.	4.07	Very Important	36

TABLE XVI (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Establish a workable preventive maintenance system for farm machineries and equipment.	4.07	Very Important	36
Evaluate farm tools and equipment in relation to cost and usefulness in the learning process.	4.03	Very Important	38
Use other appropriate methods of evaluating student's performance.	4.00	Very Important	39
Establish evaluation criteria for selecting instructional materials.	4.00	Very Important	39
By physically healthy.	4.00	Very Important	39
Recognize and interpret student's classroom behaviors.	3.96	Very Important	43
Explain to the students the rights and responsibilities of both the teacher and the students in the teaching-learning process.	3.96	Very Important	43
Conduct educational field trips.	3.93	Very Important	45
Establish good working relationships with co-teachers, supervisors, principals, and other employees connected with the school.	3.93	Very Important	45
Cognizant of the different competencies related to different agriculturally related occupations.	3.89	Very Important	47
Work with the program advisory council in promoting the vocational agriculture program in the community.	3.89	Very Important	47
Maintain cummualtive records if students enrolled in the program.	3.82	Very Important	49

TABLE XVI (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Involve the students in the evaluation of their progress in meeting their educational objectives.	3.79	Very Important	50
Participate actively in planning and staging the annual agricultural fairs.	3.79	Very Important	50
Subscribe to journals and magazines published by vocational education organizations.	3.78	Very Important	52
Write educational objectives in behavioral terms.	3.75	Very Important	53
Identify available resource persons from the community who can help in the conduct of vocational agriculture programs.	3.75	Very Important	53
Conduct educational field trips.	3.75	Very Important	53
Help the school counselors in the selection of students for vocational agriculture.	3.75	Very Important	53
Aware of the employment records of vocational agriculture graduates.	3.75	Very Important	53
Provide educational activities suited to students' individual differences.	3.75	Very Important	53
Keep the community informed of the vocational agriculture program and its annual activities.	3.71	Very Important	59
Aware of the occupational trends in the Trust Territory.	3.68	Very Important	60
Establish good rapport with parents and teachers in the community.	3.68	Very Important	60

TABLE XVI (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Conduct educational "open house" during the annual vocational week.	3.68	Very Important	60
Promote the formation of vocational agriculture student organizations.	3.68	Very Important	60
Communicate in the dialects of the district.	3.68	Very Important	60
Interpret test results to parents and students.	3.64	Very Important	65
Help the students in their search for employment.	3.64	Very Important	65
Keep close contact with agencies and individuals whose interests lie in the promotion of vocational agriculture programs.	3.64	Very Important	65
Encourage the student organizations to participate in the community improvement projects.	3.64	Very Important	65
Help re-organize the vocational agriculture teachers' association in Micronesia.	3.61	Very Important	69
Maintain good relationships with current and prospective employers of vocational agriculture graduates.	3.57	Very Important	70
Use resource persons in the classroom.	3.53	Very Important	71
Provide guidance in the selection of activities and projects for the vocational agriculture student organizations.	3.53	Very Important	71
Provide leadership training for elected officers of the student organizations.	3.53	Very Important	71

TABLE XVI (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Conduct home-farm visits.	3.50	Very Important	74
Conduct incidental extension work during home-farm visits.	3.50	Very Important	74
Maintain employment and activity records of program graduates.	3.43	Important	76
Keep regular consultation with the advisory council for the purpose of improving the program.	3.43	Important	76
Assist students with academic problems.	3.39	Important	78
Use the advisory council in developing curriculum content, keep abreast with new developments and emerging jobs related to agriculture.	3.36	Important	79
Evaluate student data for selection purposes.	3.36	Important	79
Plan for the agricultural training of the handicapped students.	3.32	Important	81
Help the elected officers of the student organizations in seeking support for the organizations from the community.	3.32	Important	81
Handle socially maladjusted students.	3.28	Important	83
Assist students with personal and readjustment problems.	3.25	Important	84
Organize a vocational agriculture advisory council.	3.21	Important	85
Be a resident of the district.	2.82	Important	86

TABLE XVI (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Participate in community social activities.	2.57	Important	87
Participate in non-instructional activities such as coaching and judging in athletic events.	2.25	Some Importance	88

and bottom ranked ten percent of the 88 competencies as rated by the three groups of respondents. The frequency distributions on the rating scale showed remarkably homogeneous judgments by the respondents on the competencies in both the top ranked ten percent and bottom ranked ten percent.

The summary of mean responses regarding the importance of the identified agricultural extension agent competencies to the pre-service training needs of the Micronesian extension agents are shown in Table XVII. The competencies that were rated high by the three group of respondents, and were figured prominently among the top ranked fifty percent, were in the areas of public and human relations and field extension work. Competencies connected with extension program planning and program evaluation were also included in the upper half of the 50 competencies. All the 50 competencies were judged as very important and three of them as extremely important to the pre-service training needs of the Micronesian agricultural extension agents.

Close examinations on the frequency distributions of ratings on the scale for both the top ranked twenty percent and bottom ranked twenty percent of the competencies showed that the respondents' ratings were very similar on both extremes of the rating scale.

The responses from the 39 administrators of agricultural education programs in the United States considered strong academic backgrounds and previous administrative or teaching experience as prerequisites in the selection of candidates for administrative and teaching positions in an agricultural education program. The respondents recommended also that the annual evaluation of instruction and faculty performance

TABLE XVII

SUMMARY OF RESPONSES REGARDING THE RELATIVE IMPORTANCE OF SELECTED AGRICULTURAL EXTENSION AGENT COMPETENCIES

Competency	Combined Mean	Rating	Competency Ranking
Have work experience in farming.	4.62	Extremely Important	1
Plan and conduct demonstrations.	4.59	Extremely Important	2
Help farmers identify the common problems and opportunities in their farming activities.	4.57	Extremely Important	3
Develop and maintain good working relationships with supervisors, colleagues, and other persons involved in the economic and rural development of Micronesia.	4.48	Very Important	4
Interpret and relate his/her role and responsibilities as an extension agent to the community.	4.47	Very Important	5
Provide technical services to farmers.	4.45	Very Important	6
Promote agricultural development to the public.	4.34	Very Important	7
Select and use appropriate teaching methods and techniques.	4.28	Very Important	8
Develop simple instructional materials that can be used in meeting the educational needs of the farmers.	4.26	Very Important	9
Relate to local elected and traditional leaders in order to maintain strong support for the extension service in the community.	4.25	Very Important	10

TABLE XVII (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Help the farmers arrange their problems and opportunities in order of priority based on needs and available resources.	4.12	Very Important	11
Establish good communication with the district agriculture station personnel.	4.09	Very Important	12
Keep the public informed on the extension service's goals, programs and results.	4.04	Very Important	13
Physically healthy.	4.04	Very Important	13
Plan and conduct farmers' meetings.	4.02	Very Important	15
Organize and conduct educational tours for farmers.	4.02	Very Important	15
Evaluate the effectiveness of the different teaching methods and techniques used in extension work.	4.02	Very Important	15
Help form criteria for evaluating the effectiveness of educational programs planned for the farmers.	4.00	Very Important	18
Help identify the educational needs of the farmers that will enable them solve their problems and profit from the opportunities in their farming operations.	3.87	Very Important	19
Communicate in the dialects of the district.	3.87	Very Important	19
Actively participate in community social activities.	3.86	Very Important	21

TABLE XVII (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Identify the human and material resources needed in order to achieve the educational objectives.	3.86	Very Important	21
Help evaluate the individual farmer's progress in meeting his or her educational needs.	3.84	Very Important	23
Evaluate program results against program objectives.	3.82	Very Important	24
Follow a written plan of work.	3.80	Very Important	25
Provide leadership to local groups involved in community development activities.	3.80	Very Important	25
Establish good working relationships with the vocational agriculture teachers in the district.	3.80	Very Important	25
Help identify factors which prevent or come in conflict with the farmer's progress in meeting his or her educational objectives.	3.77	Very Important	28
Put the educational objectives into the plan of work.	3.75	Very Important	29
Effectively use evaluation information for the improvement of the teaching-learning process.	3.75	Very Important	29
Provide leadership training to recruited leaders of farmers associations.	3.73	Very Important	31
Have access to sources of information needed in the course of his or her work.	3.71	Very Important	32
Plan, organize and conduct agricultural fairs.	3.71	Very Important	32

TABLE XVII (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Prepare a monthly and annual report of activities.	3.68	Very Important	34
Evaluate his or her own performance as an extension agent.	3.63	Very Important	35
Operate audio-visual equipment.	3.62	Very Important	36
Keep accurate and useful records of his or her daily activities.	3.61	Very Important	37
Present educational information.	3.54	Very Important	38
Keep a personal library or resource file.	3.46	Important	39
Prepare and present a speech effectively.	3.46	Important	39
Convert the educational needs to educational objectives.	3.41	Important	41
Organize a program planning advisory council.	3.41	Important	41
Recruit leaders of farmers' associations.	3.41	Important	41
Evaluate the performance of those who work with him or her.	3.41	Important	41
Design educational experiences for the farmers that are appropriate to the educational objectives.	3.32	Important	45
Utilize the program planning advisory committee in designing the annual plan of work.	3.32	Important	45
Write farm news for radio and newspapers.	3.32	Important	45

TABLE XVII (Continued)

Competency	Combined Mean	Rating	Competency Ranking
Resident of the district.	3.18	Important	48
Identify and select the membership of the program planning advisory committee.	2.98	Important	49
Write newsletters.	2.96	Important	50

be conducted by either in-house or outside evaluation team. The respondents seemed to favor the practice of giving the responsibility for the selection and evaluation of instructional materials to individual faculty members, or to a group, rather than giving that responsibility to the head of the deaprtment. The respondents were strongly opposed to the idea of having the department be responsible for the staff members' professional improvement, nor they agreed to letting the department maintain a separate clinical and career counseling service unit. However, the majority were in favor of having a separate learning resource unit for the department. The respondents strongly recommended that a semester of student-teaching or internship be a requirement for the bachelor of science program. The respondents also regarded expenditures for student placement and follow-up, and faculty research projects as important to the viability of the program.

Conclusions

Based on the findings in this study, the following conclusions appear to be appropriate:

1. Since all the competencies listed in the questionnaires were considered by all groups of respondents to be of importance to the pre-service training needs of vocational agricultural teachers and extension agents, it is concluded that a responsive curriculum can be developed based upon those competencies.
2. That the group ratings were valid since remarkable similari-

ties of group ratings and rankings by areas and by individual competencies were observed in the analysis of responses.

3. The relatively high ratings given to competencies related to classroom teaching performance, instructional planning, evaluation, and professional improvement areas are indicative of the need for more emphasis on these areas in the proposed agricultural education program.
4. There is also a need for a more intensive pre-service training in the areas of extension program planning and evaluation, and public relations for future agriculture extension agents in Micronesia.
5. Since higher ratings were given to competency needs that were dealing with the basic or fundamental skills necessary for successful vocational agriculture teaching and extension work, it is concluded that an appropriate curriculum for these groups of professionals be particularly concerned with instruction on the basic and fundamental skills.
6. It can be concluded that there is a considerable similarity of role expectations from the vocational agriculture teachers and agriculture extension agents by their respective groups of respondents.
7. That the program not be presently concerned for the education of students with special needs.
8. That there is a general perception among agricultural school administrators that advanced degrees and relevant work

experience are important prerequisites for successful administrative or teaching job performance.

9. That the value of field experience when considered as part of the curriculum is well recognized by agricultural education program administrators.
10. That successful and viable agricultural education programs generally provide adequate funds for faculty research projects and aggressive graduate job placement and follow-up services.

Recommendations

The following recommendations are based on the results of the study:

1. All the competencies listed in the questionnaires should be considered as bases for the development of the pre-service curriculum for the vocational agriculture teachers and agriculture extension agents.
2. For a well-balanced curriculum, the findings in a recent study on the in-service training needs of Micronesian vocational agriculture teachers and extension agents (38) should be combined with the competency needs of these workers found in this study in order to have a data-based core of needs upon which the curriculum can be developed.
3. In the selection of expatriate staff and faculty members in the proposed agricultural education program at the College of Micronesia, special considerations should be given to

candidates with strong academic backgrounds and previous administrative or teaching experience, preferrably in tropical agriculture.

4. In the selection of students in the program, considerations should be given to students with farming background or who have had vocational agriculture in high school.
5. Field experience should be emphasize in the curriculum.

Other Recommendations that are Relevant to the Proposed Agricultural Education Program

1. The training program should be uniform for prospective vocational agriculture teachers and agricultural extension agents except for the student-teaching or internship requirement.
2. The proposed curriculum for the agricultural education program should carry a minimum of 140 semester hours to conform with credit-hour requirements for the baccalaureate degrees at the College of Micronesia.
3. The proposed curriculum should be well articulated and flexible in order to permit easy transfer of credits to and from other departments or institutions in the region, and to provide meaningful training for non-degree students.
4. Potential administrators and faculty members should be recruited from the ranks of incumbent vocational agriculture teachers and extension agents for further training and later

hired to replace the expatriates in the permanent staff and faculty of the agricultural education program.

SELECTED BIBLIOGRAPHY

(1) Justification of Needs, Program and Master Plan for the College of Micronesia, Ponape Island, T.T.P.I. Agan, Guam: Mackinley, Winnacker, McNeil and Associates, 1974.

(2) Harlan, Douglas S. The College of Micronesia: The President's Report to Congress. Washington, D.C.: March 4, 1977.

(3) Trust Territory of the Pacific Islands. Bulletin of Statistics. Ponape: Office of Planning and Statistics, Vol. 2, 1979.

(4) U.S. Department of State. Trusteeship Agreement Between the United States and the U.N. Security Council, July, 1947, Washington, D.C.: Government Printing Office.

(5) U.S. Department of State. Annual Report to the United Nations on the Trust Territory of the Pacific Islands, 1979. Washington, D.C.: Government Printing Office.

(6) Tun, Petrus and Joab Sigrah. A Report to the Sixth Congress of Micronesia, First Regular Session, Concerning Certain Aspects of Education. Saipan: 1975.

(7) Craig, David G. A National Study of the Supply and Demand for Teachers of Vocational Agriculture in 1979. VT Research Series. Knoxville, Tennessee: Department of Vocational-Technical Education/The University of Tennessee, February, 1980.

(8) UNESCO. 1977 Statistical Yearbook. Paris: United Nations Educational, Scientific and Cultural Organization, 1978.

(9) Denison, E. F. The Sources of Economic Growth. Washington, D.C.: GED, 1962.

(10) Thomas, D. W. and J. H. Atkinson. "Graduate and Undergraduate Teaching Institutions." Melvin, G. Blase, ed. Institutions in Agricultural Development. Ames, Iowa: The Iowa State University Press, 1971, pp. 106-124.

(11) Miller, Norman. "Faces of Change," cited in a "Five-Year Plan" by William H. Kelley. Agricultural Education, Vol. 50, No. 9 (March, 1978) 206-207.

(12) Abdel-Halim, A. El-Madhi and Shaker, Paul. "A Strategy for Promoting Educational Reforms in Developing Countries." Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, April 8-12, 1979. ERIC ED 170 226.

(13) Foster, George H. Traditional Societies and Technological Change, 2nd ed. New York: Harper and Row, 1973.

(14) Curtis, Finch and John R. Crunkilton. Curriculum Development in Vocational and Technical Education: Planning, Content, and Implementation. Boston: Allyn and Bacon, Inc., 1979.

(15) Unruh, Glenys G. Responsive Curriculum Development. Berkeley: McCutchan Publishing Corporation, 1975.

(16) Taba, Hilda. Curriculum Development: Theory and Practice. New York: Harcourt Brace Jovanich, Inc., 1962.

(17) Tyler, Ralph W. Basic Principles of Curriculum and Instruction. Chicago: The University of Chicago Press, 1949.

(18) Mager, Robert F. Preparing Instructional Objectives. Belmont, California: Fearon Publishing Co., 1962.

(19) Tyler, Ralph W. "Desirable Content for Curriculum Development Syllabus Today." Molnar, Alex and John A. Zahorik, eds. Curriculum Theory. Washington, D.C.: Association for Supervision and Curriculum Development, 1977.

(20) Van Til, William. Curriculum: Quest for Relevance. Boston: Houghton Mifflin Company, 1971.

(21) Galbraith, John Kenneth. The Affluent Society. Boston: Houghton Mifflin Company, 1958.

(22) Payne, David A. Curriculum Evaluation: Commentaries on Purpose, Process, Product. Lexington, Massachusetts: D.C. Heath and Company, 1974.

(23) Da Silva, Jose Edison Gomes. "Professional Education Competency Needs for Elementary and Secondary Agriculture Education Teachers in Northeast Brazil." (Unpub. Ph.D. Dissertation, Kansas State University, 1978.)

(24) Olaitan, Samson Ojo. "A Strategy for Improving Teaching of Agricultural Science at the Secondary School Level in Ondo State of Nigeria." (Unpub. Ph.D. Dissertation, Cornel University, 1978.)

(25) Chit-Anan, Boontham. "The Professional Tasks of the Agriculture Teacher in Thailand." (Unpub. Ph.D. Dissertation, Cornell University, 1973.

(26) Okoye, Hazodo Anthony. "Proposed Program of Agricultural Education for Nigeria." (Unpub. Ph.D. Dissertation, Purdue University, 1966.

(27) Shah, Jafar Ali. "Rationale and Guidelines for Developing Agricultural Education Programs in Selected Developing Countries in Southeast Asia." (Unpub. Ph.D. Dissertation, The Pennsylvania State University, 1970.)

(28) Lodhi, Tamweer Ahmad. "Developing a Pre-Service Education Program for Agriculture Teachers at West Pakistan Agricultural University, Lyallpur (Pakistan)." (Unpub. Ph.D. Dissertation, The Ohio State University, 1966.)

(29) Nam, Tran Hiep. "A Model for an Agricultural Education Program in South Vietnam." (Unpub. Ph.D. Dissertation, the University of Florida, 1974.)

(30) Williams, Saudiz Kolawole Taiwo. "Identification of Professional Training Needs of Agricultural Extension Agents in Western Nigeria as a Basis for Developing a College Training Curriculum." (Unpub. Ph.D. Dissertation, Cornell University, 1967.)

(31) Bajaj, Dev. Raj. "Determining the Needs of Agriculture County Agents of Oklahoma as a Means for Planning their In-Service Training Program." (Unpub. M.S. Thesis, Oklahoma State University, 1962.)

(32) Czarniecki, Paul. "An Appraisal of the State of the Art of Extension Education and of Selected Competencies for Beginning Cooperative Extension Workers in the U.S." (Unpub. Ed.D. Dissertation, Oklahoma State University, 1977.)

(33) Onazi, Ochapa Chiko. "Comparative Analysis of the Training Needs of Potential Agricultural Extension Workers and Principal Problems of Extension in the Norther States of Nigeria." (Unpub. Ph.D. Dissertation, Kansas State University, 1973.)

(34) Geker, Joshua Kwao. "A Study of Pre-Service Professional Improvement Needs for Agricultural Extension in Ghana." (Unpub. Ph.D. Dissertation, Michigan State University, 1976.)

(35) Hammerskjold, Dag. cited in "Agricultural Education in Developing Countries." Agricultural Education, Vol. 48, No. 4 (October, 1975), 77, 78.

(36) DeVaughan, Zed Farris. "Competencies Needed by Vocational and Technical Education Teachers as Rated by Selected Groups." (Unpub. Ed.D. Dissertation, Oklahoma State University, 1974.)

(37) Gray, L. R. Educational Research: Competencies for Analysis and Application. Columbus, Ohio: Charles E. Merril Publishing Company, 1976.

(38) Dayrit, Ruben Serrano. "An Assessment of the In-Service Training Needs of Vocational Agriculture Teachers and Agricultural Extension Workers in Micronesia." (Unpub. M.S. Thesis, Oklahoma State University, 1979.)

APPENDIX A

PUBLIC LAW 94-255

Public Law 94-255
94th Congress, H. R. 12122
April 1, 1976

An Act

To amend section 2 of the Act of June 30, 1954, providing for the continuance of civil government for the Trust Territory of the Pacific Islands, and for other purposes.

Trust Territory of the Pacific Islands. Civil government, continuance. Appropriation. 48 USC 1681 note.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That section 2 of the Act of June 30, 1954 (68 Stat. 330), is amended by deleting "plus such sums as are necessary, but not to exceed $10,000,000, for each of such fiscal years, to offset reductions in, or the termination of, Federal grant-in-aid programs or other funds made available to the Trust Territory of the Pacific Islands by other Federal agencies", and inserting in lieu thereof the following: "for fiscal year 1976, $80,000,000; for the period beginning July 1, 1976, and ending September 30, 1976, $15,100,000; for fiscal year 1977, $80,000,000; and such amounts as were authorized but not appropriated for fiscal year 1975, and up to but not to exceed $8,000,000 for the construction of such buildings as are required for a four year college to serve the Micronesian community (no appropriations for the construction of such buildings shall, however, be made (A) until, but not later than one year after the date of the enactment of this Act, the President causes a study to be made by an appropriate authority to determine the educational need and the most suitable educational concept for such a college and transmits such study, together with his recommendations, to the Committees on Interior and Insular Affairs of the Senate and House of Representatives of the United States within said one year period and (B) until 90 calendar days after the receipt of such study and recommendations which shall be deemed approved unless specifically disapproved by resolution of either such committee), and $1,800,000 for a human development project in the Marshall Islands plus such sums as are necessary, but not to exceed $10,000,000, for each of such fiscal years, or periods, to offset reductions in, or the termination of, Federal grant-in-aid programs or other funds made available to the Trust Territory of the Pacific Islands by other Federal agencies, which amounts for each such fiscal year or other period shall be adjusted upward or downward and presented to the Congress in the budget document for the next succeeding fiscal year as a supplemental budget request for the current fiscal year, to offset changes in the purchasing power of the United States dollar by multiplying such amounts by the Gross National Product Implicit Price Deflator for the third quarter of the calendar year numerically preceding the fiscal year or other period for which such supplemental appropriations are made, and dividing the resulting product by the Gross National Product Implicit Price Deflator for the third quarter of the calendar year 1974,".

Micronesian college, study, report to congressional committees.

SEC. 2. The laws of the United States which are made applicable to the Northern Mariana Islands by the provisions of section 502(a)(1) of H.J. Res. 549, as approved by the House of Representatives and the Senate, except for section 228 of title II and title XVI of the Social Security Act as it applies to the several States and the Micronesia Claims Act as it applies to the Trust Territory of the Pacific Islands, shall be made applicable to Guam on the same terms and conditions as such laws are applied to the Northern Mariana Islands.

48 USC 1421q.

Ante, p. 268.

42 USC 428, 1381.

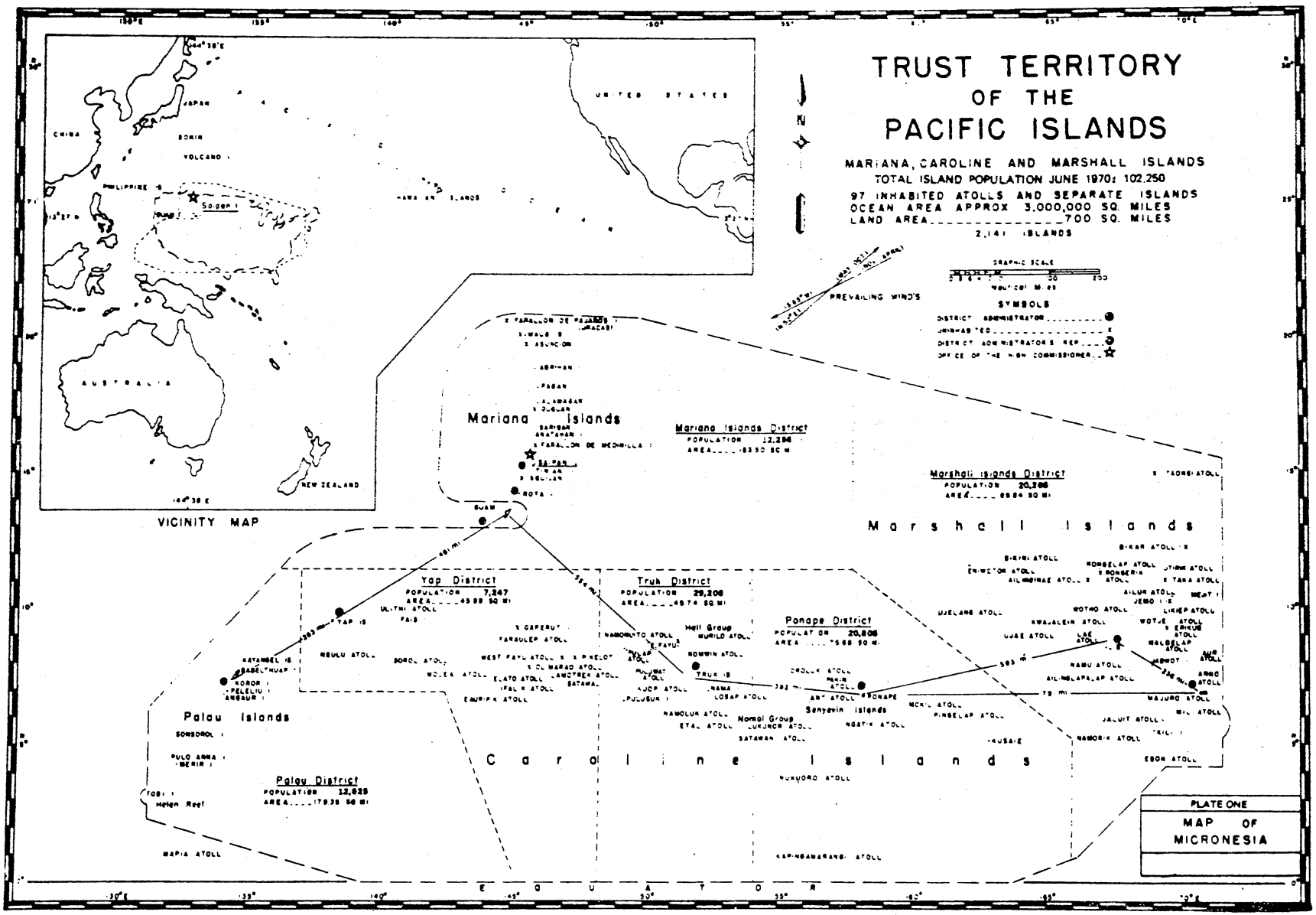
Approved April 1, 1976.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 94-291 accompanying H.R. 7688 (Comm. on Interior and Insular Affairs).
SENATE REPORT No. 94-496 accompanying H.R. 7688 (Comm. on Interior and Insular Affairs).
CONGRESSIONAL RECORD, Vol. 122 (1976):
Feb. 26, considered and passed House.
Mar. 9, considered and passed Senate, amended.
Mar. 11, House concurred in Senate amendments with amendments.
Mar. 16, Senate concurred in House amendments with an amendment.
Mar. 18, House concurred in Senate amendment.

APPENDIX B

TRUST TERRITORY OF THE PACIFIC ISLANDS


TRUST TERRITORY
OF THE
PACIFIC ISLANDS
MARIANA, CAROLINE AND MARSHALL ISLANDS
TOTAL ISLAND POPULATION JUNE 1970: 102,250
97 INHABITED ATOLLS AND SEPARATE ISLANDS
OCEAN AREA APPROX 3,000,000 SQ. MILES
LAND AREA 700 SQ. MILES
2,141 ISLANDS
VICINITY MAP
PREVAILING WIND'S
SYMBOLS
Mariana Islands
Mariana Islands District
Marshall Islands
Marshall Islands District
Yap District
Truk District
Ponape District
Palau Islands
Palau District
Senyavin Islands
Caroline Islands
EQUATOR
PLATE ONE
MAP OF
MICRONESIA

APPENDIX C

QUESTIONNAIRE ON OCCUPATIONAL COMPETENCIES OF VOCATIONAL AGRICULTURE TEACHERS

QUESTIONNAIRE ON OCCUPATIONAL COMPETENCIES OF

VOCATIONAL AGRICULTURE TEACHERS

Name (Optional) _____

Position or Occupation _____

Location or Duty Station _____

DIRECTIONS: Please rate the following competencies according to their importance for vocational agriculture teachers by checking the appropriate box.

PLANNING

The teacher should be able to:

	No Importance	Some Importance	Important	Very Important	Extremely Important
1. Identify competencies the students need to pass in order to be able to enter an agricultural occupation.					
2. Identify the student's vocational education needs in agriculture.					
3. Form objectives of the vocational agriculture program based on the needs of the student.					
4. Write educational objectives in behavioral terms.					
5. Select and develop appropriate instructional contents for the achievement of the objectives.					
6. Select and develop methods and techniques of teaching.					
7. Use a variety of teaching aids.					
8. Identify available resource persons from the community who can help in the conduct of vocational agriculture programs.					
9. Organize a vocational agriculture advisory council.					
10. Use the advisory council in developing curriculum content, keeping abreast with new developments in agriculture and emerging jobs related					
11. Plan for the agricultural training of the handicapped students.					

EXECUTION

The teacher should be able to:

	No Importance	Some Importance	Important	Very Important	Extremely Important
12. Develop lesson plans or teaching units.					
13. Present lectures.					
14. Direct group discussion.					
15. Present educational information.					
16. Prepare and conduct demonstrations in class.					
17. Use effective questioning skills.					
18. Use motivational approaches appropriately.					
19. Supervise laboratory exercises.					
20. Develop and administer unit tests.					
21. Use other appropriate evaluation methods for evaluating student's performance.					
22. Conduct educational field trips.					
23. Maintain and use safety rules and regulations.					
24. Reproduce educational materials effectively and efficiently for classroom use.					
25. Exercise classroom control effectively.					
26. Create situations which will cause students to be motivated to learn.					
27. Use reinforcement techniques properly and effectively.					

	No Importance	Some Importance	Important	Very Important	Extremely Important
28. Recognize and interpret student classroom behaviors.					
29. Conduct home-farm visits.					
30. Maintain equipment and facilities properly.					
31. Use resource persons in the classroom.					

EVALUATION

The teacher should be able to:

32. Establish evaluation criteria for classroom and field performance.					
33. Establish evaluation criteria for lessons, instructional units and coures in vocational agriculture.					
34. Establish evaluation criteria for selection of instructional materials.					
35. Evaluate students' progress in meeting their educational needs.					
36. Evaluate farm tools and equipment in relation to cost and usefulness in the learning experiences.					
37. Evaluate his or her own method of teaching.					
38. Evaluate the usefulness of available textbooks and instruction materials in helping students accomplish the stated objectives.					

	No Importance	Some Importance	Important	Very Important	Extremely Important
39. Construct and administer a variety of testing methods, including objective and subjective types of tests.					
40. Involve students in the evaluation of their progress in meeting the educational objectives.					
41. Interpret test result to students and parents.					

GUIDANCE

The teacher should be:

42. Able to present agriculturally related occupations existing in the islands to the students.					
43. Cognizant of the different competencies related to different agriculturally related occupations.					
44. Able to help the school counselor in the selection of students for the vocational agriculture program.					
45. Aware of the employment records of the program graduates.					
46. Aware of occupational trends in the territory.					
47. Able to help the students decide on their future educational plans.					
48. Able to help the students in their search for employment.					

No Importance	Some Importance	Important	Very Important	Extremely Important

49. Able to assist students with scholastic problems.

50. Able to evaluate student's data for selection purposes.

51. Able to assist students with personal and readjustment problems.

CLASSROOM MANAGEMENT

The teacher should be able to:

52. Establish a system of maintaining a constant supply of consumable materials needed in the classroom and school farm.

53. Establish a workable preventative maintenance system for farm machinery and equipment.

54. Establish a system of minimizing unauthorized appropriation of tools, supplies and materials.

55. Establish a procedure for handling accidents and other emergency situations in the school shops and farm.

56. Explain to the students the rights and responsibilities of both the teacher and the students in the teaching-learning process.

57. Handle socially maladjusted students.

58. Provide educational activities suited to students individual differencies.

	No Importance	Some Importance	Important	Very Important	Extremely Important
59. Maintain cummulative records of students enrolled in the program.					
60. Maintain employment and activity records of program graduates.					
61. Conduct educational field trips.					

PUBLIC AND HUMAN RELATIONS

The teacher should be able to:

62. Keep the community informed of the vocational agriculture program and its annual activities.					
63. Work with the advisory council in promoting the vocational program in the community.					
64. Keep close contact with agencies and individual whose interests lie in the promotion of vocational agriculture programs.					
65. Maintain good relationship with current and prospective employers of the vocational agriculture program graduates.					
66. Establish good working relations with co-teachers, supervisors, principals and other employees connected with the school.					
67. Establish good rapport with parents and teachers in the community.					

	No Importance	Some Importance	Important	Very Important	Extremely Important
68. Keep regular consultation with the advisory council for the purpose of improving the program.					
69. Participate actively in the planning and staging of the annual agricultural fairs.					
70. Conduct educational "open house" during the annual vocational week.					
71. Conduct incidental extension work during the farm visits.					
72. Participate in non-instructional school activities such as coaching and judging in athletic events.					
73. Participate in community social activities.					

PROFESSIONAL ROLE

The teacher should:

74. Join professional organizations that promote and support vocational agriculture.					
75. Subscribe to journals and magazines published by vocational education organizations.					
76. Help re-organize the territorial vocational agriculture teachers association.					
77. Prepare a personal professional improvement plan.					

	No Importance	Some Importance	Important	Very Important	Extremely Important
78. Actively seek opportunities to participate in in-service training programs.					
79. Keep abreast with the changing agricultural technology and methods of teaching through reading and correspondence with agricultural colleges.					

STUDENT ORGANIZATION

The teacher should:

80. Promote the formation of vocational agriculture student organizations.					
81. Provide guidance in the selection of activities of vocational agriculture student organization.					
82. Provide leadership training for elected officers of the vocational agriculture student organizations.					
83. Encourage the student organizations to participate in the community improvement programs.					
84. Help the elected officers of the student organizations in seeking support for the organizations from the community.					

BACKGROUND AND EXPERIENCE

The teacher should:

	No Importance	Some Importance	Important	Very Important	Extremely Important
85. Have work experience in farming.					
86. Be physically healthy.					
87. Be able to communicate in the dialects of the district.					
88. Be a resident of the district.					

APPENDIX D

QUESTIONNAIRE ON OCCUPATIONAL COMPETENCIES OF AGRICULTURAL EXTENSION AGENTS

QUESTIONNAIRE ON OCCUPATIONAL COMPETENCIES OF AGRICULTURAL EXTENSION WORKERS

Your Name (Optional) _____

Position or Occupation _____

Location or Duty Station _____

DIRECTIONS: Please rate the following competencies according to their importance for agricultural extension agents by checking the appropriate box.

PLANNING

The agriculture extension agent will:

	No Importance	Some Importance	Important	Very Important	Extremely Important
1. Be able to help farmers identify the common problems and opportunities in their farming activities.					
2. Be able to help the farmers arrange their problems and opportunities in order of priority based on needs and available resources.					
3. Be able to help identify the educational needs of the farmers that will enable them to solve the problems and profit from the opportunities in their farming operations.					
4. Be able to convert these educational needs to educational objectives.					
5. Be able to design educational experiences for the farmers that are appropriate to the educational objectives.					
6. Be able to identify the human and material resources needed in order to achieve the educational objectives.					
7. Be able to put the educational objectives into the plan of work.					
8. Be able to organize a program planning advisory committee.					
9. Identify and select the membership in the program planning advisory committee.					
10. Be able to utilize the program planning advisory committee in designing the annual plan of work.					

EXECUTION

The agriculture extension agent should be able to:

	No Importance	Some Importance	Important	Very Important	Extremely Important
11. Develop simple instructional materials that can be used in meeting the educational needs of the farmers.					
12. Plan and conduct demonstrations.					
13. Operate audio-visual equipment.					
14. Plan and conduct farmers meeting.					
15. Organize and conduct educational tours for farmers.					
16. Plan, organize and conduct agricultural fairs.					
17. Write farm news for radio and newspapers.					
18. Write newsletters.					
19. Present educational information.					
20. Follow a written plan of work.					
21. Select and use appropriate teaching methods and techniques.					
22. Recruit leaders of farmers associations.					
23. Provide leadership training to recruited leaders of farmers' associations.					
24. Prepare and present a speech effectively.					
25. Keep accurate and useful records of his or her daily activities.					
26. Prepare a monthly and an annual report of activities.					

	No Importance	Some Importance	Important	Very Important	Extremely Important
27. Keep a personal library or resource file.					
28. Provide technical services to farmers.					
29. Have access to sources of information needed in the course of his or her work.					
30. Promote agricultural development to the public.					

EVALUATION

The agriculture extension agent should be able to:

31. Help form criteria for evaluating the effectiveness of educational programs planned for farmers.					
32. Help evaluate the individual farmer's progress in meeting his or her educational needs.					
33. Help identify factors which precent or come in conflict with the farmer's progress in meeting his/her educational needs.					
34. Evaluate the effectiveness of the different teaching methods and techniques used in extension work.					
35. Effectively use evaluation information for the improvement of the teaching-learning process.					
36. Evaluate the performance of those who work for or with him/her.					

	No Importance	Some Importance	Important	Very Important	Extremely Important
37. Evaluate his or her own performance as an extension agent.					
38. Evaluate program results against program objectives.					

PUBLIC AND HUMAN RELATIONS

The agriculture extension agent should:

39. Develop and maintain good working relationship with his or her supervisors, colleagues and other persons involved in the economic and rural development in Micronesia.					
40. Be able to interpret and relate his/her role and responsibilities as an agricultural extension agent to the members of the community.					
41. Relate to local elected officials and traditional leaders in order to establish and maintain strong support for the extension service in the community.					
42. Actively participate in community social activities.					
43. Provide leadership to local groups involved in community development activities.					
44. Keep the public informed on the extension service goals, programs and results.					
45. Be able to establish good communication with the district agriculture station personnel.					

	No Importance	Some Importance	Important	Very Important	Extremely Important
46. Be able to establish good working relationship with the vocational agriculture teachers in the district.					

BACKGROUND AND EXPERIENCE

The agriculture extension agent should:

47. Have work experience in farming.					
48. Be physically healthy.					
49. Be able to communicate in the dialects of the district.					
50. Be a resident of the district.					

APPENDIX E

THE QUESTIONNAIRE

THE QUESTIONNAIRE

Qualifications of Staff and Faculty Members

1. What would you consider the minimum educational attainment that the Head of the Agricultural Education Department should have? (Please check one): ( ) B.S., ( ) M.S., ( ) Ph.D./Ed.D.

2. Should the Head of the Agricultural Education Department have administrative experience? (Please check): ( ) Yes, ( ) No. If yes, what should be the minimum number of years of administrative experience he or she should have? (Please specify): ___ __ years.

3. Should the Head of the Agricultural Education Department have college teaching experience in agriculture? (Please check): ( ) Yes, ( ) No. If yes, what would you consider the minimum number of years of college teaching experience in agriculture he or she should have? (Please specify): _____ years.

4. Should the Head of the Agricultural Education Department have experience in teaching agriculture at the secondary school level? (Please check): ( ) Yes, ( ) No. If yes, what would you consider the minimum number of years of secondary school teaching experience in agriculture he or she should have? (Please specify): _____ years.

5. What would you consider the minimum educational attainment in agricultural or in other related sciences that a faculty member should have? (Please check): ( ) A.S., ( ) B.S., ( ) M.S., ( ) Ph.D./Ed.D.

6. Should a faculty member have had previous college teaching experience in agriculture or in other related sciences? (Please check): ( ) Yes, ( ) No. If yes, what should be the minimum number of years of college teaching experience in agriculture or in other related sciences he or she should have? (Please specify): _____ years.

7. Should a member of the faculty have had previous teaching vocational agricultural at the secondary school level? (Please check): ( ) Yes, ( ) No. If yes, what would you consider the minimum number of years of previous teaching experience in vocational agriculture at the secondary school level he or she should have? (Please specify): _____ years.

8. Would you require previous experience or formal training in teaching students with special needs in hiring faculty members? (Please check): ( ) Yes, ( ) No.

Administrative Functions, Policies and Practices

9. Who should be responsible for the selection of instructional materials and equipment? (Please check): ( ) individual faculty member, ( ) curriculum committee, ( ) Head of the Department, ( ) others (specify) _____.

10. Who should be responsible for the evaluation of instruction? (Please check): ( ) individual faculty member, ( ) Head of the Department, ( ) in-house evaluation committee, ( ) outside evaluation team, ( ) other (specify) _____.

11. Should the Department assume full responsibility for the staff's professional improvement? (Please check): ( ) Yes, ( ) No. If yes, what percentage of the Department's operational budget would you allot for the staff's professional improvement? (Please check): ( ) 5%, ( ) 10%, ( ) 15%), ( ) other (specify) _____.

12. How often should the evaluation of faculty members' performance be conducted? (Please check): ( ) semestrally, ( ) annually, ( ) bi-annually, ( ) continuously.

13. Who should perform the staff members' performance evaluation? (Please check): ( ) individual staff member, ( ) colleagues, ( ) students, ( ) Head of the Department, ( ) combination of the four, ( ) others (specify) _____.

14. Should student-teaching or internship be a requirement for the B.S. degree? (Please check): ( ) Yes, ( ) No. If yes, how long should the student teaching or internship be? _____.

15. If you check Yes in item 14, at what stage of the student's program should the student-teaching or internship be scheduled? (Please check): ( ) during the third year, ( ) during the fourth year, ( ) Others (specify) _____.

16. Should the Department assume the responsibility for student placement and follow-up? (Please check): ( ) Yes, ( ) No.

17. Should the Department establish and maintain a separate clinical and career counseling service unit? (Please check): ( ) Yes, ( ) No.

18. What should be the student-teacher ratio? (Please check): ( ) 15:1, ( ) 20:1, ( ) 25:1, ( ) others (specify) _____.

19. Should the Department conduct research to complement instruction? (Please check): ( ) Yes, ( ) No. If yes, what percentage of the Department's operational budget be set aside for research? (Please check): ( ) 10%, ( ) 15%, ( ) 20%, ( ) others (specify) _____.

20. Should the Department maintain a separate learning resource unit? (Please check): ( ) Yes, ( ) No. If yes, what percentage of the operational budget be ear-marked for the maintenance of the learning resource unit? (Please check): ( ) 10%, ( ) 15%, ( ) 20%, ( ) others (specify) _____.

21. Who should perform the Department's maintenance and custodial needs? (Please check): ( ) Department employees, ( ) work-study students, ( ) outside contracting firms, ( ) combination of the three, ( ) others (specify) _____.

22. Other recommendations relative to operation of the program? (Please specify)

APPENDIX F

COVER LETTER FROM THE RESEACHER

May 1, 1980

Mr.
District Agriculturist
Kosrae, Eastern Caroline Is.
96944

Dear :

Enclosed are 10 copies of my questionnaire designed to gather data on competencies (skills, knowledge, attitudes), that extension agents working in Micronesia should have. The information that would be derived from these questionnaires will serve as bases for an undergraduate training program for agricultural extension agents and vocational agriculture teachers at the College of Micronesia. Needless to say, your input and assistance in this effort are invaluable.

As the district agriculturist, please complete one questionnaire and distribute the rest to your five extension agents and the four farmers whom you have identified as knowledgeable enough to make positive contributions. I would also appreciate it very much if you can have all the completed questionnaires returned to the Research and Development Office, or to me (c/o District Director of Education, Ponape, Eastern Caroline Is. 96941) on or before June 30, 1980.

Thank you very much for your input and assistance.

Truly yours,

Ruben S. Dayrit
Vocational Coordinator
PICS

APPENDIX G

LETTER OF ENDORSEMENT FROM THE DIRECTOR, BUREAU OF EDUCATION, TTPI

May 10, 1980

MEMORANDUM

TO: District Governor

ATTENTION: District Vocational Education Supervisor
District Director of Education

FROM: Director, Bureau of Education
Trust Territory of the Pacific Is.

SUBJECT: Questionnaire on Occupational Competencies of Vocational Agriculture Teachers

The questionnaire that you, the high school principals and the vocational agriculture teachers are being asked to complete, is an instrument designed to help identify occupational competencies which every vocational agriculture teacher in Micronesia should have. Mr. Ruben Dayrit, the designer of the questionnaire, plans to incorporate those competencies which you and those working with you would have identified into a proposed undergraduate training program for vocational agriculture teachers and agricultural extension agents at the College of Micronesia.

I strongly feel that this attempt is in line with our effort to improve the efficiency of our teachers. I, therefore, request you to cooperate with Mr. Dayrit.

I thank you very much for your cooperation.

Daro Weital
Director, Bureau of Education

With enclosures

APPENDIX H

LETTER OF ENDORSEMENT FROM THE DIRECTOR OF R & D, TTPI

May 14, 1980

MEMORANDUM

TO: District Agriculturist

FROM: Director, Resources and Development

SUBJECT: Questionnaire on Occupational Competencies of Agricultural Extension Agents

The questionnaire that you, your extension agents and some selected farmers in your area are being asked to complete, is an instrument designed to help identify occupational competencies which every extension agent in Micronesia should have. Mr. Ruben Dayrit, the designer of the questionnaire plans to incorporate those competencies that you, your extension agents and few farmers of your choice would have identified into a proposed undergraduate training program for extension agents and agriculture teachers at the College of Micronesia.

I strongly feel that the proposal merits our continuous support. I therefore urge you to take some time with your extension agents and some farmers in filling up the questionnaires and return the completed ones promptly either to me or directly to Mr. Dayrit.

Ambilos Iehsi

Enclosures

APPENDIX I

FOLLOW-UP LETTER

19-3 N. University Place
Stillwater, OK 74074

Mr.
District Agriculturist
Kosrae, Eastern Caroline Is.
96944

Dear ,

So far, I have received only 5 out of the 10 questionnaires that your guys are supposed to be working on. I would appreciate it very much if you can remind them again when they will be in town next payday. The ones you sent over are fine.

I have been getting excellent responses from the other districts. Still, I am willing to wait a little bit longer for the late arrivals in order to have a better representation of participants.

Sorry I was not able to make it to Kosrae the last time I was on Ponape. It was very difficult to get seat on the PAS plane and I would not get on board the Micro Glory if I can help it.

Thank you again for your help.

Kasalehlia

Ruben Dayrit

APPENDIX J

COVER LETTER FROM THE RESEARCHER

July 7, 1980

The Department Head
Department of Agricultural Education
University of Arkansas
Fayetteville, AR 72701

Dear Sir:

We need your help. We are attempting to assemble information relative to the establishment of a pre-service agricultural education program for the College of Micronesia. With the wealth of your experience, your inputs and assistance will be invaluable to us.

Should you decide to help us in this effort, kindly complete the attached questionnaire and return it today by simply stapling it closed and dropping it in the mail. Your inputs will be held in strict confidence.

Thank you very much for your time.

Sincerely yours,

Ruben S. Dayrit

RSD/bh

Attachment

cc: President, College of Micronesia
Director, Bureau of Education
Trust Territory of the Pacific Islands

VITA

Ruben Serrano Dayrit

Candidate for the Degree of

Doctor of Education

Thesis: COMPETENCY BASES FOR AN AGRICULTURAL EDUCATION PROGRAM FOR THE COLLEGE OF MICRONESIA

Major Field: Agricultural Education

Minor Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Pampanga, Philippines, July 31, 1936, the son of Mr. and Mrs. Hilario D. Dayrit.

Education: Graduated from Pampanga High School, Pampanga, Philippines, in April, 1954; received the Bachelor of Science in Agriculture degree from the University of the Philippines, Los Banos, Laguna, Philippines, in April, 1958; received the Master of Science degree in Agricultural Education from Oklahoma State University, Stillwater, Oklahoma, in May, 1979; completed the requirements for the Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, in December, 1980.

Professional Experience: Agronomist, Tarlac Development Corporation, Tarlac, Philippines, 1958-1961; Research Assistant, International Rice Research Institute, Los Banos, Laguna, Philippines, 1961-1966; Rice Specialist, U.S. Department of the Interior, 1967-1972; Intern, Asian Vegetable Research and Development Center, Tainan, Taiwan, Republic of China, 1975; Agriculture Specialist, Education Department, U.S. Trust Territory of the Pacific Islands, 1973-1978; District Vocational Education Supervisor, Ponape, Eastern Caroline Islands, 1979.

Awards: Asian Vegetable Research and Development Center Internship Award, 1975; Vocational Education Graduate Leadership Development Award, 1978-1981.

Professional Organizations: Philippine Sugar Technologists Association, Crops Science Society of the Philippines, Pacific Agricultural Researchers Association, Micronesian Agriculture Teachers Association, American Vocational Association.