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Steele, Roger Eugene

**FACTORS AFFECTING PRACTICAL AGRICULTURAL TRAINING
EXPERIENCES FOR GRADUATE STUDENTS FROM DEVELOPING
COUNTRIES**

Michigan State University

Ph.D. 1986

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FACTORS AFFECTING
PRACTICAL AGRICULTURAL TRAINING EXPERIENCES
FOR GRADUATE STUDENTS
FROM DEVELOPING COUNTRIES

By
Roger Eugene Steele

A DISSERTATION

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ABSTRACT

FACTORS AFFECTING PRACTICAL AGRICULTURAL TRAINING EXPERIENCES FOR GRADUATE STUDENTS FROM DEVELOPING COUNTRIES

By

Roger Eugene Steele

Many universities in the United States, particularly the land grant institutions, have prided themselves on providing practical and relevant training for students, regardless of nationality or background. Consequently, there is an awareness among some educators of the need to be active in monitoring the practical aspects of educational experiences.

This study was designed as a response to the need identified by international students for more experiential learning opportunities. Practical agricultural training experiences were defined as the training that a student receives through a jointly designed, monitored, and evaluated program in conjunction with the academic advisor and members of an agricultural community in the United States.

Five groups were identified from within a strategically selected survey population in Michigan: (1) graduate students from developing countries enrolled in agriculture programs, (2) faculty advisors, (3) Cooperative Extension Service field agents, (4) County Extension Directors, and (5) Vocational Agriculture

Roger Eugene Steele

instructors. Attitudes toward various aspects, problems, terms, and conditions related to practical experiences were measured using a mail questionnaire.

Analysis of the data showed that each respondent group demonstrated a positive attitude toward practical training experiences. The faculty respondents demonstrated the least positive attitude, and the student respondents the most positive attitude, toward practical experiences. In addition, members of all groups agreed that students would receive the most benefit, and the host community would receive the least benefit, from participation in practical training experiences. It was concluded that potential hosts of an experience in an agricultural community should be made aware of benefits they might receive through involvement in a practical experience.

It was also concluded that securing involvement of faculty advisors in facilitating practical experiences for their international student advisees will be more problematic than has been suggested in recent literature. One possible implication emerging from this study was that the land grant philosophy, as currently understood and practiced by faculty respondents, does not necessarily embrace the principles of experiential education. As a result, it was recommended that faculty understanding and implementation of the land grant philosophy, especially the relationship between the theoretical and practical aspects of education, be investigated through future research.

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Finally, a special tribute is offered to the author's wife, Ginny, for her love, encouragement, assistance, and patience that made completion of this study worthwhile.

The author dedicates this study to his daughter, Sarah--may she acquire a love of knowledge and learning that leads to Godly wisdom and righteousness.

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CHAPTER I

INTRODUCTION

Universities in the United States, particularly land-grant institutions, are extensively involved in providing agricultural training programs for graduate students from developing countries. It has been reported that 40% of graduate agricultural degrees in the U.S. in 1982 were awarded to international students (Mashburn, 1984). As a result, there is a well recognized awareness among some agricultural educators of the need to be active in monitoring the quality of educational experiences in agriculture that international graduate students receive during the period of their study in the United States.

One major concern about the quality of agricultural programs for graduate students has been repeated in the relevant literature in recent years by agricultural educators and international students themselves. Both of these groups are concerned that international students receive an adequate amount of practical training by the time they complete their educational programs in the U.S. and returned to their home countries to function as professional agriculturalists.

According to a recent publication, Academic Advising in Agriculture for Graduate Students from Developing Countries (Mashburn, 1984), many international students come to the United States with very adequate qualifications in the formal aspects of

their disciplines, but the students lack experience gained from practical situations that promote confidence and competence in their intended professions. In the published report of a nation-wide study, Needs of Foreign Students from Developing Nations at U.S. Colleges and Universities (Lee, 1981), international students themselves identified practical experience as the most important, and least satisfied, of a comprehensive list of needs.

The fact that some international students in the U.S. have found opportunities to participate in practical learning experiences, such as a supervised observation, internship, or salaried employment, should not be minimized. In addition, some international students find opportunities to be involved in practical experiences associated with laboratory assignments, research projects, and graduate assistantships. The colleges of agriculture, true to the land grant tradition, have often provided a combination of classroom and "hands-on" experience as part of the educational program. However, there is a body of literature and research-based evidence to indicate that increased practical agricultural training experiences are needed for graduate students from developing countries. Some kinds of practical agricultural experiences mentioned in the literature involve students interacting with farmers and agribusiness workers to observe the management of problems encountered as part of the daily work situation.

The Research Problem

The purpose of this study was to examine the factors affecting agricultural training experiences for graduate students from developing countries who are studying at colleges and universities in the U.S. Five groups were identified from within a strategically selected survey population in Michigan to supply attitudinal responses and information on a mail questionnaire. Attitudes of respondents toward various aspects, problems, terms, and conditions related to practical experiences for international graduate students were measured. Descriptive data were tabulated and analyzed in order to provide answers to the research questions that could be used to focus and direct future related studies.

Background of the Study

As was noted in the introduction, in a nation-wide study of the needs of international students from developing nations (Lee, 1981), it was reported that one of the least met needs of international students was for practical experience. Findings from Lee's study alerted officials in the Office of International Training of the United States Agency for International Development (AID) and the National Association for Foreign Student Affairs (NAFSA) to the seriousness of the expressed need. The result was that a series of efforts were initiated by these organizations to address the identified problem.

The Practical Training Feasibility Project was conducted in 1981 by the University of Nebraska-Lincoln under a grant from NAFSA and AID. According to a recent publication:

The goal of the project was to develop principles for the design and implementation of practical training experiences for foreign students from developing countries enrolled in formal degree programs at colleges and universities in the United States. Practical training in this context provides the opportunity for student-trainees to experience the application of classroom knowledge (the integration of theory and practice) in order to strengthen their contribution to development in their home countries. (NAFSA, 1982)

The principles and guidelines formulated by the Practical Training Feasibility Project team were intended to provide a sound basis for justification and operation of practical training programs as part of international student educational programs at colleges and universities in the U.S. As a part of a comprehensive strategy, one which was designed to facilitate implementation of the recommended programs, results from the project were summarized and distributed, in the form of a booklet titled Principles for Practical Training Experiences for Foreign Students (NAFSA, 1982), to interested institutions and organizations. Various other contributions found in the literature from the past half century, many of which are reviewed in Chapter II, provide support to these recent studies.

Appropriate Models from Vocational Education

One challenge facing colleges and universities lies in the area of discovering appropriate and effective ways to design and implement practical training programs for the maximum benefit of international students, employers, and other involved parties. These institutions that want to implement new programs or expand their current offering of practical training experiences for international students may be looking for proven models of experiential education. The field of secondary vocational education is one logical place to begin the search for useful and proven models. In particular, Vocational Agriculture instructors have had extensive experience in conducting supervised occupational experience (SOE) and cooperative educational programs. In one of the standard vocational education textbooks, Mason, Haines, and Furtado (1981) recommended that a survey of two audiences be conducted prior to implementation of any practical experience program: (1) the student learner audience and (2) the representatives of the community of employers (or other potential providers of practical experiences). According to Mason et al., a survey of audiences would seek information on a variety of subjects, including the following:

1. the opportunities for part-time placements in the community,
2. any changing patterns of the community which would affect a decision to provide a practical training experience for a student, and

3. career interests of the student which could be met by a practical training experience. (p.144)

Mason et al. also recommended that interested individuals and representatives from community groups be encouraged to provide input during the planning process. He said that "planning and organizing a cooperative plan should be a team effort involving key figures in the school and the community" (p.142). According to Mason et al., the information gained through a survey of all interested parties would be useful as decisions were made about the many facets of operating a program providing practical training.

Colleges and universities which want to implement new programs or expand their current offerings of practical training experiences for international students may profit from consideration of models described by Mason et al. and others from secondary vocational education professions. Consistent with the advice given by Mason et al., a good beginning point for college and university administrators would be to commission a comprehensive survey of the audiences who would have potential involvement in practical training experiences for international students.

Need for Linkages to the Private Business Sector

In 1983, NAFSA released a publication that included a list of suggestions for implementing practical training. The suggestions from the list, most related to the research questions selected for this study, were the following:

- seeking cooperative ties with local and state civic organizations committed to international understanding as a means of contacting business leaders;
- learning which local firms have participated in overseas trade missions since they are good prospects for student placement;
- informing local civic organization representatives about practical training and encourage them to identify practical training opportunities for one or more foreign students each term;
- contacting local branches of professional associations to gain support for practical training of students in their professional fields;
- contacting the Chamber of Commerce, the Young President's Association, state or local business associations, and other community organizations to develop a network of local support for the development of practical training experiences; and
- pursuing sources such as social service agencies, nonprofit organizations, foundations, state and city governments, schools, community development corporations, and other groups for work experiences beyond the traditional business community. (NAFSA, 1983, pp.21-23)

The suggestions listed above are related to the process of linking international students, located on the university campus, with members of a local agricultural community in the U.S. Linkages could potentially be accomplished through a facilitative arrangement with someone who already resides in, and is familiar with, the community and who at the same time is aware of, and sensitive to, the needs of the university community.

In relation to this need for linkages, Levitov (1982, p.9) found that "there is a clear recognition of the need for greater dialogue between the academic community and the community

of trainers" in regards to practical training experiences for international students. However, one of the greatest problems that surfaced during Levitov's study was the means of eliciting input from the private sector. Few private sector representatives attended the meetings that were part of the Levitov study process, and only a limited number responded to the draft set of Principles that was distributed to them for their review (p.14). In general, it was found that contacts with the private business sector were difficult to initiate and sustain. Levitov recommended that, for future studies, an effort should be made to obtain more private sector input at the local level by having members of the advisory committee, project team, and their colleagues make contacts with private industry leaders with whom they had more credibility (p.15). Overall, the big problem relative to the success of a practical training experience for international students, identified by Levitov, was the need for better linkage between the academic community and the private business sector.

Existing Linkages with Private Business Sector

An examination of the agricultural business sector in the U.S. reveals that three established groups of agricultural professionals could meet the requirements of both university community awareness and local agricultural community familiarity. Cooperative Extension Service (CES) field staff, County Extension Directors (CEDs), and Vocational Agriculture (Vo-Ag) instructors comprised these three groups.

Members of each of these three professional groups are responsible for conducting programs of agricultural education and technology dissemination in local agricultural communities in the U.S. Significantly, members of all three professional groups are active in the agricultural community, and interact with farmers and members of the agribusiness sector who might serve as cooperators in practical training experience programs for international students. On the academic side, most Vo-Ag instructors received their agricultural and educational academic training, as well as their certification, at a land grant university. Likewise, almost all CES professionals, both field agents and CEDs, received their academic and professional training at a land grant university. The fact that CES field agents and CEDs are administratively linked through their employment to a land-grant institution is an additional significant consideration.

An awareness of the unique position that CES field agents, CEDs, and Vo-Ag instructors occupy, both as members of a local agricultural community and as participants in the university academic community, led the researcher to speculate about how each group might become involved in facilitating practical agricultural experiences for graduate students from developing countries. In the formulation and refinement of the research problem and questions, several preliminary questions were stated that guided the early stages of this research study. The preliminary questions included the following:

- What is the feasibility of a Vo-Ag instructor, CES field agent, or CED becoming involved in the organization, supervision, and evaluation of a practical training experience?
- Do the members of these professional groups have a positive or negative attitude toward becoming involved in a facilitative arrangement with an international student from a university?
- What are the barriers to participation, if any, recognized by the members of each group?
- What are the advantages of participation perceived by members of each of the professional groups?
- How do professionals in each of the three groups perceive the reactions by members of the farm and agribusiness community to hosting an international student during a practical training experience?
- What type of assistance would be needed from the university where the international students are enrolled for their academic programs?

Precedent Study

A research study, conducted by Limbird (1981) at Iowa State University, examined attitudes of members from three audiences with potential involvement in a planned work experience program for international students. The three audiences were: (1) international students enrolled at Iowa State University, (2) their faculty advisors, and (3) selected Iowa business and industrial leaders whose firms might potentially offer training places to international students. The attitudes measured on Limbird's questionnaire were directed toward nine categories of terms and conditions related to the potential interests and concerns of the three audiences.

The main findings and implications from Limbird's study were significant, especially in relationship to the audiences included in his survey population. The students in his sample represented all international students who were studying at Iowa State University. The faculty advisors in the survey population were from all schools and departments where international students were enrolled. The business clientele include representatives from industry who could offer potential internship placements. The type of practical experience that Limbird's study dealt with was specific internships with Iowa manufacturing firms, particularly those with international trade connections.

Two of Limbird's (1981, p.122) recommendations, in combination with other contributions from the literature, gave early direction to this study. Limbird recommended adapting the study and instrument to each of the separate international student academic areas and undertaking further research with specific international students for whom work experience with a manufacturing firm would not be directly relevant.

Theoretical Foundations of the Study

The theoretical foundations for this study came primarily from a review of literature in the academic field of experiential education. According to a definition given by Keeton & Tate and adopted for this study, experiential learning:

involves not merely "observing" the phenomenon being studied but also "doing" something with it, such as testing the dynamics of the reality to learn more about it, or applying a theory learned about it to achieve some desired result. (Keeton & Tate, 1978, p.2)

Perhaps no single person has had more profound influence on our twentieth century educational programs than John Dewey. Even as early as the turn of the century, Dewey was promoting the theories of experiential education as applied to agricultural subject matter. He said:

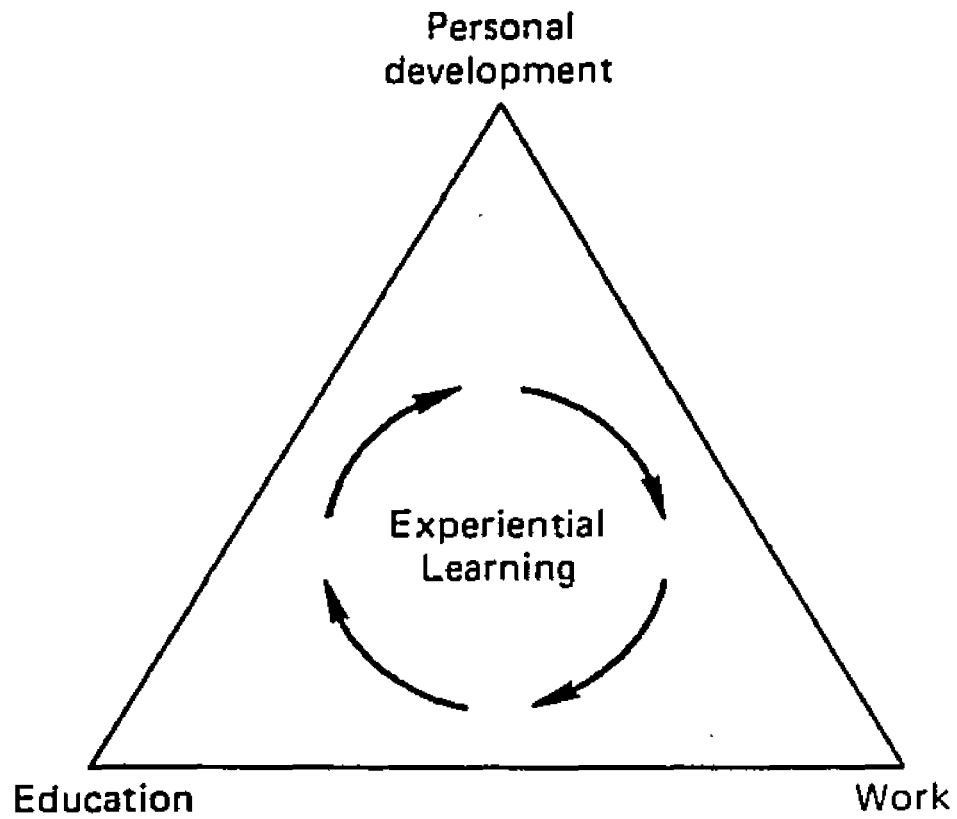
No number of object lessons, got up as object lessons for the sake of giving information, can afford even the shadow of a substitute for acquaintance with the plants and animals of the farm and garden acquired through actual living among them and caring for them... Verbal memory can be trained in committing tasks, a certain discipline of the reasoning powers can be acquired through lessons in science and mathematics; but, after all, this is somewhat remote and shadowy compared with the training of attention and of judgement that is acquired in having to do things with a real motive behind and a real outcome ahead. (Dewey, 1899, p.8-9)

More recently, innovative, and somewhat radical, educators have been challenging the established educational institutions by suggesting new applications of experiential education concepts and ideas. Two of the more controversial theorists, Paulo Freire and Ivan Illich, have pointed out the social and cultural significance of our "elite oriented, impractical, highly dehumanizing curricula" that dominate the established educational systems throughout the world. In a

similar, but more moderate contemporary approach, David Kolb (1984) has substantially defended the idea in his latest book, Experiential Learning: Experience as the Source of Learning and Development. He argues that experiential education is not just a new technique or educational fad without guiding theory and principles. Kolb (1984, p.3,4) believes that:

experiential learning theory offers something more substantial and enduring. It offers the foundation for an approach to education and learning as a lifelong process that is soundly based in intellectual traditions of social psychology, philosophy, and cognitive psychology. The experiential learning model pursues a framework for examining and strengthening the critical linkages among education, work, and personal development (See Figure 1). It offers a system of competencies for describing job demands and corresponding educational objectives and emphasizes the critical linkages that can be developed between the classroom and the "real world" with experiential learning methods. It pictures the workplace as a learning environment that can enhance and supplement formal education and can foster personal development through meaningful work and career-development opportunities. And it stresses the role of formal education in lifelong learning and the development of individuals to their full potential as citizens, family members, and human beings.

The review of precedent literature that is presented in Chapter II attempts to establish the theory base more completely. A path is traced that begins with a review of experiential education theories, as they are applied in educational programs in general, and progresses to the specific concepts and guiding theories that are used to operate practical agricultural training programs for graduate students from developing countries.



**Figure 1. Conceptual model of experiential learning
(Kolb, p.4)**

Research Questions

The purpose of this study was to examine the factors affecting agricultural training experiences for graduate students from developing countries who are studying at colleges and universities in the U.S. The questions that guided the research process, and the related approach to measurement selected for this study, were:

1. What are the personal and situational characteristics of the survey population, members of the five groups, and members of other selected subgroups in the survey population?
2. What are the significant differences in personal and situational characteristics between members of the five groups and between members of other selected subgroups in the survey population?
3. What are the attitudes of members of the survey population, members of the five groups, and members of other selected subgroups regarding factors affecting, and potential benefits of, a practical training experience?
4. What are the significant differences in attitude between members of the five groups and between members of other selected subgroups regarding factors affecting, and potential benefits of, a practical training experience?
5. What are the attitudes of members of the survey population, members of the five groups, and members of other selected subgroups regarding problems that could occur as a result of a practical training experience?
6. What are the significant differences in attitude between members of the five groups and between members of other selected subgroups regarding problems that could occur during a practical training experience?

7. What are the opinions of members of the survey population, members of the five groups, and members of other selected subgroups regarding terms and conditions necessary for a practical training experience?
8. What are the significant differences in opinions between members of the five groups and between members of other selected subgroups regarding terms and conditions necessary for a practical training experience?

Measurements of attitudinal characteristics were the primary concern in soliciting information that would assist in generating answers to the research questions. For purposes of this study, attitude was defined as the intensity of affect for or against a psychological object (Thurstone, 1928). Attitudinal characteristics are descriptors of the range of views toward individual statements and clusters of statements.

Definition of Terms

To add to the understanding of the research problem, it was necessary to define selected terms. The need for definition of terms was especially important because of the interdisciplinary nature of the study. The academic fields of experiential education, vocational education, agricultural education, adult education, international educational exchange, higher education, psychology, sociology, as well as several technical agriculture disciplines (such as Agronomy and Agricultural Economics) use terminology in different manners. The following definitions were selected:

1. Attitude. Intensity of affect for or against a psychological object. (Thurstone, 1928)
2. College of Agriculture and Natural Resources (CANR). The college at Michigan State University responsible for administration and coordination of programs for the six departments that were included in the study: Agricultural Economics (AGEC), Agricultural Engineering (AGEN), Agricultural and Extension Education (AEE), Crop and Soil Sciences (CSS), and Horticulture (HORT).
3. Attitudinal characteristics. Descriptors of the range of views toward individual statements and clusters of statements.
4. Cooperative Extension Service (CES). An organization with a unique partnership between the federal government, educational institutions, local governments and the people of the United States that provides a direct educational link with rural communities. Agricultural programs have traditionally been, and continue to be, an integral portion of the organizational outreach from agricultural colleges to the agricultural communities. Commonly there are three program areas that are operative in communities: (1) agriculture and marketing; (2) home economics and family living; and (3) youth leadership through 4-H clubs. (Prawl et al., 1984)
5. Experiential education. Learning in which the learner is in direct touch with the realities being studied. It is in contrast to learning in which the learner reads, writes, hears, or talks about the realities but never comes in contact with them. (Keeton & Tate, 1978)
6. Facilitator. Someone who makes easier an action, operation, or course of conduct. For purposes of this study it refers specifically to the potential role of the faculty member, Vocational Agriculture Instructor, Cooperative Extension Service field agent with agricultural responsibilities, or County Extension Director in assisting the graduate student from a developing country in initiating, implementing, and completing a practical agricultural training experience.

7. Faculty advisor. The person on campus responsible for providing academic guidance and supervision to the student during the course of study including the period(s) of practical training.
8. Graduate student from a developing country. A non-immigrant master's or doctoral candidate in the United States from a country that has been identified as in need of priority development assistance based on social and economic indicators established by the World Bank. (The terms "third world", "less developed country--LDC", and "low income country--LIC" are sometimes substituted for the term "developing country".)
9. Hands-on experience. A term, often used in conjunction with experiential education, that emphasizes the learner's physical participation with the realities being studied.
10. Home country. The nation in which the international student was resident before leaving to undertake studies in the United States and to which the international student will return.
11. International Student. A non-immigrant degree candidate in the United States. (The term "foreign student" is commonly used and has the same meaning. Some educators avoid using the term "foreign" because of a negative association in certain circumstances.)
12. Internship. A training program for academic credit with or without compensation, wherein close supervision is maintained by the faculty (e.g., working with an agribusiness loan officer as a requirement of the professional training program in an agricultural economics academic program).
13. National Association for Foreign Student Affairs (NAFSA). A nonprofit membership association that provides training, information, and other educational services to professionals in the field of international educational exchange.
14. Placement. The procedure through which a student identifies and agrees to a practical agricultural training experience with an employer, or facilitator, who is participating in providing the practical experience.

15. Practical agricultural training experiences. The training that a student receives through a jointly designed, monitored, and evaluated program in conjunction with a college or university academic advisor and members of an agricultural community. Placement in all three areas of practical training (supervised observation, internship, salaried employment), or a combination of the three areas, were considered as potential practical agricultural training experiences for purposes of this study.
16. Salaried employment. A training program in which a trainee is assigned responsibilities, provided compensation, and is a member of the work force (e.g. serving as a farm manager trainee for a commercial livestock producer).
17. Sponsor. A person, organization, or agency providing funding for an international student.
18. Supervised observation. A training program, generally short-term and without compensation, in which a trainee views in a non-participatory fashion a site or operation that relates to the program of study (e.g., observing a farmer marketing his cattle, visiting a food processing plant).
19. Trainee. The student engaged in a practical training experience.
20. United States Agency for International Development (AID). An agency of the United States government that has as its mandate to assist those countries described as "developing nations" on the basis of selected social and economic indicators.
21. Vocational Agriculture (Vo-Ag). Vocational education programs at the secondary level of public schools in the United States designed to prepare students for entry and advancement in agricultural occupations. The program is composed of three integral components, classroom-laboratory academic training, leadership training through the Future Farmers of America (FFA) organization, and practical training through the Supervised Occupational Experience Program (SOE). (Phipps, 1980)

Overview of the Research Design

The design chosen for this study was a descriptive survey in the form of a mail questionnaire. The data obtained from the questionnaire were used to describe how opinions and perceptions of the total sample were distributed for single and composite questionnaire items. Data analysis were used to explore relationships between two or more variables.

The target population for this study included all parties that could potentially be involved in a practical agricultural training experience in the U.S. for international students. It would have exceeded the time and resources available during this study to draw the sample from the target population. In order to adequately address the research problem and answer the research questions, a survey population that was more geographically and professionally uniform was selected. Each of the groups was selected for a strategic reason that is detailed in Chapter III. Following is a brief description of the five groups:

1. Graduate students from developing countries in agriculture programs at Michigan State University (MSU).
2. Faculty advisors of the graduate students from developing countries.
3. Cooperative Extension Service (CES) field agents in Michigan with agricultural responsibilities.
4. County Extension Directors (CEDs) with Michigan CES.
5. Vocational Agriculture (Vo-Ag) instructors in Michigan secondary schools.

A four-part, self-administered mail questionnaire was developed for the collection of data. Five versions of the questionnaire were designed. The questionnaire items were reviewed by a panel of judges and tested for validity and reliability prior to mailing to the selected sample.

The total design method (TDM) of mail survey research as detailed by Dillman (1978) was closely followed in all stages of the questionnaire construction and implementation process. There were 426 usable questionnaires returned out of the 473 questionnaires mailed to eligible members of the sample (90% return rate). Nonrespondents were compared statistically with respondents on available demographic information. The results indicated only minor differences between the respondent group and the nonrespondent group. The results of the comparisons are detailed in Appendix A.

The data collected, both numeric responses and written comments, were transformed for microcomputer entry and analysis. Various statistical tests were performed on the quantitative data to provide information related to answering the research questions. Chapter IV provides a detailed reporting of the research results.

Scope and Significance of Study

This study, which relied on existing theories and concepts from several academic fields of study, generated new knowledge that may prove beneficial in several of the academic

fields. Of primary significance was an adaptation of a proven strategy from the field of experiential education that was applied to the needs of a different audience, the international student studying agriculture in the United States. A second related benefit was that Vocational Agriculture concepts, especially the Supervised Occupational Experience (SOE) philosophy, were applied to the international student population. Third, contribution was made toward increased understanding of the many factors that are involved in developing effective international education programs. A final benefit was in the contribution of knowledge to an area of study that combined sound principles of experiential education, international education, and agricultural education into an interdisciplinary area. This interdisciplinary area dealt specifically with the expressed need that exists for designing and operating effective practical agricultural training programs for graduate students from developing countries.

In addition, this study contributed knowledge that may be applied to situations that are of immediate concern to decision-makers in several organizations. The results may be of interest to members of the following state and national agricultural education professional organizations: Michigan Association of Teachers of Vocational Agriculture (MATVA), National Vocational Agriculture Teachers Association (NVATA), American Association of Teacher Educators in Agriculture (AATEA), and Association of International Agricultural Educators (AIAE). All of these professional groups have expressed, through their

various publications and periodic meetings, an interest in increasing their involvement in various aspects of international agriculture. The information provided about the nature of Vo-Ag instructor attitudes and opinions may provide a basis for the formulation of other research questions or possible hypotheses for future studies related to the involvement in international agriculture activities.

Of equal importance may be the benefits that can be obtained by the Cooperative Extension Service professionals, both the CES field agents and CEDs. Michigan has undertaken a program of international development training and internship for its CES field staff, CEDs, and administrators with the intended purpose of increasing their desire and effectiveness to become involved in international development activities (Andrews, 1985). The information provided in this study gave an indication of the change in attitude that has occurred for those who participated in the international extension training programs and internships.

Information was also provided, as a result of this study, to decision-makers who are responsible for initiating and developing agricultural training programs for international students in Michigan. A measure of the level of respondent interest and willingness to participate, in addition to an indication of each group's opinions concerning the preferred terms and conditions, is now available to these decision-makers.

Finally, this study made distinct contributions toward the building of a foundational literature base related to

practical training programs for international students. Both the Limbird (1981) and Levitov (1982) studies were designed and implemented to assist in providing an increased knowledge-base necessary to address the need for practical training experiences that Lee (1981) discovered in her nationwide study. Significantly, two of the recommendations that Limbird (p.122) made were implemented through this study. Additional contributions to the literature included providing supportive materials to accompany the comprehensive list of Principles for Practical Training Experience for Foreign Students (NAFSA, 1982) produced from the Practical Training Feasibility Project (Levitov, 1982).

Assumptions and Limitations of the Study

A foundational assumption of this study was that the responses from members of the population to selected statements reflected their true attitudes and opinions. A second assumption was that respondents completed the survey with relative honesty and accuracy. It was further assumed that statistical analysis provided valid and reliable data that suggested appropriate solutions to the foreign students' expressed needs in relation to practical training experiences.

Generalization of the results of the study will be limited to the survey population that is represented by the sample that was chosen. Similarities may exist between the five groups in the survey population included in the study and corresponding groups found in other American states and the

larger target population. However, further research that would replicate, verify and follow-up the procedures and findings of this study for different segments of the target population will be needed in the future.

Overview of the Dissertation

A frame of reference for the entire study was developed in Chapter I. First, a description of the research problem and a background of the study, along with an introduction to the theoretical foundations, was presented. Then, the specific research questions were detailed, important terms were defined, and the research procedures introduced. Finally, the significance and limitations of the study were discussed.

A summary of the theoretical and conceptual foundations from the literature are discussed in Chapter II. The discussion proceeds from a base of theory in experiential education and proceeds to the specific topic of practical training programs for graduate students from developing countries.

The study design and procedures are detailed in Chapter III. Information is presented about the approach to measurement, population, sample, instrumentation, and data analysis.

Chapter IV contains a report of the analysis of the data with descriptions of the findings pertaining to each research question. A summary of the study, conclusions, implications, limitations, and recommendations for further research are presented in Chapter V.

CHAPTER II

PRECEDENTS IN THE LITERATURE

This study involved an analysis of the factors affecting practical training programs for graduate students from developing countries at colleges and universities in the U.S. The theoretical foundation for this study emerged primarily from a review of literature in the academic field of experiential education. In addition, literature related to practical training and international programs in the several technical fields of agricultural have been included.

The precedent literature for this study, after lengthy review, was divided into six sections:

1. Theoretical and conceptual framework for understanding experiential education.
2. Historical background of experiential education.
3. Relationship between experiential learning and agricultural education in the United States.
4. Characteristics of international students studying in the United States during recent years.
5. Practical training needs of international students.
6. Current state of practical training in graduate agriculture programs at colleges and universities in the U.S.

Each of these six sections is discussed under a separate heading in this chapter. The intent of the researcher is to help the reader to better understand the existing knowledge by following a progression from the general theoretical literature toward the more specific literature that has narrower scope and application to the research problem.

Theoretical and Conceptual Framework of Study

The theoretical basis for this study is built upon the principles of experiential education. The principles of experiential education are based on a philosophy of man that sees human beings as:

...unique among all living organisms in that their specialization lies not in some particular physical form or skill or fits in an ecological niche, but rather in identification with the process of adaptation itself--in the process of learning. We are the learning species, and our survival depends on our ability to adapt not only in the reactive sense of fitting into the physical and social worlds, but in the proactive sense of creating and shaping those worlds. (Kolb, 1984, p.1)

According to Paulo Freire (1970, p.3), the Brazilian educator:

...to be human is to engage in relationships with others and with the world. It is to experience that world as an objective reality, independent of oneself, capable of being known. Animals, submerged within reality, cannot relate to it; they are creatures of mere "contacts." But man's separateness from and openness to the world distinguishes him as a being of "relationships." Men, unlike animals, are not only "in" the world but "with" the world.

Human beings are unique in the world of living creatures because they have the ability to make choices. Choosing brings with it an increasing responsibility for the management of the world and its resources. There are risks and rewards that accompany the decisions that our transforming and creative abilities bring upon the world. It is concluded by some, therefore, that if any hope for the human species to survive in harmony with the universe exists, then each individual must learn how to make better choices. Kolb (1984, p.2) said it this way:

We have cast our lot with learning, and learning will pull us through. But this learning process must be reimbued with the texture and feeling of human experiences shared and interpreted through dialogue with one another. In the overeager embrace of the rational, scientific, and technological, our concept of the learning process itself was distorted first by rationalism and later by behaviorism. We lost touch with our own experience as the source of personal learning and development and, in the process, lost that experiential centeredness necessary to counterbalance the loss of "scientific" centeredness that has been progressively slipping away since Copernicus.

Some have observed that, in our rapidly changing society, learning is becoming increasingly more important. For example, in Megatrends (Naisbitt, 1982, p.6), a trend was identified as:

THE NEW WEALTH--KNOW-HOW. In an industrial society, the strategic resource is capital; a hundred years ago, a lot of people may have known how to build a steel plant, but not very many could get the money to build one. Consequently, access to the system was limited. But in our new society...the "strategic" resource is information. Not the only resource, but the most important. With information the strategic resource, access to the economic system is much easier.

The rapid rate of change in our world has caused every human being to look for strategies to adapt to these changes. Each person is seeking out the learning strategy that is most effective and efficient for their particular life situation. The pressures for combining work and life experiences with the traditional institutional systems of recognition for assessment and crediting are becoming increasingly evident. According to Kolb (1984, p.2):

The emerging "global village", where events in places we have barely heard of quickly disrupt our daily lives, the dizzying rate of change, and the exponential growth of knowledge all generate nearly overwhelming needs to learn just to survive.

It is necessary to trace the development of experiential education theories. These theories offer the foundation for an approach to education and learning as a lifelong process that is soundly based in academic traditions. This section of the review of precedent literature will briefly touch on the writings of three representative experiential education theorists: Dewey, Freire, and Kolb. Each is fundamentally unique in their individual sphere of contribution to theory.

John Dewey

Any review of experiential education theory must focus on the educational contributions of John Dewey. Through his writings, he provided the philosophical and psychological justifications for the learning-by-doing approach to education that is recognizable in many educational forms today (McClure,

1985, p.29). Dewey's influence over the past 40 years has been highly significant, but his challenges regarding the ability of educators to cope with a changing society may be even more relevant in today's world. He outlined the direction that the changes should take, in Experience and Education. Dewey (1963, pp.5-7) said:

If one attempts to formulate the philosophy of education implicit in the practices of the newer education, we may, I think, discover certain common principles...To imposition from above is opposed expression and cultivation of individuality; to external discipline is opposed free activity; to learning from texts and teachers, learning through experience; to acquisition of isolated skills and techniques by drill, is opposed acquisition of them as means of attaining ends which make direct vital appeal; to preparation for a more or less remote future is opposed making the most of the opportunities of present life; to static aims and materials is opposed acquaintance with a changing world...I take it that the fundamental unity of the newer philosophy is found in the idea that there is an intimate and necessary relation between the processes of actual experience and education.

Dewey believed that any experience has continuity with other experiences. Past experiences always operate in the present and present experiences always operate in the future. He argued that practical occupational training should be carried on as an integral part of the school curriculum. He said:

...for in schools, occupations are not carried on for pecuniary gain but for their own content. Freed from extraneous associations and from the pressure of wage-earning, they supply modes of experience which are intrinsically valuable; they are truly liberalizing in quality. (Dewey, 1899, p.200)

At times, in his writing, Dewey made specific reference to the value of educational experiences in agriculture.

According to Dewey (1899, p.200):

Gardening, for example, need not be taught either for the sake of preparing future gardeners, or as an agreeable way of passing time. It affords an avenue of approach to knowledge of the place farming and horticulture have had in the history of the race and which they occupy in present social organization. Carried on in an environment educationally controlled, they are means for making a study of the facts of growth, the chemistry of soil, the role of light, air, and moisture, injurious and helpful animal life, etc. There is nothing in the elementary study of botany which cannot be introduced in a vital way in connection with caring for the growth of seeds. Instead of the subject matter belonging to a peculiar study called botany, it will then belong to life, and will find, moreover, its natural correlations with the facts of soil, animal life, and human relations. As students grow mature, they will perceive problems of interest which may be pursued for the sake of discovery, independent of the original direct interest in gardening--problems connected with germination and nutrition of plants, the reproduction of fruits, etc., thus making a transition to deliberate intellectual investigations.

Dewey's experiential learning philosophy is portrayed in Figure 2. Learning is portrayed as a dialectic process integrating experience and concepts, observations, and action. Kolb (1984, p.22) explained the model in the following manner:

The impulse of experience gives ideas their moving force, and ideas give direction to impulse. Postponement of immediate action is essential for observation and judgment to intervene, and action is essential for achievement of purpose. It is through the integration of these opposing but symbiotically related processes that sophisticated, mature purposes develops from blind impulse.

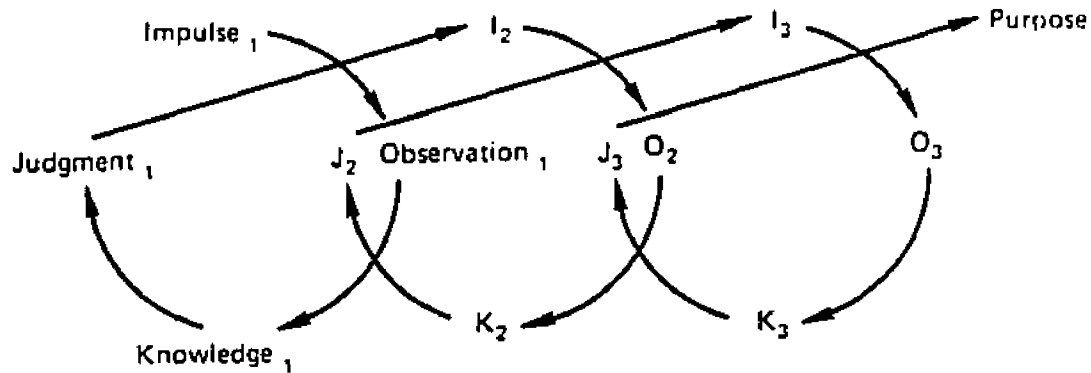


Figure 2. Dewey's model of experiential education (Kolb, 1984, p.23)

Paulo Freire

A second major contribution to the foundations and theory of experiential education, one that was developed in quite a different era and culture from that of John Dewey, comes from Brazilian educator Paulo Freire. Kolb (1984, p.16) offers an explanation of the possible connection between Dewey and Freire. He said:

If views of education and learning are to be cast on a political spectrum, then this viewpoint (Freire) must be seen as the revolutionary extension of the liberal, humanistic perspective characteristic of the Deweyite progressive educators and laboratory-training practitioners. As such, these views serve to highlight the central role of the dialectic between abstract concepts and subjective personal experience in educational/political conflicts between the right, which places priority on maintenance of the social order, and the left, which values more highly individual freedom and expression.

Born and educated in Brazil, Freire has a view of learning that causes him to take a different perspective than

most American educators. Of major concern in Freire's writings is the obtaining of humanization through a process of praxis. Humanization, according to Freire, is the true obtaining of man's vocation. The opposite concept is dehumanization which is the distortion of the vocation of people to become more fully human.

In order for people to achieve humanization, they must participate in what Freire termed "conscientization"--the process of achieving critical consciousness. Conscientization is learning to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality. Central to obtaining this new critical consciousness is an educational process called "praxis"--reflection and action upon the world to transform it. Praxis education, then, is defined in Freire's scheme, as knowledge that emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry men pursue in the world, with the world, and with each other.

In describing the traditional forms of education, Freire develops the concept of "banking." He believes that traditional forms of education are narrative in their fundamental character. He says:

This relationship (banking) involves a narrating Subject (the teacher) and patient, listening objects (the students). The contents, whether values or empirical dimensions of reality, tend in the process of being narrated to become lifeless and petrified...The teacher talks about reality as if it were motionless, static, compartmentalized, and predictable. Or else he expounds on a topic completely alien to the existential experience of the

students. His task is to "fill" the students with the contents of his narration--contents which are detached from reality, disconnected from the totality that engendered them and could give them significance...Narration (with the teacher as narrator) leads the students to memorize mechanically the narrated content. Worse yet, it turns them into "containers," into "receptacles," to be "filled" by the teacher...Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiques and makes deposits which the students patiently receive, memorize, and repeat. This is the "banking" concept of education, in which the scope of action allowed to the students extends only as far as receiving, filing, and storing the deposits. (Freire, 1973, pp.57-58)

It is recognizable, after gaining an understanding of Freire's special vocabulary and his politically radical context, that "praxis education" has some fundamental similarities to what is commonly called experiential education. A comparison of a sample of Freire's writing with a sample from the writing of Doherty, a contemporary American practitioner/theorist will illustrate this connection. According to Freire (1973, p.68):

Knowledge emerges only through invention and re-invention, through the restless, impatient continuing, hopeful inquiry men pursue in the world, with the world, and with each other (p.58)...Whereas banking education anesthetizes and inhibits creative power, problem-posing education involves a constant unveiling of reality. The former attempts to maintain the "submersion" of consciousness; the latter strives for the "emergence" of consciousness and "critical intervention" in reality.

According to Doherty (1978, pp.24,25):

The traditional academic setting obviously encourages a student to develop her perceptual and symbolic abilities, by emphasizing reflective observation and

concept formation. Her equally important affective and behavioral skills, however, can best be fostered through active experimenting and concrete experience.

Freire's theories which explain the dialogical nature of reflection and action have contributed, along with the theories arising from the writings of Dewey and many others, to what is being written in current experiential education literature in the United States.

David Kolb

One example of a contemporary writer who provided a theoretical and conceptual understanding of experiential education is David Kolb. He has written a book, Experiential Learning: Experience as The Source of Learning and Development (1984). Kolb borrowed heavily from previous philosophers and theorists. In addition to the influence of Dewey, Kolb has relied upon the intellectual writings of Kurt Lewin and Jean Piaget. Other related streams of thought that contributed during his inquiry into experiential education came from Carl Jung, Erik Erikson, Carl Rogers, Fritz Perls, and Abraham Maslow. Kolb (1984, pp.15,16) said that these theorists bring:

...two important dimensions to experiential learning. First is the concept of adaptation, which gives a central role to affective experience. The notion that healthy adaptation requires the effective integration of cognitive and affective processes is of course central to the practice of nearly all forms of psychotherapy. The second contribution of the therapeutic psychologies is the conception of socioemotional development throughout the life cycle. The developmental schemes of Erik Erikson, Carl Rogers, and Abraham Maslow give a consistent and articulated picture of the challenges of adult development...Taken together, these socioemotional

and cognitive development models provide a holistic framework for describing the adult development process and the learning challenges it poses. It is Jung's theory however, with its concept of psychological types representing different modes of adapting to the world, and his developmental theory of individuation that will be most useful for understanding learning from experience.

An analysis of the models of experiential education that Kolb derived from the theorists he studied led him to conclude that learning by its very nature is a tension and conflict filled process. He identified four modes of experiential learning that are needed by learners in order to be effective in obtaining new knowledge, skills, and attitudes. The four modes are concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). Learners must involve themselves in activities from all four modes if they want to be effective. Because a person cannot act and reflect or be concrete and theoretical at the same time the conflict and tension results. The learner moves in varying degrees from the one dimension of activity to the other. "The first dimension represents the concrete experiencing of events at one end and abstract conceptualizing at the other. The other dimension has active experimentation at one extreme and reflective observation at the other" (Kolb, 1984, pp.30,31).

An important factor in the movement between Kolb's dimensions is the way in which the tensions and conflicts are resolved. A similar concept can be identified in Freire's writings. In Freire's terminology, a dominance on the active mode represents "activism" and dominance on the "reflective" mode

results in "verbalism" (Freire, 1973, pp.75-76). Figure 3 displays a representation of Kolb's conceptual model of experiential education.

Kolb's experiential learning theory model provides educators with a compelling rationale for including experience as an essential part of the learning process. Educators "must provide a framework for regularly analyzing the experience and forming new concepts and theories, and then submitting those new concepts to the test of experience" (Doherty, 1978, p. 25).

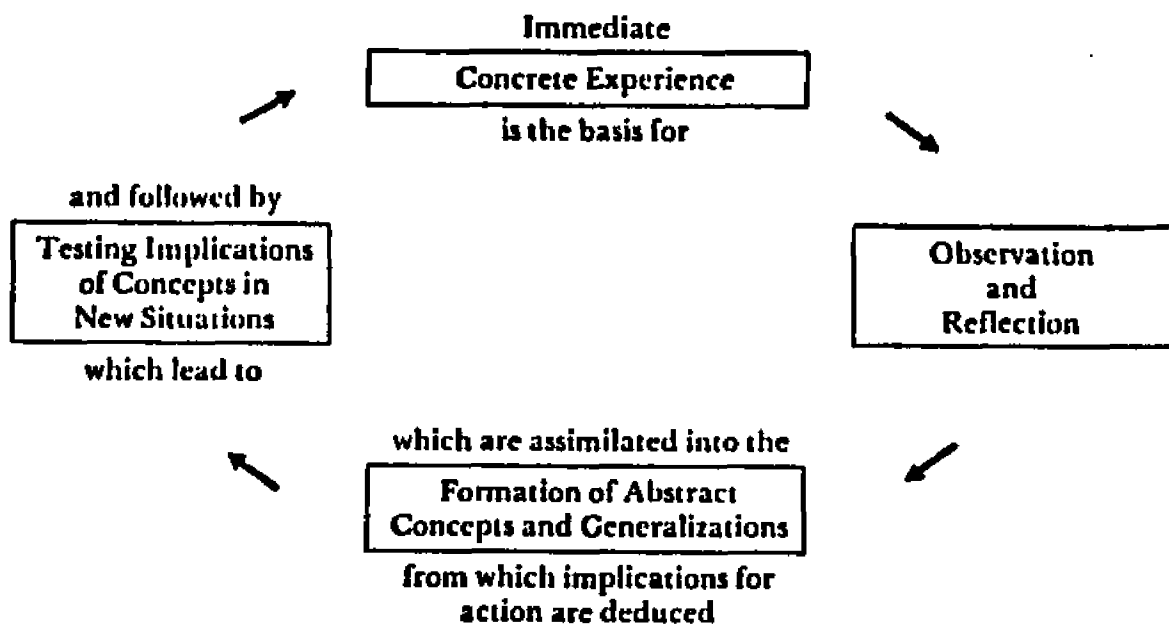


Figure 3. Kolb's description of the learning cycle (Doherty, 1978, p.24)

Through the analytical studies of another pair of theorists, Argyris and Schon, an additional dimension was added to the model that Kolb developed. According to Argyris and Schon (1974, p.3):

Integrating thought with action effectively has plagued philosophers, frustrated social scientists, and eluded professional practitioners for years... We believe that exciting intellectual problems are related to integrating thought with action.

The additional dimension that Argyris and Schon added dealt with the notion of the "theory of action" and their analysis of the crucial step in which experience is translated into concepts. As explained by Doherty (1978, pp.25,26):

...the theory of action is not simply a theory about the subject or field under study but is the learner's whole framework for engaging in the experience. It includes not only formal theory that she has read and been told about the study subject but also the informal ideas, assumptions, and expectations she brings from past experience as well as the methods she relies on as she functions in each new situation.

Argyris and Schon explained that theories of action exist in two distinguishable forms: espoused theory and theory-in-use. The espoused theory is the model of values and behaviors and analytical constructs that a person might use to describe and justify behavior when asked for a response to a specific situation. The theory-in-use includes all the principles and forces that actually govern an individual's behavior in a specific situation. A reliable picture of the theory-in-use can

only be inferred from a careful, systematic observation of what is done and then compared against the espoused theory.

Learning and theory-building occur through the dilemmas that arise out of the inconsistencies between the espoused theory and theory-in-use. There are four types of dilemmas that are mentioned by Argyris and Schon (1974, pp.30-32):

1. Dilemmas of incongruity arise out of the progressively developing incongruity between espoused theory (on which self-esteem depends) and theory-in-use.
2. Dilemmas of inconsistency arise when the governing variables of theory-in-use become increasingly incompatible.
3. Dilemmas of value arise when the protagonist comes increasingly--and, finally, intolerably--to dislike the behavioral world his theory-in-use has helped to create.
4. Dilemmas of testability arise when the protagonist, who values his ability to confirm or disconfirm his assumptions, finds out he is eventually completely cut off from the possibility of doing so by the behavioral world he has helped to create.

The Kolb and Argyris/Schon models of learning are so congruent that Doherty has overlaid them to produce a new comprehensive model displayed in Figure 4. In the new model, "the theory-in-use is refined to form a new espoused theory; that is, what the learner would describe as her theory if asked prior to a subsequent encounter with the field situation" (Doherty, 1978, p.27). It is the theory of experiential learning that is portrayed by the model in Figure 4 that the researcher has found most useful in forming the conceptual basis for this study.

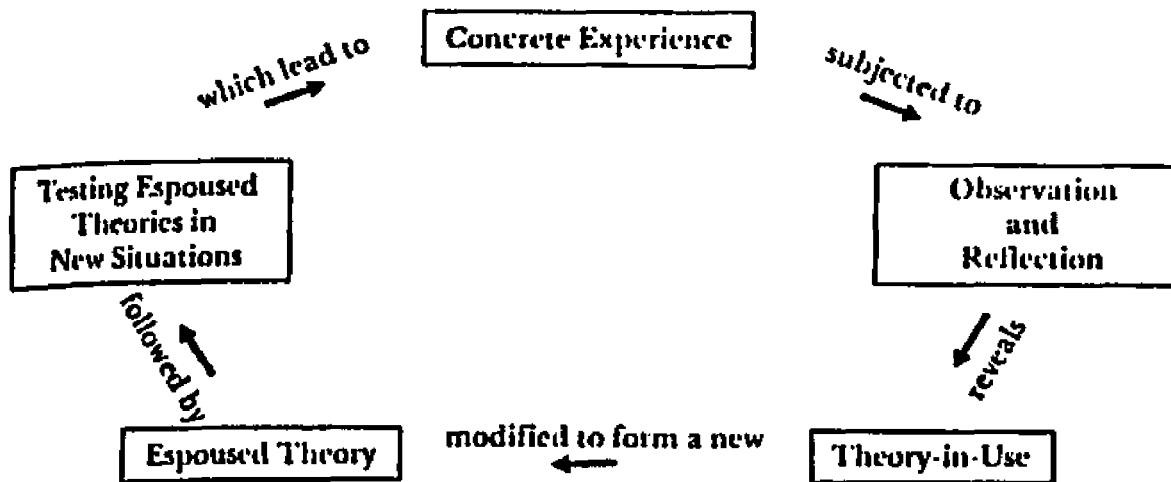


Figure 4. Theory of experiential learning (Doherty, 1978, p.27)

Historical Background of Experiential Education

Tracing the history of experiential education has been recognized, at least in recent years, by educators as an essential strategy. However, it is the conclusion of Houle (cited in Keeton & Associates, 1977, pp.19-33) in a chapter titled "Deep Traditions of Experiential Learning" that historians of education have not considered the specific topic of experiential education as one worthy of sustained attention.

Houle did find that "there is no lack of monographic, literary, or anecdotal material on the basis of which such a

history could be written....Furthermore, the distinction between formal instruction and instruction distilled in some fashion from raw experience is far from new." As an example, Houle refers to Plato's Meno, where an uneducated slave boy is guided by Socrates to rediscover the Pythagorean theorem (p.20).

Other examples, identified by Keeton and Tate, show that society has traditionally valued a wider array of experiential learning modes than universities and colleges have accepted as fulfilling academic degree requirements. For example:

The hunter taught his sons and nephews during the actual hunt; the farmer followed suit with agricultural pursuits; the craftsman accepted and trained apprentices; the professional coached proteges. (Keeton & Tate, 1978, p.2)

The most meaningful tracing of experiential education's historical roots can be accomplished by looking more specifically at the emergence of postsecondary education out of its European heritage. As Europeans moved out of the medieval into the modern world, they developed the university system. By the year 1500 they had established 70 universities. Houle (cited in Keeton & Associates, 1977, p.22) observed that:

the general academic pattern was that of a guild of scholars, teaching and studying a broad range of subjects and given an enduring life by a charter of incorporation...For seven hundred years, the learning that the university offered was essentially the mastery by the student of content provided by books and lectures...Experiential learning, like common sense, had no place in the university curriculum.

During that time period, other forms of non-university education were carried out through apprenticeship training by craft guilds. Apprenticeship training was based almost totally on the experiential learning system. Learning was of immediate and practical use to the participants. Houle (cited in Keeton & Associates, 1977, p.23) makes an interesting observation regarding the evolution of terminology and function. He commented:

The original word for guild of any sort had been "universitas," but when learned scholars gained their charters and established their institutions, they took the term with them. As time went on, the crafts on which the guilds were based often became more complex. The barber evolved into the surgeon and the apothecary into the pharmacist or physician. Thus, theoretical and experiential educational systems eventually existed side by side, the first in the universities and the second in the guilds.

The basic patterns of formal education and experiential learning underwent constant change throughout the medieval period and in subsequent ages. Apprenticeship training became far more organized and complex. The rise of widespread literacy was accompanied by other patterns and institutions for schooling. At the same time, universities and colleges flourished, remaining fairly constant in purpose, program, and procedure until about 1810 in Germany, about 1850 in England, and about 1870 in the United States. Houle (p.26) records that:

...then suddenly--or so it seemed--important demands began to be made upon campus traditionalists...The old professions were joined by engineering, agriculture, architecture, dentistry, and other occupations that formerly had been considered crafts...the older systems of education that were

being abandoned usually had been based on experiential learning, a form of instruction far different from the traditional way of work of the college and university. But by the 1860's, the need for a combination of systematic instruction and experiential learning was becoming clear on both sides of the Atlantic.

The movement for university reform in the United States was led by Jefferson, the Jacksonians, and others, but they had been defeated by the forces of conservatism. By the 1850s discussion tended to focus first on whether practical subjects should be included in the university curriculum. The passage of the Morrill Land Grant Act in 1862 provided "colleges for the benefit of agriculture and mechanical arts" that led to the institutionalization of many forms of experiential education (True, 1929, p.99). Students were often required to do manual labor on the college farms and laboratories as part of their requirements.

It should be noted that the value of the manual labor was not accepted without criticism. For example, Dr. Beal, a teacher at the Michigan Agricultural College, was not very positive regarding the role of practical experiences in the curriculum. It is reported (True, 1929, p.133) that Dr. Beal said the following:

In 1870 it was not difficult to plan a course of study for an agricultural college. Except some points gathered from manual labor, which were not numerous nor very important, the students received, all told, eight weeks of daily instruction in horticulture and ten weeks in agriculture, and these topics were chiefly taught by the slow process of lectures.

Examples of planned experiential education continued to become more common through the rest of the nineteenth century and into the beginning of the twentieth. Emphasis became increasingly concentrated on the development of libraries as the heart of the university teaching system. Students were using laboratories for practical applications of knowledge previously delivered in the classroom or acquired from books. By the early 1900s several colleges of agriculture in the United States were using extensive and diversified amounts of land in connection with instruction in agriculture and related subjects. One author (True, 1929, p.230) observed that:

While the old compulsory manual-labor system for students disappeared, there was a considerable amount of required labor on a field-laboratory plan. A certain number of students were employed and paid for part-time work on the college and station lands. The students generally observed the station experiments and thus become familiar with whatever useful progress in new directions the stations were making. The use of large tracts of land in connection with agricultural instruction and experimentation marked a somewhat radical departure from the conception that higher agricultural education should be very largely a matter of lectures and laboratory work as was held by some of the early leaders of this movement.

Practical forms of learning became adopted in other areas of academic study in addition to what was happening in the agricultural education movement. The medical profession began to use practicums and internships during the late nineteenth century. Law, education, business and many other professions adopted the use of an experiential mode of training as part of their university programs.

Following World War II, additional steps were taken to further improve postsecondary curricula through new structures, concepts, and processes. Movement was away from a wholly prescribed curriculum to include the elective system, credits, courses, departments, concentration and distribution of subject matter, majors, minors, departments, honor points, residence requirements, transcripts, and all the other ways by which faculty, students, and administrators made postsecondary education work. This expanded system grew up at the same that experiential education was being incorporated increasingly into the system. Today we have many variations of standards and rules, such as two hours of laboratory work being equivalent to one hour of lecture, that reflect this evolution in our college and university systems (Keeton & Associates, 1977, p.30).

Experiential Learning and Agricultural Education

In this study, experiential education has been defined as "learning in which the learner is in direct touch with the realities being studied. It is contrasted with learning in which the learner reads, hears, talks, or writes about these referents or realities but never comes into contact with them as part of the learning process" (Keeton & Tate, 1978, p.2). A common misconception about experiential education is that it is equated with off-campus or non-classroom learning. Educational programs,

even those based on campus and in the classroom, often can contain an experiential component as part of their activities.

Experiential learning can take on a variety of forms in educational institutions. There are a number of terms that are used throughout the world to refer to various types of experiential activities. According to Knowles (1978, p.57):

In the United States and Canada, the term "cooperative education" has wide usage. The word "cooperative" has its origin in the fact that meaningful work experience related to a field of study for most students is achieved by placing them in regular jobs provided by industry, business, government, health agencies, and so on, and the total educational program, therefore, becomes one of "cooperation" between a college or university and the employers of students. In the Commonwealth nations, programs which require work experience are designated as "sandwich programs." France uses the title "L'enseignement en alternance (alternating instruction)." In Sweden the designation is "combinations utbildning (combined education)." Other designations are internship programs, practica, interlude programs, field service, experimental programs, and universities without walls.

Every field of academic study has specific terminology related to its experiential education programs. In addition, the terminology often varies according to the level and type of education that is being discussed. In the field of agricultural education, which is the focus of this study, there are two major levels of educational programs that significantly utilize experiential education strategies: (1) Vocational Agriculture programs at the secondary school level, and (2) technical

agriculture training at the postsecondary and graduate level. The literature relating to the experiential component of these two major levels of educational programs will be briefly reviewed in this section.

Experiential Education at Secondary Level

Agricultural education programs in the public secondary schools of the United States provide a worthy model of experiential education. The three components of a vocational agriculture program are: (1) classroom and laboratory instruction, (2) leadership development through involvement in the Future Farmers of America (FFA), and (3) supervised occupational experience (SOE) to gain hands-on experience in performing tasks in agricultural education.

It is the combination of these three components that has defined Vocational Agriculture programs over the past 70 or more years. The emphasis in agricultural education is often put on pragmatism and problem solving. "The instruction, the methodology, the program, and the courses are based on the problems involved in the various tasks in the agricultural world of work" (Phipps, 1980, p.15). A strategy of "learning by doing" with a major emphasis on the supervised occupational experience (SOE) aspects of the program have caused most teachers to give considerable attention to laboratory work, field trips, problem-solving, agribusiness placement, and home projects.

Dickerson (1984) noted that the concept of the SOE had withstood the test of time and had been the chief contributor to the building of curriculum in other areas of vocational education. The SOE is not viewed by agricultural educators as merely a source of income for students, a miniature experiment station, or a vehicle for developing of psychomotor skills. "It is an arrangement whereby students are placed in the ideal learning situation--problem situation--which results in the most important learning attainable, the ability of an individual to identify and solve the problems of life" (p.5).

A significant portion of the Vocational Agriculture philosophy of problem solving can be attributed to the influences of John Dewey and his followers. Dickerson (1984, p.6) noted:

...(the) problem solving approach to teaching has become almost synonymous with agricultural education. This concept first made the educational headlines (Stimson & Lathrop, 1954) at about the time Stimson was trying out the "Home Project Plan" in Massachusetts. Dr. W.W. Charters of Missouri is credited with first utilizing this approach about 1909. He held that education ought to function in satisfying needs, by solving problems in these needs. He had been a student of John Dewey at the University of Chicago and admitted to being a "Dewey disciple". Dr Charters visited Massachusetts and observed Stimson's "home project plan in operation," whereupon he remarked, "It seems to me the project method is the problem method raised to the nth power" (p. 601). We have long recognized that one of the most fundamental values of the SOEP has been that of providing the vehicles for utilizing the problem solving approach.

Research studies in the field of Vocational Agriculture have consistently shown that SOE programs provide students with

practical learning through real-life work settings that promote educational development. For example, in a recent study by Fletcher, Williams, & Miller (1985, p.67), it was revealed that "employers believe agri-business employment assists students in developing a variety of employment related abilities". A strongly supportive literature base related to SOE has been provided through research conducted by members of the agricultural education profession. Two professional publications, The Journal of the American Association of Teacher Educators in Agriculture and The Agricultural Education Magazine in particular, as well as other publications, provide a wealth of information relating to experiential education. However, it is beyond the scope of this study to make further detailed references to this body of literature.

Experiential Education at Postsecondary Level

At the collegiate level, the term that is used most frequently to describe experiential education programs is "cooperative education." Wilson (1978, p.1) said that "cooperative education is an educational strategy that involves students in productive work as an element of the curriculum." He gave emphasis to the three critical assertions included in his definition: (1) cooperative education is an educational strategy, (2) it involves students in productive work, and (3) it is an element of the curriculum. Cooperative programs are offered at junior colleges, senior colleges, and graduate schools.

Another experiential term that is used commonly at the postsecondary and graduate level is "internship" or in some cases "practicum." These terms are used frequently in programs educating teachers, physicians, social workers, counselors, school administrators, labor economists, engineers, police administrators, and various business personnel. According to Mason et al. (1981, pp.17,18)) the internship or practicum has the following characteristics:

1. used in professional or sub-professional curricula
2. undertaken typically as culminating experience prior to graduation
3. occurs in actual professional job situation
4. conceived so students can apply concepts and skills previously taught in the classroom
5. usually a full-time resident experience and typically three months in length
6. placement is usually in a firm or agency identified as progressive in method of operation
7. has a professional person, specially selected because of ability and competence, as a supervisor
8. pays the intern a salary, usually at a reduced rate

The distinctions between cooperative education and internship or practicum are not clearly defined in the literature. Generally, some differences can be stated but they are often blurred in application at various institutions. Wilson (1978. p.4) offers this explanation of the differences:

Whereas co-op education entails several work periods, internships or practica require only a single period. Co-op work is usually paid employment, but internships and practica either are voluntary or provide only small stipends. Co-op is available to students in several different academic programs and is administered through a central department, whereas internships and practica are offered by a single curriculum, often a single course, and are administered by teachers. And finally, whereas co-op jobs may be obtained in virtually all fields, internships and practica are found principally in human services, nursing education, and accounting. (Wilson, 1978, p.4)

The description of a program at Michigan State University (MSU) in the College of Agriculture and Natural Resources will illustrate the typically defined difference between cooperative education and internship. The program at MSU allows juniors and seniors to sign up for a 10-week internship just as they would for any other elective course. The student reaches an agreement with a carefully matched host employer and begins the internship. According to LaPrad (1977, p.14):

There are no seminars, no workshops, no trips back to campus while the student is employed for the term in which he/she is interning. This is not a cooperative education program in the true sense of alternating work periods....

Cooperative education was begun in 1906 and has grown to become very popular in colleges and universities in the United States in recent years. There is still no comprehensive survey of cooperative education programs at colleges and universities in the United States. Keeton (1982, pp.622,623) reports that:

...informed estimates as recently as 1980 were that one in seven college students participated in some form of sponsored experiential learning and that the proportion was rising... although no comprehensive survey is available that distinguishes the scope of distinctively experiential learning programs from that of all deliberate and unintentional learning among people viewed as lifelong learners, it is clear that the volume of such education and learning is far larger than was imagined a decade ago.

Mason et al. (1981, p.18) reported that it is quite likely that internships will be more widely included in college curricula in the future because of the demonstrated value in assisting the students to make the transition from formal schooling to an actual professional situation.

The majority of cooperative education programs in universities and colleges are conducted at the undergraduate as compared to the graduate level. Cooperative education programs at the graduate level, when they exist, are nearly always an informal extension of an existing undergraduate program. Several factors that deter graduate student participation have been identified by Brown (1978, p.55):

1. Often, faculty coordinators are assigned graduate students as an overload, so little time is available to handle them.
2. Graduate education has historically used fellowships and assistantships as attractive and prestigious alternatives that deter the adoption of cooperative education alternatives.

3. Although large numbers of employers have hired undergraduate cooperative students for many years, they seem less interested in the graduate student.
4. Graduate students are often older with additional commitments that make them less flexible and available for jobs.
5. Many graduate students are eager to finish their degree programs as quickly as possible in order to enter the job market permanently.

The major use of graduate cooperative programs is in business administration, law, and to a lesser extent engineering. Other areas of academic concentration have not devised as sizable or organized efforts in regard to cooperative education. The evidence for future changes, according to Brown, suggest that a modest increase will occur in graduate cooperative programs. "The evidence further suggests that the majority of graduate co-op programs will have few participants, will not be closely tied to the curriculum designed, will be largely student instigated, and will be flexible and informal" (Brown, 1978, p.56).

Colleges of agriculture in the United States are facing a serious problem, one that has implications for experiential education with their domestic students. For a long time the clientele of the agricultural colleges have been the sons and daughters of rural America. The continual decline in the number of farmers and people living in rural communities, combined with the increasing number of urban dwellers interested in agricultural careers has resulted in a growing number of "non-traditional" students in the agricultural colleges (Olson, 1980). The non-traditional student often comes to the

educational institution with little or no practical experience. Employers still want graduates who have career-related experience prior to employment.

Several colleges and universities have begun to address the needs of undergraduates who arrive without the practical farm background. Olson (1980), Seals and Armstrong (1983), and Mortenson (1981) have reported on experiential education activities (internships, practica, cooperative education) which occur outside the normal classroom and which provide work experience related to the student's educational program.

Two recently developed programs provide examples of experiential education opportunities designed primarily for undergraduate domestic students. The University of Nevada is utilizing a ranch where students stay for one week to participate in various practical facets of agriculture. Students enroll in the course for one credit (Seals and Armstrong, 1983).

A second example is provided by a program that was initiated at Michigan State University. A farm and resource learning center has been established at the Kellogg Biological Research Station, located in a rural area sixty miles Southwest of the main East Lansing campus. The curriculum for the undergraduate Rural Resources Education Program includes 15 credits for instruction over the period of 10 weeks that the students are in residence. The students are required to complete

a number of specified, hands-on experiences, such as milking cows, operating a farm tractor and other equipment, feeding livestock, testing soil and water, identifying plants, investigating habitats, making population studies, and using hand tools and welding equipment properly (Gardner & Tompkins, 1986).

Educators in secondary schools, colleges, and universities in the United States have been, and continue to remain, involved in experiential education programs. In particular, agricultural educators have been innovators in making practical application of the experiential education models from theorists such as John Dewey. This application has been most significant at the secondary school level through Vocational Agriculture programs and in land grant colleges at the undergraduate university level.

The next section will summarize literature related to education of international students from developing countries who are studying at colleges and universities in the U.S. The focus of the final section will be upon literature related to the needs of international students at the graduate level for increased experiential education opportunities.

Characteristics of International Students

The United States has become a major center for study by large numbers of international students in recent decades.

"World War I affected the flow of students to the United States

because it accelerated the movement for international understanding which had begun about 1900 in the hope that nations would resolve their differences through arbitration and mutual understanding." Other countries began to look to the U.S. as the center for advanced studies which reversed the previous trend of students studying primarily in Europe (Cieslak, 1955, p.9).

According to DuBois (1956):

During the period of the Good Neighbor Policy in the late 1930's and early 1940's, the United States government encouraged Latin-American students to come to this country to study. The American public responded generously to government leadership. Moreover, during World War II many European universities were closed to students who would normally have gone to them; hence they turned to institutions in the United States. World War II delayed the higher education of at least one and in some cases two or three academic generations in Europe and much of Asia...After the war, the United States government launched massive democratization and re-education programs in Austria, Germany, Korea, and Japan that included study tours by nationals of those countries sent to the United States. Simultaneously, many of the technically underdeveloped nations launched programs of economic and social development that required trained personnel for whom educational pre-eminence of the United States in many technical and scientific fields made this country an obvious place to secure such training.

Almost every year since 1954 there has been an increase in the number of international students studying in the United States. The largest increases, 12.5% average per year, came between 1975 and 1980. The 1984-85 growth rate was a 0.9% increase from 1983/84 (Zikopoulos, 1985, p.1).

In 1984-85 there were 342,113 international students in the United States. Of these, 7,540 (2.2%) were studying agricultural subjects. It is at the graduate level that the international students have had the largest impact on institutional enrollment. In 1984-85, ten percent of all graduate students in the United States came from other countries (Zikopoulos, 1985, p.1). In agriculture, the ratio of graduate to undergraduate students is much higher than other fields of study. In 1983/84, the last time the statistics were available, a total of 62.4% of all international students studying agriculture were enrolled at the graduate level (Zikopoulos, 1984, p.43). In addition, it is reported that 40% of all graduate degrees in agriculture are awarded to international students (Mashburn, 1984, p.6).

Many of the land grant universities have significant numbers of international students enrolled. For example in 1984-85: University of Wisconsin/Madison had 2,901, The Ohio State University had 2,606, University of Minnesota had 2,344, Louisiana State University had 2,109, Oklahoma State University had 1,976, University of Maryland had 1,926, and Michigan State University had 1,853 (Zikopoulos, 1985, p.59).

As a representative example of land grant schools, statistics from Michigan State University (MSU) show that in 1985 (Fall Term) there were a total of 266 international graduate students enrolled as majors in agricultural and natural

resources. Of the international students studying as agriculture and natural resources majors, a total of 86% were in M.S. or Ph.D. programs. These international graduate students studying in agriculture or natural resources areas represented approximately 13.4% of the total international student enrollment (1,985 international students) at Michigan State University. Approximately 75% of all international students at MSU were enrolled in graduate programs during 1985 (Horner, 1985).

Selected characteristics of the total international student population in the United States during 1984/85 are presented in Table 1:

Table 1. Characteristics of international students in the U.S.

Geographic Origin		
	South and East Asia	42.0%
	Middle East	16.5%
	Latin America	14.2%
	Africa	11.6%
	Europe	9.7%
	North America	4.7%
	Oceania	1.2%
Academic Characteristics		
	Engineering	22.0%
	Business & Management	19.0%
	Math & Computers	10.4%
	Physical & Life Science	7.6%
	Social Sciences	7.3%
	Other	6.5%
	Undeclared	5.8%
	Fine & Applied Arts	4.7%
	Health Sciences	3.9%
	Humanities	3.8%
	Education	3.6%
	Intensive English Language	3.2%
	Agriculture	2.2%

Table 1. (cont')

Sex		
	Male	69.8%
	Female	30.2%
Primary Source of Funds		
	Personal & Family	66.2%
	Home Government/University	12.0%
	U.S. College or University	11.6%
	Foreign Private Sponsor	3.0%
	U.S. Government	2.1%
	Current Employment	2.1%
	U.S. Private Sponsor	1.9%
	Other	1.1%
Type of Visa		
	F Visa	83.5%
	J Visa	8.4%
	Other	4.9%
	Refugee	3.0%
	M Visa	0.2%
U.S. Region & State		
	South	22.2%
	Midwest	22.1%
	Northeast	21.2%
	Pacific	18.1%
	Southwest	12.8%
	Mountain	3.2%
	Other	0.4%

(Open Doors, 1985)

Research on International Student Issues

The most monumental review of research on international students in the United States was undertaken by Spaulding and Flack (1976). They reviewed 160 empirical and 44 non-empirical studies, most of which were published between 1967 and 1976. Findings showed a wide variation in the methodologies that were employed by the various researchers. A summary of their review indicated that the literature had been:

- quantitatively large,
- methodologically uneven,
- conceptually and theoretically unfocused,
- topically wide-ranging but seldom interrelated,
- in results and findings, diverse, sometimes contradictory, and only in some instances significant or original,
- in policy recommendations, scattered, ad hoc, and unconcerned about implementation,
- in research recommendations, broad, seldom mutually related, encompassing a wide spectrum, and within it emphasizing some recurrent themes while ignoring others. (Spaulding & Flack, 1976, p.280)

Spaulding and Flack (1976, p.280) found that "what these studies have produced are often individually intriguing findings, but the mere fact that they are comparative does not make them in most instances more useful than single-culture studies criticized in the past". They recommended that the research procedures be changed "in order to provide cumulative data for programs, analysis, and action" (Spaulding & Flack, 1976, p.300).

Spaulding and Flack emphasized that future research designs should do several things: (1) standardize the project characteristics that are to be reported; (2) do follow-up studies to test and broaden previous studies; (3) replicate prior studies using the same or different methodologies; and (4) update previous studies by revision or re-study.

Lee conducted a study (1981) that included a comprehensive review of research on international students. She found that most

previous studies had been concerned with such narrow populations that generalization was limited. The studies that had been done on the total population of foreign students were scarce.

Other detailed reviews of research literature related to various aspects of international student study in the U.S. have been carried out in recent years. Ogunbi (1978) reviewed literature related to the international student as change agent. Mibey (1984) and Presnal (1985) conducted literature reviews on the topic of the relevancy of educational experiences for foreign students. Driesbach (1985) reviewed literature related to the readjustment problems associated with international students returning to their home countries. Limbird (1981), reviewed literature that had bearing on the subject of practical training experiences for international students.

Practical Training Needs of International Students

As mentioned in the previous section, a nation-wide study of the needs of students from developing nations at colleges and universities in the U.S. was conducted by Lee (1981). The sample for her study was composed of nearly 1900 students that represented a population of approximately 134,000 international students at 30 colleges and universities in the U.S. Michigan State University was one of the schools included in the sample. Of the respondents, 66% were graduate students and 15% were enrolled in agriculture programs.

Based upon a review of the literature on international education, Lee identified twelve categories of specific needs that considered the cultural backgrounds relevant to the social systems in which the international students were operating in the United States. The following twelve categories were used as the basis for the development of a questionnaire that was mailed to the sample of international students:

1. information needs
2. degree program needs
3. degree program relevancy needs
4. extracurricular professional activity needs
5. academic life needs
6. financial needs
7. needs regarding local community life in the U.S.
8. housing needs
9. family life needs
10. interpersonal relationship needs
11. pre-return and anticipated post-return needs
12. linguistic needs

To account for variation of those needs as perceived by the respondents, Lee chose a number of variables to be included in the questionnaire: age, sex, marital status, English language proficiency, academic level, sponsorship, major field, orientation, length of stay, region of the world, country of origin, size of school, orientation experience, living

arrangement, job prospects in home country, previous international experience, and prestige accorded to home country. Numerous hypotheses were tested. Listed below are a few of Lee's hypotheses, followed by a summary of the major findings, that have direct implications for this study:

- Lee hypothesis 1: Perceived importance of needs is greater than satisfaction of them...The need for practical experience was the least met of all; this composite ranked the second highest in importance and the lowest in satisfaction. It included two highly correlated items: need for opportunities for students to put into practice what they learn in class and need for work experience in their professional fields before returning home.
- Lee hypothesis 4: Importance of needs varies by sponsorship categories of students and Lee hypothesis 5: Satisfaction of needs varies by sponsorship categories of students...Overall, category 3 (predominantly assistantship supported) placed less importance on composite 3 through 21, which are mostly current academic needs. We also noted, even though not all are statistically significant, that this category tended to rank high for the same composites of needs in terms of satisfaction scores. In other words, this category of students appeared to experience least frustration. They were less concerned with these academic needs, while they tended to be more satisfied with the same needs than students in other categories. We attribute this tendency to the experience on U.S. campuses for those who receive assistantships as being substantively different than those who are not on assistantships.
- Lee hypothesis 14: Importance of needs varies by graduate vs. undergraduate status of students and Lee hypothesis 15: Satisfaction of needs varies by graduate vs. undergraduate status of students...Undergraduate students placed higher importance than graduate students on six composites. They considered needs regarding academic planning more important than graduate students did, while graduate students were more satisfied than undergraduate students with the same needs. With needs for practical experience and needs regarding university environment, the same differences were

noted, i.e. higher importance placed by undergraduate students and higher satisfaction indicated by graduate students.

- Lee hypothesis 16: Importance of needs varies by major field of students and Lee hypothesis 17: Satisfaction of needs varies by major field of students...On the needs for academic planning, students in agriculture placed higher importance than engineering students, while they did not differ significantly from the rest. On needs for relevancy of education and needs for training to apply knowledge, agricultural students again placed higher importance than students in engineering and natural and life sciences. On needs for extracurricular learning experiences, they placed higher importance than students in other fields, except they did not differ significantly from students in social sciences...With satisfaction of needs regarding academic planning, students in agriculture not only ranked the highest in the importance score but also in the satisfaction score...Since the students in agriculture mostly did not differ from others but ranked high or middle with regard to satisfaction, we consider the above findings with importance scores might be an indication that they were more concerned about these needs for some unknown reasons rather than they were more dissatisfied, particularly with relevancy and application of education, academic matters and post-return situation. (Lee, 1980)

Lee's study generated several recommendations that have prompted further related research activities. First of all, since it was discovered that the need for practical experience was least met, a recommendation was made that practical experiences, such as a type of internship, be made a part of degree programs for international students. Secondly, it was suggested that international students should be provided with graduate assistantships so that they would have more satisfying educational experiences. Thirdly, Lee recommended that more emphasis be placed on relevant education and training to apply knowledge, particularly for international students in agriculture.

Development of Principles for Practical Training

Consideration of the recommendations from Lee's study have set in motion several projects sponsored by the National Association for Foreign Student Affairs (NAFSA) with funding from the United States Agency for International Development (AID). In the introduction to Lee's book, Dunnett said that:

...there is a need to define standards under which desired work experience could be incorporated into a sponsored student program. Faculty of U.S. institutions of higher education which are experienced in developing vocational education experiential learning standards should work with AID program officers and experienced foreign student advisors to develop such standards.

The most notable follow-up effort was the Practical Training Feasibility Project (Levitov, 1982) that produced the publication Principles for Practical Training Experiences for Foreign Students (NAFSA, 1982). Levitov and his associates formulated a five-step project plan. First, they ascertained opinions of people in the educational community as to what practical training for international students should include. Three modes of practical training were identified: supervised observation, internship, and salaried employment. Second, a detailed questionnaire was mailed to 750 people affiliated with five midwestern universities. The sample included faculty, academic deans, administrators of international programs, foreign student advisors, foreign students engaged in practical training in the U.S., former foreign students sponsored by AID who had return home, and AID students who were enrolled at the time of

the survey (Levitov, 1982). Third, a group of representatives from the business community, representatives of developing country governments, and U.S. officials were presented the responses for comment and reaction. Fourth, consultants from the field of experiential education were called upon to draft preliminary principles for practical training. Fifth, the guidelines were distributed for review to a wide network of professionals in business, government, home country development, and education. The final publication was disseminated among a wide audience for whom it was intended to provide insight and guidance.

Levitov's survey showed that "the entire spectrum of respondents overwhelmingly endorsed the concept of practical training as integral to the education of foreign students" (NAFSA, 1983, p.9). Results that were judged to have significance to this study are summarized as follows:

1. There is a clear recognition of the need for greater dialogue between the academic community and the community of trainers.
2. Nearly all faculty advisors indicated that practical training was available in their disciplines and that there was no need for special adaptation for international students.
3. Currently, the academic advisors spend very little time arranging and monitoring practical training experiences, but indicated a willingness to do so as the need arises.
4. Businesses tend to prefer U.S. students as trainees, since the firms are precluded (unless special circumstances exist) from hiring foreign students as permanent employees upon graduation.

5. The major incentive for faculty to monitor and evaluate a practical training experience was the personal satisfaction derived from helping students get the best education possible, even though they were aware of the increased possibility for consulting opportunities through efforts in the practical training area.
6. The international students currently engaged in practical training perceived a need to integrate their experiences more fully with the educational theory they had studied.
7. More than four-fifths of the trainees indicated they would not have accepted a training position without pay. Of those who would have accepted a nonremunerative position, all indicated they would have done so only if their maintenance allowance had been continued.
8. The internship mode of practical training was strongly preferred by all nonstudent categories.
9. The students preferred the internship and salaried employment modes to a supervised observation experience.
10. The students believed that practical training in the U.S. would significantly decrease the length of their on-the-job training at home.
11. All students who had returned home indicated that they wanted a practical training experience and would have accepted one without pay had their maintenance allowance been extended. (NAFSA, 1983, pp.9-12).

The major results of the NAFSA sponsored survey were discussed by more than 30 people participating in a Private and Public Sector Response Meeting in September 1983. The key factor affecting a practical experience for international students identified by members participating in the meeting were:

- the range of incentives which different participants bring to the practical training experience,

- the amenability of different participants toward investing the time and effort to make such experiences meaningful,
- the concern that foreign students not intend the experience to serve as a vehicle to permanent residence in the U.S.,
- the need to develop incentives for private sector trainers,
- the advisability of incorporating internships into formal degree programs,
- the difficulty of reconciling personal career needs with home country development needs,
- the necessity of facilitating relationships between the trainer community and the academic community,
- the recognition of establishing standards that are applicable to all academic disciplines,
- the need for coordination in monitoring and evaluating practical training experiences, and
- the difficulty of reconciling the productivity needs of the private sector with the training needs of foreign students and their countries. (NAFSA, 1983, p.12)

The publication, Principles for Practical Training Experiences for Foreign Students (NAFSA, 1982), provided a glossary of definitions, objectives for participants, suggested structure to be used in attaining objectives, operational guidelines for implementation, and assignment of administrative responsibility for the various aspects of the practical training experience. A reliance upon, and consistency with, the theoretical and conceptual foundations of experiential education is evident in the publication.

The most recent effort by NAFSA to continue the process of implementing the recommendations from Lee's study regarding practical training for international students to convene a seminar in 1985. A pamphlet of the proceedings titled Strategies for Professional Integration: Strengthening Foreign Student/Private Sector Interaction (Jenkins, 1985) was published. "The purpose of the seminar was to exploit the mutual interests of these two groups to explore ways of expanding current activities and seeking new methods of involving the U.S. business and professional community in the education and training of students from developing countries" (executive summary).

Levitov and Lee had both reported in their conclusions that there was no lack of interest on the part of the international student, academic advisor, or members of the business and professional community for practical training programs. The more central problem, as discussed by seminar participants, seemed to be focused on the lack of adequate arrangements between the academic institutions and the private sector to provide suitable practical training opportunities. Several examples of model programs were discussed and steps toward program improvement were outlined but no formal recommendations were adopted by the seminar participants. It was concluded that the need for a liaison arrangement between the international student attending the college or university and the professional or business community had been identified clearly.

However, seminar participants also noted that the means for effective linkage had not been addressed adequately in the literature.

Attitudes Toward Planned Work Experience

One timely study that has addressed the problem of improved linkages between the university international student community and the private sector was completed by Limbird at Iowa State (1981). Limbird examined the attitudes of the three potential audiences that could be directly involved in a planned work experience (PWE) program. The audiences were foreign students enrolled at Iowa State University, their faculty advisors, and selected Iowa business and industrial leaders whose firms might offer training places to international students.

Limbird made a significant contribution in his review of literature related to previous involvement by international students in practical education programs. The inclusion of reviews from a number of publications, such as those distributed by the International Association for the Exchange of Students for Technical Experience (IAESTE), are of special relevance to the topic. In addition, Limbird's review of literature on employer attitudes toward offering practical training experiences to international students provided a unique summary of the available literature. In one section of his literature review, Limbird observed that "the number of surveys of employers regarding work experience programs falls well behind the number of attitudinal studies on other groups, including students, their parents, and

the teachers who coordinate such programs at the secondary level" (p.31). The reader is referred to his complete literature review (pp.19-51) as an excellent source of background reading.

Thirty statements related to either various benefits or disadvantages of work experience in the United States were itemized in Part I of Limbird's questionnaire. Part II included a set of nine categories of terms and conditions related to the interests of the three audiences. Part III asked respondents to indicate possible conditions of concern which might preclude the success of the planned work experience.

A summary of the findings from Limbird's study that are of relevance to this study are as follows:

1. Student respondents as a group were significantly more positive to the Planned Work Experience (PWE) than were the surveyed faculty advisors and employers.
2. Iowa export manufacturers are receptive to participation in a PWE for international students.
3. Asian students particularly felt that participation in a PWE would provide the employers access to valuable trade information about the student's home country.
4. Employer respondents with experience in foreign trade missions were much more convinced of the benefits of PWE participation than were employers who had not taken part in a trade mission.
5. Trade mission participants agreed that PWE participants would help the firm explore international trade possibilities and would provide access to valuable trade information, whereas nonparticipants in trade missions disagreed with these statements.

6. Faculty advisors who had previously advised international students in off-campus work experience agreed that PWE would best be monitored if arranged for credit, while those faculty without such experience disagreed.
7. Faculty without previous experience in advising international students in practical training disagreed with the statement that PWE involvement would satisfy the expressed need of a majority of international students, while the advisors with experience supervising a foreign student's off-campus work experience agreed with the statement.
8. Students sponsored by AID tended to be more cautious about the benefits of PWE involvement than were other international students surveyed.
9. Desired length of training differed little in minimum length (8-12 weeks), but ranged from one year to four months between group medians.
10. Pre-graduation scheduling of a planned work experience is clearly preferred by the three groups.
11. Nature of the work assignment was considered to be of most critical importance to the success of the planned work experience.
12. The value of cultural exchange resulting from involvement in a PWE was recognized by the three groups.
13. The most strongly supported statements about PWE were that participation would enhance chances for professional advancement at home and that participation would permit exposure to useful management experience.
14. Job rotation during the PWE was the most preferred work assignment procedure. (Limbird, 1981, pp.120-121)

Limbird developed the following profile of a practical work experience for an international student that would be acceptable to a typical Iowa manufacturer interested in export:

- rate of pay--more than minimum wage, less than full salary
- length of traineeship--8-16 weeks
- scheduling--summer or term before graduation
- nature of work assignment--rotation through several jobs
- evaluation--student, faculty advisor, and employer jointly
- form of employment terms--broad statement of principles
- coordination--through a central university office
- legal/procedural concerns--Immigration Service approval to work and workers compensation eligibility
- anticipated interpersonal concerns--limited English skills and lack of practical experience
- anticipated benefit to firm--increased cultural awareness of employees to trainee
- anticipated benefit to student--exposure to management techniques and faster job advancement for trainee upon return home. (Limbird, 1981, p.121)

Limbird's recommendations included: (1) adapting his study and instrument to conduct applied research in each separate foreign student academic area, and (2) undertaking further research with specific students for whom work experience with a manufacturing firm would not be relevant.

The remainder of this chapter will be a review of precedent literature on practical training with emphasis on the specific academic areas in the fields of study related to agriculture. Graduate education, rather than undergraduate, will be the primary focus of the remaining investigation.

Practical Training in Graduate Agriculture Programs

This section of the review concentrates on literature related to training in agricultural subjects at U.S. colleges and universities. Each of these selected academic and professional areas of concentration in agriculture: Agricultural Economics, Agricultural Engineering, Animal Science, and Horticulture have produced literature that discussed the practicality of training programs for international students in the U.S. A sampling of references from these four agricultural areas are included in the following discussion.

As was mentioned in a previous section of this literature review, Lee (1981) found in her study of international student needs that students studying agriculture placed a higher importance on needs for relevancy of education and for training to apply knowledge than did students in several of the other academic areas. Somewhat surprisingly, agricultural students were also found to be the most satisfied with their academic programs.

One conclusion that Lee drew after analysis of her data was that "they (agricultural students) were more concerned about these needs for some unknown reasons rather than they were more dissatisfied, particularly with relevancy and application of education, academic matters and post-return situation" (Lee, 1981, p.83). It was concluded that agricultural students had a higher expectation for relevancy in their education and at the

same time had their expectations fulfilled, at least partially, through their academic programs.

In two recent studies completed at Oklahoma State University (OSU) by Presnal (1985) and Mibey (1984) it was reported that international students in agriculture were desirous of a more practical orientation to their programs in the United States. Presnal surveyed OSU agricultural alumni who had returned to their home countries, regarding the perceived relevancy of their U.S. studies. Two of Presnal's (1981, p.115) conclusions in support of Lee's findings were:

1. the frequent and occasionally emphatic requests by alumni for more relevancy and for practical experiences, especially by Sub-Saharan Africans....
2. ...that graduates were satisfied, for the most part, with their education at OSU....

Mibey studied the effectiveness of agriculture programs at OSU for international students. He surveyed students who were enrolled in agriculture programs, and their faculty advisors, to find out the level of satisfaction relative to the student's career objectives. Mibey found that both students and instructors in all departments were concerned with the lack of hands-on experience. However, both students and faculty felt that in general, laboratory and field instruction was effective in preparing students for their career objectives in agriculture.

In an earlier study, Ogunbi (1978) surveyed international students at Michigan State University to determine their perceptions as to relevance of their training in relation to

their role as future change agents in national development. He too found that the students in agricultural majors had significant differences from many other international students. Ogunbi reported that "subjects from the College of Agriculture and Natural Resources were significantly more positive about the relevance of their programs than subjects from other colleges" (Ogunbi, 1978, p.225).

Other studies and reports shed light on the status of practical training programs in U.S. agricultural colleges and universities. Olson (1980) distributed a survey to the Director of Instruction at each of the institutions listed in the 1979 Directory of Deans and Directors of Resident Instruction in Schools and Colleges of Agriculture, Agriculture and Life Sciences, or Agriculture and Natural Resources. Results regarding the characteristics of experiential education programs from the 60 institutions that responded were as follows:

The typical experience generally lasts one term, generates academic credit for the student, and, for this credit, regular tuition is assessed. Whether or not a salary is paid seems not to follow any definite trend but is negotiated in each situation. Supervision for the project is usually jointly shared by a faculty member and a person at the worksite. If the College Office has a staff member responsible for coordinating experiential education opportunities, chances are that coordinating will not be the person's full-time role. (Olson, 1980, p.9)

Harper (1982) observed that colleges of agriculture will be faced with two potentially divergent needs in the educational process of international students. He said:

They must maintain for domestic students programs which have the course content expected of the various disciplines, and at the same time they are expected to provide for international students programs which are professionally rigorous while providing training relevant to the work environment in the student's respective countries. The educational process for international students entering agricultural institutions of higher learning is further complicated by a frequent lack of agricultural background and a significant probability that the student may eventually fill a bureaucratic position when he returns home. (Harper, 1982, pp.8,9)

Harper selected a non-random, stratified sample of international students, administrators, and faculty to participate in a symposium for the exchange of ideas concerning the programs and plans of study for international students at New Mexico State University. Of the needs that were identified by students as not being met, practical training and related items surfaced. One result emerging from the symposium was that "the need for work experience or practical training, which 88% of the students indicated was important, was rated as inadequately met by 47% of the students surveyed" (Harper, 1982, p.10).

Several of the academic disciplines related to agriculture have dealt with the topic of international student education in research reports, at professional meetings, or in scientific journals. The following is a review of selected literature from the fields of Horticulture, Agricultural Economics, Animal Science, and Agricultural Engineering.

Horticulture

Bittenbender (1984) mailed a questionnaire to 145 international graduate alumni of the Department of Horticulture, Michigan State University. His research was the continuation of a commitment within the horticultural profession to improve the quality of U.S. programs. Bittenbender reported that at a 1966 conference one suggestion was made, in addition to many others, to "include work experience (10% to 25% time) involving the advisor, other faculty, and graduate students, even if the student is not on an assistantship" (p.792). On the questionnaire, Bittenbender asked the alumni to answer questions pertaining to current occupation, funding of their graduate program, effectiveness of the training, etc. He found that alumni from developing countries look to the United States as their primary source of acquiring skills necessary for fulfilling their professional responsibilities. On the other hand, he found that graduate international students from developed countries look to their home countries for on-the-job training and skill development. He also found that graduate students from developing countries had often conducted research projects on topics that were not of particular application to their home countries. Developing country respondents felt strongly that thesis research would better be done in their home countries.

Other horticulturalists have commented on the need for more practical training. Following are three citations from the HortScience professional journal:

Agricultural development requires functional infrastructures, a continued assimilation of old and new technologies, and increased involvement of people who are motivated to create behavioral changes among colleagues and farmers. As educators in graduate training programs, we provide basic horticultural and scientific training. However, we often neglect training in practical farming skills, leadership or administrative skills, communication strategies, and the study of human behavior related to the acceptance of new ideas, concepts, and techniques..."Farming skills" require knowledge and a willingness to perform the various physical tasks involved in crop production, including operation and basic maintenance of machinery. A useful practice is to request the student to successfully grow a crop regardless of previous crop production experiences. The student must be able to grow a respectable crop before research can be conducted, information dissemination, and respect among growers developed. (William, 1983, p.139)

...there is a much greater need among foreign students for work experience in the field and laboratory. This experience is almost totally lacking among foreign students prior to coming to the U.S. Most of them come from cities. Urban secondary schools are better and produce more successful competitors for the relatively scarce openings in their own university programs. Many have never known the excitement, pleasure and motivation that comes from personal accomplishments in practical matters, and absorb attitudes and points of view that are rarely expressed in formal course work. We have deprived our foreign students of this experience although they need it even more than our domestic students. My personal feeling is that our affluence of the past 15 years has clouded our vision, and we have failed to involve all students in work programs. (Rigney, 1974, p.214)

Most students who are qualified to undertake study abroad are city raised. Too few of the rural youth in the less-affluent countries have an opportunity to go to college; indeed, many of them never finish high school. The disadvantages of having no farm background are obvious. Principally the students lack a sense of practicality, an alert perception and ordinary common sense in seeking solutions to agricultural problems. One who has never grown a horticultural crop, for example, is hardly well prepared to undertake teaching, research or extension work in horticulture, even though he may have a bachelor's degree in that discipline from the national university in his country. (Chandler, 1974, p.210)

Animal Science

At the 68th meeting of the American Society of Animal Science in 1976, a symposium was conducted in which the topic of "Enhancing the Value of Graduate Degrees in Animal Science for Foreign Students" was discussed. Several animal scientists made reference to the importance of more practical types of training experiences for international students. Fick, from University of Florida, and Caballero, from Instituto Interamericano De Ciencias Agricolas de la LEA in Uruguay, had two of the more forceful comments. They said:

The lack of practical livestock work experience is a serious deficiency for the foreign student with no farm background who has recently obtained a bachelor's degree from the national university in his country. He should recognize the need to work closely with faculty members on research and other activities during his academic career. Important attributes that may be developed through experience with faculty members may include development of work ethics, development of a genuine understanding of the importance of scientific integrity and development of a feel for priorities in research. (Fick, 1977, p.905)

There is a lack of knowledge about the farm operation, its production and its working systems. The farmer is not always properly understood in his real needs and worries. Education generally offered in the vacuum, imparting knowledge on isolated disciplines which finally lead to a group of informative parcels which are, in most cases, unconnected but which are supposed to have equipped the student to improve agriculture productivity. Unfortunately, this does not always occur; in most cases the professional trained in this way, although he may have an interesting academic background, does not have the practical experience and the solid knowledge necessary to transform his effort and capacity into a valuable action of real impact in the rural medium. As a logical consequence of deficient training in agriculture, research, extension and technical assistance to the farmer also suffer. (Caballero, 1977, p.906,907)

Caballero continued on to make three observations about animal science graduate programs in the U.S. that have, in his opinion, significant implications for practical training. He said that graduate students in Animal Science programs have the following general characteristics:

deficient background in some of the basic sciences, poor knowledge of the agricultural environment and problems and little experience with animals ...; passive attitude toward teaching because he (the student) is mainly used to simply learning information given by the teacher; and unawareness of the importance that animal production has in connection with socio-economic aspects, and with its role in the global context of agriculture. (Caballero, 1977, p.910).

The dangers of excluding practical training from the curriculum of the international student's academic program are discussed by Watts (1980) in an article titled "The Importance of Practical Training in the Livestock Sector." At the time the article was written, Watts was the Head of Animal Science at the

Natural Resources Development College in Lusaka, Zambia.

According to Watts:

Practical experience is indispensable for anyone taking up a career in the livestock sector. This applies to all parts of the sector and is just as important for the research officer as for the manager of a ranch. In many countries, however, there is still criticism of graduates as being "too academic," despite recent efforts to increase the practical content of courses. Both university graduates and diplomats from colleges are reported to lack practical experience, to prefer "white-collar" jobs and to be unable to carry out simple routine tasks such as castrating and dehorning. Moreover, once they have graduated, their attitude to physical work with animals is such that they do not acquire the experience essential to effective performance of their duties. Practical experience must be gained at an early and formative stage if the right attitudes are to be adopted. (p.39)

Agricultural Engineering

Mackson (1976) designed a questionnaire to obtain information from Agricultural Engineering graduate alumni regarding their current activities and their perception of their completed study in the U.S. The survey was mailed to 305 international graduate students representing 27 agricultural colleges. Seventy-seven questionnaires were completed and returned.

"Respondents pointed to a need for more training in intermediate technology, and for people not only with knowledge of sophisticated technology but who know how to bring technology down to a productive, economic, and practical level." In general the Agricultural Engineering alumni "indicated that they are happy with their U.S. educational experiences. They feel that

they were adequately trained theoretically but in general would have liked a few more applied courses" (Mackson, 1976, p.831).

Agricultural Economics

Fienup and Riley (1980) mailed a questionnaire to graduate level U.S. Agricultural Economic alumni from developing countries. They found that the respondents frequently mentioned a "desire to have taken 'practical' and 'applied' courses as additional areas of study in their academic programs" (p.27). They further concluded that "the problem is that many LDC students who come for training are inexperienced and need considerable counseling and guidance in developing their study programs so as to include more practice in the application of principles learned in formal courses" (p.51).

In a publication by Gittinger (1976), Nonacademic Training in International Agricultural Development, the need for practical training was explicitly detailed. The fact that the term "nonacademic" was used by the agricultural economics profession to describe what is currently called "practical training" is possibly suggestive of a value regarding the lack of importance that practical training was receiving in the agricultural colleges and universities at that period of time. Very few existing "nonacademic" agricultural economics training efforts were identified by Gittinger during his research process.

Gittinger (1976, p.106) found that a number of needs give rise to the demand for "nonacademic" training. He reported that:

...an important one is for an apprenticeship following the completion of formal academic training...Another need for nonacademic training arises where professional agricultural economists want to apply recently developed techniques for which their academic training was lacking or not suitably intensive

Summary

This review of precedent literature started with an explanation of the conceptual, theoretical, and historical foundations then to a more specific look at experiential activities in agricultural education, and finally to the more narrowly focused area of perceived needs and opportunities for international students to gain practical training in their graduate agricultural programs. The purpose of the review was to introduce the reader to the general field of experiential education before narrowing the literature review down to those citations most directly related to the specific research problem.

Even though experiential education can be traced historically back to pre-16th century, our current history can best be anchored in the years surrounding and following the land grant legislation. Certainly educators such as Dewey, Lewin, and Piaget, in addition to more recent educational theorists such as Freire and Kolb have influenced the formation of our current

theoretical and conceptual understandings of experiential education.

Quite significantly, secondary Vocational Agriculture programs in the United States during the past 70 years have provided an action model of experiential education through the Supervised Occupational Experience (SOE) aspect of the curriculum. Increasingly, colleges and universities have been implementing cooperative or internship programs that provide postsecondary students with practical training to assist them in preparing for professional and occupational positions.

The United States has been host to a steadily growing number of international students since the end of World War II. Recent research studies and reports in the past ten years show that many of these international students desire a more practical component to their training programs. More specifically, international students studying agriculture emerged as the one group that most urgently recognized the need for a practical and experiential foundation to their academic programs at colleges of agriculture in the U.S.

Only a few research studies have been conducted to investigate the relevancy of agricultural programs for international students in the U.S. Even though several of the academic areas: Horticulture, Animal Science, Agricultural Economics, and Agricultural Engineering have recognized the need for, and discussed the problems associated with integrating practical training into the curriculum, very little research has

been done to discover how it should be done. There is a need for more research to be conducted and dissemination/discussion of the results and recommendations to agricultural educators in every disciplinary area. It is the intention of the researcher to make a contribution to build the literature base in this area.

CHAPTER III

METHODS AND PROCEDURES

The purpose of this study is to examine the factors affecting practical agricultural training experiences for graduate students from developing countries. The design chosen, according to a typology used by researchers in the fields of education (Borg & Gall, 1983) and sociology (Babbie, 1983), can be categorized as a descriptive survey in the form of a mail questionnaire. The data obtained from the completed questionnaires were used to describe how the total sample distributed itself for single and composite questionnaire items. The primary strategy for analysis involved using data to explore relationships between two or more variables. An additional consideration was that appropriate methods and procedures were needed to satisfy certain exploratory aspects of the study. Merriam and Simpson (1984) said that "not only can the variables be studied that indicate probable cause, but additional variables may be discovered that shed light on the phenomon" (p.63). One of the goals of this study was to provide data, draw conclusions, and generate knowledge that could contribute toward the development of theories to explain and direct future research activities.

The survey method of research is an established strategy that offers many advantages. According to Babbie:

survey research is probably the best method available to the social scientist interested in collecting original data for describing a population too large to observe directly. Surveys are also excellent vehicles for measuring attitudes and orientations in a large population. (p.209)

This chapter is divided into six sections that provide an overview of the methods and procedures. The first section gives the approach to measurement; the next four sections contain a description of the population, sampling rationale, instrumentation, and procedures for questionnaire distribution and collection; and the final section describes the data analysis procedures.

Approach to Measurement

The questions that guided the research process and the related approach to measurement selected for this study were:

1. What are the personal and situational characteristics of the survey population, members of the five groups, and members of other selected subgroups in the survey population?
2. What are the important differences in personal and situational characteristics between members of the five groups and between members of other selected subgroups in the survey population?
3. What are the attitudes of members of the survey population, members of the five groups, and members of other selected subgroupings regarding factors affecting, and potential benefits of, the practical training experience?
4. What are the significant differences in attitude between members of the five groups and between members of other selected subgroups regarding factors affecting, and potential benefits of, the practical training experience?

5. What are the attitudes of members of the survey population, members of the five groups, and members of other selected subgroups regarding problems that could occur as a result of a practical training experience?
6. What are the significant differences in attitude between members of the five groups and between members of other selected subgroups regarding problems that could occur during the practical training experience?
7. What are the opinions of members of the survey population, members of the five groups, and members of other selected subgroups regarding terms and conditions necessary for a practical training experience?
8. What are the significant differences in opinions between members of the five groups and between members of other selected subgroups regarding terms and conditions necessary for a practical training experience?

Measurements of attitudinal characteristics were the primary concern in providing information that would assist in generating answers to the research questions. For purposes of this study, attitude was defined as the intensity of affect for or against a psychological object (Thurstone, 1928). Attitudinal characteristics are descriptors of the range of views toward individual statements and clusters of statements.

According to Adams (1982): "Attitudes cannot be observed but must always be inferred from behavior. The process of measuring attitudes can be conceptualized as consisting of three stages: (1) identification of the types of behavioral samples that are acceptable as a basis for making inferences, (2) collection of the samples of behavior, and (3) treatment of the behavioral samples so as to convert findings about them into a

quantifiable variable" (p.180). The result of this process is that a measurement of attitudinal characteristics should be able to predict a behavior that is associated with it.

Some researchers have questioned the strength of relationship between attitude and behavior. Wicker (1969) said that "taken as a whole, these studies suggest that it is considerably more likely that attitudes will be unrelated or only slightly related to overt behaviors than that attitudes will be closely related to actions" (p.65). However, Petty and Cacioppo have noted in their book Attitudes and Persuasion: Classic and Contemporary Approaches (1981, pp.23,24) that "in the past decade, enough careful research has been conducted by a number of scholars, most notably Fishbein and Ajzen, to conclude confidently that attitudes are related to behaviors"

Three aspects of attitudes, the affective, cognitive, and behavioral have been traditionally recognized in the literature (Cook and Selltitz, 1964). The affective was considered to be the most central aspect in the definition used for this study.

Likert (1932) developed an approach to attitude measurement that provided ease of construction and reliable results. The main steps in producing a Likert-type attitudinal measurement were followed during the process of instrument development: (1) a large number of statements were written and submitted to editorial review, (2) the statements were administered in a preliminary review to a large group of individuals who indicated their reactions, (3) A balanced number

of positive and negative statements were chosen with the scale values being reversed for negative statements, and (4) items were subjected to a process of analysis to identify the best discriminators and clusters for subscales. In addition, the validity concerns were addressed through the use of a panel of judges and an extensive pre-testing procedure. The reliability of the instrument was checked by means of Spearman-Brown split-half reliability measurements.

A Likert-type scale with a five point range (strongly disagree, disagree, undecided, agree, strongly agree) was used in Part I of the questionnaire. Four categories of attitudes were included in composites which were measured in Part I. The first composite was the:

1. Total Attitude Composite. Attitudes toward all aspects of the practical training experience that could give overall benefits to the combined participants in the experience (Items 1-25).

The first attitude cluster represented the most general of all four composites. It was composed of all the attitude items in Part I. The statistical data that were generated through this composite score gave a general measure of a respondent's overall attitude toward all identified aspects of the potential practical training experience. Item #26 was not included in any of the clusters because it did not measure an attitude but rather indicated a response to a separate concept. The second composite was the:

2. Student Benefit Composite. Attitudes toward aspects of the practical training experience that would give overall benefit primarily to the international students (Items 3, 4, 6, 9, 11, 12, 14, 15, 17, 20, 23, 25).

The second attitude cluster included the following concepts: relevance and importance of a practical training experience to the agricultural community and professional situation in the student's home country, understanding of the U.S. and its people, and satisfaction of an important felt need of the international student to enhance and improve the U.S. graduate educational experience. The third composite was the:

3. Michigan State University Benefit Composite. Attitudes toward aspects of the practical training experience that would give overall benefit primarily to the individuals or institutions associated with Michigan State University (Items 2, 8, 12, 16, 17, 19, 21, 25).

The third attitude cluster for Part I included the following concepts: strengthening ties between the local agricultural community and the academic community in the U.S., satisfaction of an important felt need of the international student to enhance and improve the U.S. graduate educational experience, and utilizing the available time of a faculty or staff member in a strategic manner. The fourth composite was the:

4. Community Benefit Composite. Attitudes toward aspects of the practical training experience that would give overall benefit primarily to the individuals or institutions in the local agricultural community in the U.S. (Items 1, 2, 5, 7, 10, 13, 16, 18, 22, 24).

The fourth attitude cluster included the following concepts: increasing U.S. community access to valuable cultural and trade information, strengthening ties between the local agricultural community and the academic community in the U.S., and bringing a new and useful source of technical skills to the community.

Part II of the instrument included statements that suggested problems that might be encountered as a part of a practical training experience. This part contained 13 items that were answered on a four point scale (probably not problem, probably small problem, probably moderate problem, probably serious problem). In addition, the respondent was provided with an option to circle a "no opinion" response category. This "no opinion" option was determined, during the pretesting process, to be necessary because of a possible lack of knowledge and experience on the part of some respondents with regard to the attitude objects that were represented. The only composite was determined to exist in Part II was the:

Total Problem Composite. Attitudes toward interpersonal and administrative aspects of the practical training experiences (Items 27-39).

The following concepts were included in the total problem cluster: social, cultural, or religious differences between students and community members; inadequate English proficiency or practical abilities on the part of the students; attitudes toward administrative aspects of the practical training experiences;

transportation and housing for the students; employer financial concerns; and obtaining approval and support from various authorities.

Part III and Part IV of the questionnaire asked for responses to items that were direct measures of respondent opinions concerning terms, conditions, situational factors, and the magnitude of interest relative to involvement in the practical training experience. Each of the items in Part III and Part IV were considered as individual units of analysis. In addition, respondents were encouraged to provide written comments throughout the questionnaire. Information gained from a summary of these qualitative written comments were combined with the appropriate quantitative response summaries during the data analysis process.

Population

The identification of the population was a critical step in the research process. There are two aspects to describing a population: the "target" population and the "survey" population. According to Rossi (1983, p.24), "the target population is the collection of elements that the researcher would like to study. The survey population is the population that is actually sampled and for which data may be obtained" (p.24).

The target population for this study included all parties that could be involved in some aspect of a practical agricultural training experience in the United States for graduate students

from developing countries. The following is a list of groups that could be included in the target population:

1. All graduate students from developing countries who are studying in fields of agriculture at colleges and universities in the United States.
2. All faculty advisors who advised, coordinated, or supervised programs in agriculture for graduate students from developing countries.
3. Members of a graduate student's home government, sponsoring agency, or other financial supporters who have a stake in the decisions made about the training process.
4. U.S. immigration officials who interpret and implement regulations regarding international student activities.
5. Administrators and advisors of international student programs at colleges and universities in the U.S.
6. Administrators of colleges of Agriculture in the U.S.
7. Employers who could provide the international student with the practical placement.
8. Employees who could work along side the international student in a practical training experience.
9. Vocational Agriculture instructors, Cooperative Extension Service field staff, County Extension Directors, members or leaders of community service organizations, churches, as well as other individuals and organizations that might facilitate linkages between the international student at the academic institution and the community where the practical experience could occur.

It was beyond the scope of this study to provide coverage of the total target population as previously enumerated. The available time of the researcher and financial resources for the study were the major limiting factors. In addition, other

research studies have already been identified from the literature that have previously included certain segments of the target population in their investigations. For this study, the research problem was addressed, and the research questions more adequately answered, by selecting a survey population that was more geographically and professionally uniform. The survey population that was selected consisted of five groups. Each of the groups was chosen for a strategic reason that related to the central purpose of the study. The five groups included in the survey population were as follows:

1. Graduate students from developing countries enrolled at Michigan State University (MSU) in the departments of Agricultural and Extension Education (AEE), Agricultural Economics (AGEC), Agricultural Engineering (AGEN), Animal Science (ANSC), Crop and Soil Sciences (CSS), and Horticulture (HORT) during both the Fall 1985 and Winter 1986 academic terms (120 students).
2. Faculty advisors at MSU in the AEE, AGECE, AGEN, ANSC, CSS, and HORT departments who had advised at least one international graduate student and were on campus during the Winter 1986 academic term (84 faculty).
3. Vocational Agriculture (Vo-Ag) instructors in Michigan secondary schools who also served as advisors for a local Future Farmers of America (FFA) chapter during the 1985-86 school year (122 teachers).
4. Cooperative Extension Service (CES) field agents with agricultural responsibilities who were employed prior to January 1986 (69 agents).
5. County Extension Directors (CEDs) who were employed prior to January 1986 (78 CED's).

International Students

Graduate students from developing countries were chosen for inclusion in this study because they had been identified as possessing a perceived need for increased practical experiences as a part of their educational programs at colleges and universities in the U.S. In the early stages of the research design, the intention was to include all graduate students from developing countries in the College of Agriculture and Natural Resources at MSU in the survey population. After soliciting the advice of selected MSU faculty members, it was decided to exclude students from the departments of Fisheries and Wildlife, Resource Development, Parks and Recreation, and Forestry from the survey population. It was learned that students in the natural resource related majors do not always perceive their academic programs to be agriculturally related. In addition, it was discovered that the career interests of students in natural resource related majors might have been significantly different from those of the students in the other six departments, those with a more direct relationship to production agriculture, that were included in the survey population. Wording the questionnaire items and writing instructions that clearly communicated to both natural resource and production agriculture perspectives would have been a difficult task. One faculty member suggested that, if necessary, the study could be replicated using the natural resource oriented departments to identify a population in a future study.

The Registrar's office at MSU provided a list of non-American students who were enrolled in the College of Agriculture and Natural Resources (CANR). Each international student's gender, major, level of study, and date of birth were obtained from the Registrar's list. The Office of International Students and Scholars at MSU provided information regarding the student's home country, local address, and sponsorship category. Since the research study was focused on the needs of the developing countries, international students from Canada (3 students) and Europe (11 students) were excluded from the survey population. Students were coded by home country, region, and sub-region of origin according to guidelines published in Open Doors (Zikopoulos, 1985. p.131). Students who had graduated prior to January 1986 or were not in residence on the MSU main campus in East Lansing during the time of questionnaire mailing were removed from the survey population list.

Faculty Advisors

International graduate student faculty advisors in the six departments at MSU were chosen as a group for inclusion in this study because of their position of influence and authority in the academic lives of their international student advisees. It was assumed that unless an academic advisor held a favorable attitude toward the various aspects of the practical agricultural training experience, they would not give the special attention and priority that would be necessary for the scheduling and administration of the practical training experiences.

To obtain a list of graduate faculty who had advised at least one international student, a letter of request was mailed to the chairperson in each of the six selected departments. Each department chairperson authorized the compilation of a list of faculty members who were eligible to receive the questionnaire. Each faculty member's address, academic rank, and gender was obtained from the MSU Faculty and Staff Directory (1985). If a faculty member was discovered, after initial identification, to never have advised an international student or was not in residence on campus at the time of questionnaire mailing, the name was removed from the survey population list.

CES Field Agents

Field agents from the Cooperative Extension Service (CES) with agricultural responsibilities were chosen because of their strategic positions of knowledge and influence in Michigan agricultural communities. These field agents regularly work with farmers, agribusiness workers, and other agriculturally related personnel in their assigned communities. An additional factor is that, unlike Vo-Ag instructors, CES field agents with agricultural responsibilities are employed by the same land grant university where many of the international students are enrolled in graduate agricultural programs.

There are increasing opportunities for CES field agents with agricultural responsibilities to become more involved in international activities. In the past several years, the

Michigan CES administration at the state level has been attempting to strengthen each of the field staff's abilities to participate meaningfully in programs that facilitate international linkages. Since 1980, the International Extension Training Program (IETP) of the Michigan CES has supported the development of international expertise among CES staff in agriculture/marketing, extension management, fisheries, 4-H youth, home economics, and natural resources/public policy (Andrews, 1985). Involvement in providing placements for international students in practical agricultural training experiences in Michigan communities, in the opinion of some, could complement the thrust of the IETP program.

County Extension Directors

The Michigan County Extension Directors (CEDs) were chosen for inclusion in the study because of their position of influence and authority in the development and implementation of programs in Michigan communities. In most counties in Michigan, CEDs work together with CES field agents to assist in program planning and implementation. Involvement by a county extension office in facilitating a practical training program for an international student would certainly need to have the support of the county administration. Statistics supplied by MSU showed that 80% of the Michigan CEDs had previous experience or were currently giving partial service as field agents with agricultural responsibilities (direct communication with Michigan CES personnel office).

The population lists for both CES field agents with agricultural responsibilities and CEDs were compiled through a similar process. One MSU faculty member and one CES administrator, both with extensive experience in CES personnel relations, conducted the identification process. These two CES professionals also identified CES field agents and CEDs who were new employees, as well as those CEDs who were without previous experience as an agricultural agent. An updated Michigan CES Staff Directory (1985) was used to provide the address, administrative area, gender, and job title for the identified population.

Vocational Agriculture Instructors

Vo-Ag instructors who served as Future Farmers of America (FFA) advisors were chosen to participate in this study for several important reasons. First of all, it is known that Vo-Ag instructors provide key linkages with people who manage and work in agricultural occupations and agribusiness support industries for many communities throughout Michigan. In addition, they are individuals who have community contacts with organizations and individuals who could provide placement for international students in practical agricultural training situations. Most Vo-Ag instructors also are in the unique position of being the advisor to a local chapter of the FFA organization. The FFA has an existing organizational structure that might be able to serve the physical needs, such as housing, of an international student. For example, an international student could be placed with an

FFA-member family during the time period that the international student was completing an off-campus practical training assignment. As another advantage, the Vo-Ag program and the FFA organization could provide opportunities for the international student to observe classroom instruction in agriculture, become familiar with Supervised Occupational Experience (SOE) activities, and participate in youth leadership development programs.

The members of the FFA organization, as well as the members of the related professional agricultural education associations (MATVA, NVATA, AATEA, AIAE), have expressed an interest in becoming more involved with international agriculture programs. Cooperation with international students through practical agricultural training experiences could facilitate the interaction at the local community level that could bring benefits to both the international and American participants.

The population list for the Vo-Ag teachers was obtained from the Michigan FFA office 1985-86 listing of FFA chapters and advisors. Each Vo-Ag instructor's address, FFA region, and gender was obtained from the 1985-86 Michigan Vocational Agriculture Teacher Directory.

Sample

A nonprobability sampling approach (total enumeration) was used in this study (Babbie, 1983). Such an approach included all individuals in the sample who were identified as part of the survey population. This approach was taken because of the

relatively small number of individuals that were sorted out into some of the subgroups necessary for cross-tabulation and comparison procedures used in the data analysis. Rossi (1983, p.157) advised that:

The adequacy of the sample depends on the details of the analysis. Few studies seen in the literature have samples that are too small when only the total sample is used. For most analyses, however, breakdowns of the sample are required; for many breakdowns, the observed samples are inadequate. A general rule is that the sample should be large enough so that there are 100 or more units in each category of the major breakdowns and a minimum of 20-50 in the minor breakdowns.

In attempting to meet the minimum breakdown criteria recommended by Rossi, the size of the required random sample so closely approached the total size of the survey population that a total enumeration approach was recommended by experts as the most appropriate sampling strategy for this study. It was also considered important, considering the exploratory aspects of the research study, to give each member of the survey population an equal opportunity to complete a questionnaire and provide feedback on the topic.

It should be noted that nonprobability sampling has come under attack in some segments of the research literature. The biggest criticism of nonprobability sampling is the inability to generalize study findings to a larger population or setting. This is referred to as a threat to external validity (Babbie, 1983). While this limitation is acknowledged, non-probability sampling is still often considered a justifiable sampling

strategy for use in exploring an area of a field of practice not well researched or conceptualized. One very significant result of a non-probability sampling strategy might be that the careful, in-depth understanding that could result from the analysis of data might foster new conceptualizations and hypotheses that could guide future related research studies. Regardless, because this study utilizes a non-probability sampling strategy, the reader should be aware that results can only be generalized to elements of the survey population and not the larger target population.

Instrumentation

A self-administered mail questionnaire was used in this study for the collection of data. Several factors were considered in reaching the decision to conduct a mail questionnaire survey rather than other forms of inquiry and data collection, such as personal or telephone interview. The first consideration was that a precedent study had been conducted by Limbird (1981) on a similar topic with a comparable audience. A set of questionnaire items was available from Limbird's study that provided a beginning point for the process of developing a valid and reliable self-administered instrument. A second consideration was that members of the five groups in the survey population were accustomed to receiving mail questionnaires and had previously demonstrated generally positive responses and

adequate questionnaire return rates. Third, members of the survey population were perceived to have had a limited amount of time available to provide responses on the selected topic. The written questionnaire was the form of research that provided the respondent with the most flexibility in selection and budgeting of time necessary for provision of adequate responses. A fourth consideration was that, because a number of the questionnaire items dealt with issues that could potentially solicit socially negative responses, it was determined that the mail response provided the best means of assuring confidentiality. Finally, considering the size of the survey population and the type of statistical analysis between groups and subgroups that was desired, the mail questionnaire best fit the limited financial and personnel resources that were available to implement the study.

A four-part questionnaire was developed for completion by the five survey population groups. Those who responded on Part I of the questionnaire reflected their attitude, on a five point Likert-type scale, toward a set of 26 statements related to factors affecting a practical agricultural training experience for graduate students from developing countries. Part II was designed to seek reaction, on a four point scale, to 13 statements that reflected potential problems that could be encountered as part of a practical training experience. Part III contained 5 items, in a multiple-choice format, developed to

obtain opinions about terms and conditions. Part IV requested situational and demographic information as well as selected opinions from members of each group in the survey population. Instructions throughout the survey were intended to encourage respondents to make written comments. The back page of the questionnaire contained adequate blank space to provide respondents a place to make additional comments. Five versions of the questionnaire were produced, one for each of the respondent groups in the survey population. The cover of the questionnaire had a personalized logo for each of the five versions. To facilitate statistical comparison, items in Part I, Part II, and Part III of the questionnaire were identical for all respondents in the survey population. Situational and demographic, as well as selected opinion questions, in Part IV were written for the specific situation represented by each of the five respondent groups. Copies of each version of the questionnaire, cover letters, and other survey materials are included in Appendix B.

The items included in the first draft of the questionnaire were compiled from questionnaires used by Limbird (1981), Mibey (1981), and Levitov (1982). Guidelines outlined by Dillman (1978) and Sudman & Bradburn (1982) were followed in the item construction and refinement of the total instrument.

Validity

Three types of validity concerns were considered as part of the development process for the research instrument: content, construct, and face validity. According to Barrick et al. (1985, pp.12-14).

Content validity refers to the representativeness of the items on the instrument as they relate to the entire domain or universe of content being measured...Construct validity answers the question "What does the instrument really measure?"....Face validity refers to the appeal and appearance of the instrument.

To improve validity, a panel of four expert judges was selected to provide a thorough examination of the questionnaire. Panel members were selected on the basis of the individual's academic background, experience in a field of agricultural education, and knowledge of international student activities and problems. One judge was selected with recognized expertise in each of the following areas: international agricultural education, international extension education, university academic student programs, and international student advising.

The researcher scheduled a meeting with each judge to evaluate the instrument and discuss the research process. Each judge was presented with the following questions to guide the evaluation process:

1. Is each of the items measuring what it is intended to measure?

2. Are all of the words understood?
3. Do the answers correspond to the item being referred to?
4. Does the questionnaire create a positive impression, one that motivates people to answer it?
5. Do some of questions elicit uninterpretable answers?
6. Does any aspect of the questionnaire suggest bias on the part of the researcher? (Dillman, 1978, p.156)

In addition to a thorough evaluation of the instrument, each judge was asked to provide his/her opinion on an item-by-item analysis of the constructs that were being measured in Part I of the questionnaire. Each item in Part I was read to the judge and he/she was requested to provide a response related to three areas: (1) whether the attitude object represented by the item was clear and easily understood, (2) whether the item was a measure of a respondent's positive or negative attitude toward the attitude object, and (3) whether the item clustered in one of the following three composite areas:

1. Benefits that the international student could receive as a result of the practical training experience involvement.
2. Benefits that Michigan State University, particularly the academic advisor, could receive as a result of the practical training experience involvement.
3. Benefits that members of the local agricultural community could receive as a result of the practical training experience involvement.

In order for an item to have been retained as part of the final instrument, it was necessary to have obtained agreement

from at least three out of the four judges. Wording on several items in Part I were altered to reflect the suggestions of the panel of judges. As a result of the judges recommendations, one item was removed and two items were added to Part I. In addition, following the judges advice, the Likert-type scale was changed from a 9-point range, the type utilized by Limbird (1981), to the more standard 5 point range.

The panel of experts provided assistance in addressing all three types of validity concerns: content, construct, and face. An extensive pre-testing procedure was conducted as a follow-up to the refinement provided by the panel of judges.

Pre-testing

Each of several questionnaire drafts was circulated to selected members of the faculty, staff, and graduate student body of the Agricultural and Extension Education Department at MSU for review and suggestions that lead to revisions incorporated in successive drafts. The various cover letters that would accompany the questionnaire in the mailing packet were circulated for review and suggestions in a similar manner.

Following initial refinement, the questionnaire was prepared in a draft form for pre-testing. A group of respondents who were similar to the actual members of the five survey population groups were chosen to complete the pre-test. Individuals from the following six groups were requested to complete the pre-test questionnaire: (1) international students who were either undergraduates or in majors not included in the

survey population, (2) MSU agricultural faculty members with current administrative assignments but with past international advising experience, (3) Vo-Ag teachers who did not have FFA chapters in their schools, (4) state Vo-Ag program administrators, (5) CES staff who previously had field experience but were serving in an administrative role, and (6) CES Area Supervisors.

The pre-test materials were intended to resemble the anticipated actual questionnaire packet. The packet was delivered to 37 members of the selected pre-test group. A cover letter, included in the pre-test packet, requested additional comments and suggestions regarding design, format, and individual item construction. The initial delivery of the pre-test yielded 29 usable responses (78% response rate). No follow-up strategies were implemented for the pre-test.

Comments and suggestions made by respondents on the returned pre-tests were considered and incorporated into the final questionnaire version. In addition, statistical procedures were performed on the pre-test data to simulate the actual data analysis procedures that were utilized for the final survey results. The statistical computer program Statpac (Walonick, 1985) was operated on a Kaypro II microcomputer and SPSS (Nie et al., 1975) was accessed on the MSU mainframe computer to analyze the pre-test data. Similar results were received from both Statpac and SPSS computer program procedures. As a result of pre-test statistical analysis,

several alterations were made in the questionnaire response format to facilitate ease and effectiveness of statistical computer analysis.

Copies of the instrument and cover letter were submitted to the University Committee on Research Involving Human Subjects (UCRIHS). With minor revisions of the cover letters, the questionnaire and accompanying materials were approved. Permission to proceed with the survey was also obtained from the Michigan Cooperative Extension Service, MSU College of Agriculture and Natural Resources, and the Agricultural and Extension Education Department.

Reliability

Measures of internal consistency for Part I and Part II of the instrument were determined through the use of a split-half correlation with application of the Spearman-Brown correction formula. The questions were split into two groups utilizing computer generated random numbers. This same procedure was used for both Part I and Part II of the questionnaire. The Spearman-Brown split-half correlation for Part I of the pre-test was .78 and the correlation for Part II was .73. These reliability coefficients were high enough to allow for use of the questionnaire as pre-tested. However, based on the analysis of the pre-test, a few items were omitted, some wording was altered, and the scale for Part II was changed to provide more clarity for the respondents.

As explained previously, the panel of judges had been requested to cluster all appropriate items in Part I into one of three composite benefit groupings to provide separate attitude scale measurements for use in data analysis. To further confirm that the three groupings had been divided into three appropriate clusters, a post-hoc factor analysis statistical test was performed. Hassan and Shrigley (1984, p.665) recommended factor analysis as an effective method of identifying interrelated items. They said:

the items that cluster as the result of a factor analysis can be visually examined for a common characteristic that might represent a subcomponent of the attitude under study.

The factor analysis that was completed on the post-hoc data from Part I divided the 25 items into three groupings that closely resembled the groupings previously identified by the panel of judges. Changes were made in several of the composites where significant differences were observed in the factor analysis results. Item #4 (attract more international students to Michigan State University seeking similar practical experiences as a part of their academic program) was changed to a different composite. Two other items that were included in two different clusters by the panel of judges were limited to only one cluster for the final composite groupings.

As an added measure, post-hoc Spearman-Brown split-half correlation reliability tests were computed, using a random split

identical to the pre-test, in order to provide comparison with the pre-test correlations. This post-hoc analysis also included reliability measures for composites identified in Part I of the questionnaire. The Spearman-Brown split-half correlation for the post-hoc test on Part I was .85 and the correlation for Part II was .82. Each post-hoc correlation was higher than the pre-test reliability measurements. The increase could be attributed to adjustments made to improve items and format as well as the increase in quantity of respondent data available for the post-hoc computation. The composites produced reliability coefficients ranging from .68 to .79. These measurements indicated an acceptable range of reliability, especially considering that this was a new instrument being developed and tested for the first time. The reliability results are displayed in Table 2.

Table 2. Spearman-Brown split-half correlation reliability results

Part	Description of Composite	Pre-test coefficient	Post-hoc coefficient
Part I	Total Attitude composite	.78	.85
Part I	Student benefit composite	*	.79
Part I	MSU benefit composite	*	.75
Part I	Community benefit composite	*	.68
Part II	Total Problem composite	.73	.82

* = not measured on pre-test

Distribution and Collection of the Questionnaire

The total design method (TDM) of mail survey research as detailed by Dillman (1978) was closely followed in all stages of questionnaire construction and survey implementation. Similar to what was recommended by Dillman, the questionnaire was printed in a booklet format that consisted of two 8 1/2" x 12 1/4" sheets of paper folded in the middle and stapled. High quality copying on off-white paper stock was chosen to enhance the professional image and improve readability. The front cover was designed to create a positive first impression and communicate a relevant purpose to the survey population. To increase the ease of completion, the set of questionnaire items for each part of the instrument were preceded by adequate instructions. Transitional phrases and cues were provided between each major part. The back page of the booklet was left almost entirely blank in order to provide the respondent adequate space to make written comments.

The total design method for mail surveys relies heavily on personalization throughout the distribution and collection process. To facilitate individualization, the name, address, and other selected demographic information for each member of the sample was entered into a microcomputer data base file. Each cover letter, follow-up postcard, and reminder letter included the name of the person, proper salutation, job title, and place of work in the body of the postcard or letter. The personalized information was printed directly onto the letters, postcards, and

envelopes using continuous-feed stationary, postcard, and envelope stock through a letter-quality computer printer. An individual identification number was stamped on the cover of each questionnaire just prior to mailing. Respondents were offered assurance in the cover letter of confidentiality in the treatment and reporting of their responses. To complete the personalization strategy, the initial cover letters and the second follow-up letters were individually signed either by the Chairperson of the AEE department or a faculty member. In addition, the researcher reviewed each letter for errors and added a personal signature.

The initial survey packets mailed to each member of the sample included the cover letter, questionnaire, and postage-paid return envelope. The packets were mailed using first class metered postage service from East Lansing for the Vo-Ag instructors and international students. Cooperative Extension Service (CES) penalty mail delivery was used for CES field agents and CED packets. Faculty packets were delivered by the MSU campus mail system (January 15-16, 1986). A post-card reminder was delivered, using identical mailing procedures, to each member of the sample one week after the initial mailing (January 22-23, 1986). The second reminder packet that included a cover letter, new questionnaire, and return envelope was mailed to each non-respondent during the fourth week (February 10-11, 1986). Further follow-up procedures were not required due to an acceptable return rate from the first three mailings.

Upon arrival by return mail, completed questionnaires were checked for proper completion and stamped with a new number that identified the date and sequence of receipt. All quantifiable responses from each questionnaire were coded, matched with situational and demographic data previously obtained, and entered into a microcomputer data file by the final survey completion date (March 13, 1986). Copies of all materials used in the mailing packets are available in Appendix B.

Response Rates

There were 426 usable questionnaires returned out of the 473 questionnaires that were mailed to eligible members of the sample (90% total return rate). It was discovered that one Vo-Ag teacher no longer advised an FFA chapter, two CEDs were on study leave, seven international students were no longer in residence at MSU, and four MSU faculty had never advised an international graduate student. These 14 individuals were removed from the survey population member list after the initial questionnaire packets were mailed.

Seven individuals returned the questionnaire but for various reasons did not produce a usable response. Of these seven, one international student, one CES field agent with agricultural responsibilities, and one CED indicated that they chose not to complete the questionnaire. An additional four questionnaires were received after the final deadline for inclusion in the study had passed. Each of these seven individuals is represented in the data analysis, for statistical

purposes, as a non-respondent. A summary of the response statistics is presented in Table 3.

Table 3. Response by Group

Group	Total Surveys Mailed	Returned After First Mailing (1-16-86)		Returned After Second Mailing (1-23-86)		Returned After Final Mailing (2-11-86)	
		No.	%	No.	%	No.	%
Faculty	84	37	44	64	76	77	92
Students	120	38	32	83	69	108	90
CES Agents	69	29	42	54	78	63	91
CED's	78	37	47	66	85	73	94
Vo-Ag	122	26	21	86	70	105	86
Total	473	167	35	353	75	426	90

The cover letter and questionnaire both gave instructions to the respondents concerning the option of receiving a summary of the final research results. If interested, the individual was requested to write his/her name and address on the back of the return envelope. Of the questionnaires returned, 171 made a request for a copy of the final research summary report (40% of the total respondents).

Data Analysis

Data from the 426 eligible questionnaires that were returned were prepared for analysis on a microcomputer using the

statistical analysis package Statpac (Walonick, 1985). This computer program was chosen over alternative packages, such as SPSS (Nie et al., 1975), because of its ability to be operated on a portable microcomputer with two disk drives and a minimum of 64k internal memory. Because of this, the program can appropriately be used for field research in geographical locations where securing access to mainframe computing facilities would be a prohibitive factor.

A codebook was constructed to guide in the transformation of questionnaire responses into numerical data for computer entry. All quantifiable data were recorded on disk through direct keyboard entry within a short period of time after the questionnaire was received. Following coding of all numerical data, the written comments were entered into a computer program for future organization and manipulation during the analysis process.

The data were submitted to frequency counts in order to detect data entry or coding errors, with corrections being made where necessary. A random spot check of data records was performed to confirm the accuracy of the data entry process.

The first part of the analysis consisted of determining the basic distributional characteristics of the data. Response frequencies and measures of central tendency (mean, median, mode) and dispersion (variance, standard deviation) were generated for respondents on each appropriate questionnaire item as well as for the composite grouping of items that were identified in Part I

and Part II. A breakdown procedure was utilized to generate descriptive statistics for each of the five main groups and for other selected subgroupings. Cross-tabulations were performed on appropriate pairs of questionnaire items that were measured on the nominal or ordinal level.

All items from the questionnaire that provided for response on a Likert-type attitudinal scale were interpreted and analyzed as if they were measured at the interval level. One-way Analysis of Variance (ANOVA) tests were utilized to compute F-ratios in order to determine if significant differences existed between main groups or between subgroups on individual and composite response mean scores. A statistical t-test was reported between any two group or subgroup mean scores when a significant t-statistic was indicated. The .05 level of significance with an accompanying 95% confidence level was used in assessing results of this study.

As previously described, a nonprobability sample (total enumeration of the survey population) was used in this study. It should be noted that there is a controversy discussed in the literature concerning the appropriateness of applying statistical tests of significance to nonprobability samples. Nachmias and Nachmias in their book Research Methods in the Social Sciences (1976, pp.291,292)) gave an overview of the arguments that existed on both sides of the controversy. According to them:

Those who oppose the application of the tests (statistical test of significance)... maintain that only when probability samples are drawn from a specified population can a sample statistic be compared with a sampling distribution to assess its likelihood of occurrence specified by the null hypothesis. Since the assumption of random sampling is not often met in social research, it is argued that in most cases, tests of significance are inappropriately used. Advocates of statistical tests, on the other hand, argue that even when samples cannot be assumed to be random, the tests are a useful device given that any set of data is subject to measurement error and this error can be assumed to be random. Furthermore, it can be assumed that nonrandom samples have been drawn from a hypothetical population that includes all possible samples that could have been drawn under equivalent circumstances. Finally, even when tests of significance are not being used as a device enabling generalizations to a population, they are useful in providing a screen for results that are worth further exploration.

An additional statistical analysis was computed to address the problem of possible nonrespondent bias. Since the 426 respondents were identifiable by the code that was stamped on their returned questionnaire, a list of the 47 nonrespondents could be produced from available records for comparison with the respondent group. Raw situational and demographic data (e.g. gender, place of work, nationality, academic rank, etc.) for the respondent group was compared with similar raw data from the nonrespondent group. An identical process was repeated utilizing the available data from the records for each of the five main groups. No major differences between nonrespondents and respondents was discovered (see Appendix A).

Summary

This chapter gave an overview of the methods and procedures that were utilized in conducting the study. First, a rationale for the selection of the descriptive survey methodology and an explanation of the approach to measurement was presented. Then, the target and survey population selection criteria were explained. Next, the questionnaire development, validation, distribution, and collection processes were outlined. Finally, the last section contained an introduction to the data analysis procedures that were utilized in producing the findings that are presented in Chapter IV. Copies of all survey documents and other supplemental materials that were utilized in the survey packets are contained in Appendix B.

CHAPTER IV

STUDY FINDINGS

The purpose of this study is to examine the factors affecting practical agricultural training experiences for graduate students from developing countries. The findings in this chapter are presented and discussed in six sections:

- o Description of Each Respondent Group
- o Attitudes Toward Aspects of a Practical Experience
- o Problems Encountered During a Practical Experience
- o Terms and Conditions of a Practical Experience
- o Other Factors Related to a Practical Experience
- o Summary of Written Comments

As reported in Chapter III, there were 426 usable questionnaires returned out of the 473 questionnaires mailed to eligible members of the sample. This represents a 90% return rate. A summary of the response statistics was presented in Table 3.

Description of Each Respondent Group

The five groups in the survey population were: (1) graduate students from developing countries enrolled in selected agriculture majors at Michigan State University (MSU), (2) faculty advisors of graduate students from developing countries

in the selected agriculture majors, (3) Michigan Cooperative Extension Service (CES) field agents with agricultural responsibilities, (4) County Extension Directors (CEDs) with the CES in Michigan, and (5) Vocational Agriculture (Vo-Ag) instructors in Michigan secondary schools. A description of members and discussion of important characteristics for each of these five respondent groups has been presented in the following subsections.

Faculty Advisors for International Students

The faculty advisors for international graduate students who responded provided information about the following characteristics: (1) gender, (2) department, (3) current faculty rank, (4) years as faculty member, (5) time spent working outside U.S., (6) previous international graduate student advisees in practical training programs, and (7) current international graduate student advisees in practical training programs. A summary of faculty characteristics is presented in Table 4.

A very small number, only 3 out of the 77, of the faculty respondents (3.9%) are female. Data from cross-tabulations showed that two of the females had no international work experience and one female had worked less than one year outside the U.S. In addition, each of the three females had been a faculty member at MSU for less than four years at the time of questionnaire completion.

The Crop and Soil Science (CSS) department (22 faculty) and the Animal Science (ANSC) department (18 faculty) were

Table 4. Selected characteristics of faculty advisor respondents

Personal characteristic	No.	%
Gender		
Female	3	3.9
Male	74	96.1
Department		
Agricultural and Extension Education	4	5.2
Agricultural Economics	10	13.0
Agricultural Engineering	10	13.0
Animal Science	18	23.4
Crop and Soil Sciences	22	28.6
Horticulture	13	16.9
Current faculty rank		
Professor	49	63.6
Associate Professor	16	20.8
Assistant Professor	12	15.6
Years as a faculty member at MSU		
0-4 Years	12	15.6
5-9 Years	14	18.2
10-19 Years	24	31.2
20 Years or more	27	35.1
Time spent working outside U.S. (excluding military)		
None	14	18.2
Less than one year	36	46.8
1-2 Years	10	13.0
More than 2 years	17	22.1
Previous international graduate students in practical training		
No	54	71.1
Yes	22	28.9
No Response	1	-
Current international graduate students in practical training		
No	73	96.1
Yes	3	3.9
No Response	1	-

represented by the most faculty respondents. The Agricultural and Extension Education (AEE) Department (4 faculty) had the fewest faculty respondents.

Student respondents outnumbered faculty respondents in all departments except Horticulture (HORT). Agricultural Economics (AGEC) and Agricultural Engineering (AGEN) departments had the fewest faculty respondents per number of student respondents as indicated in Figure 5.

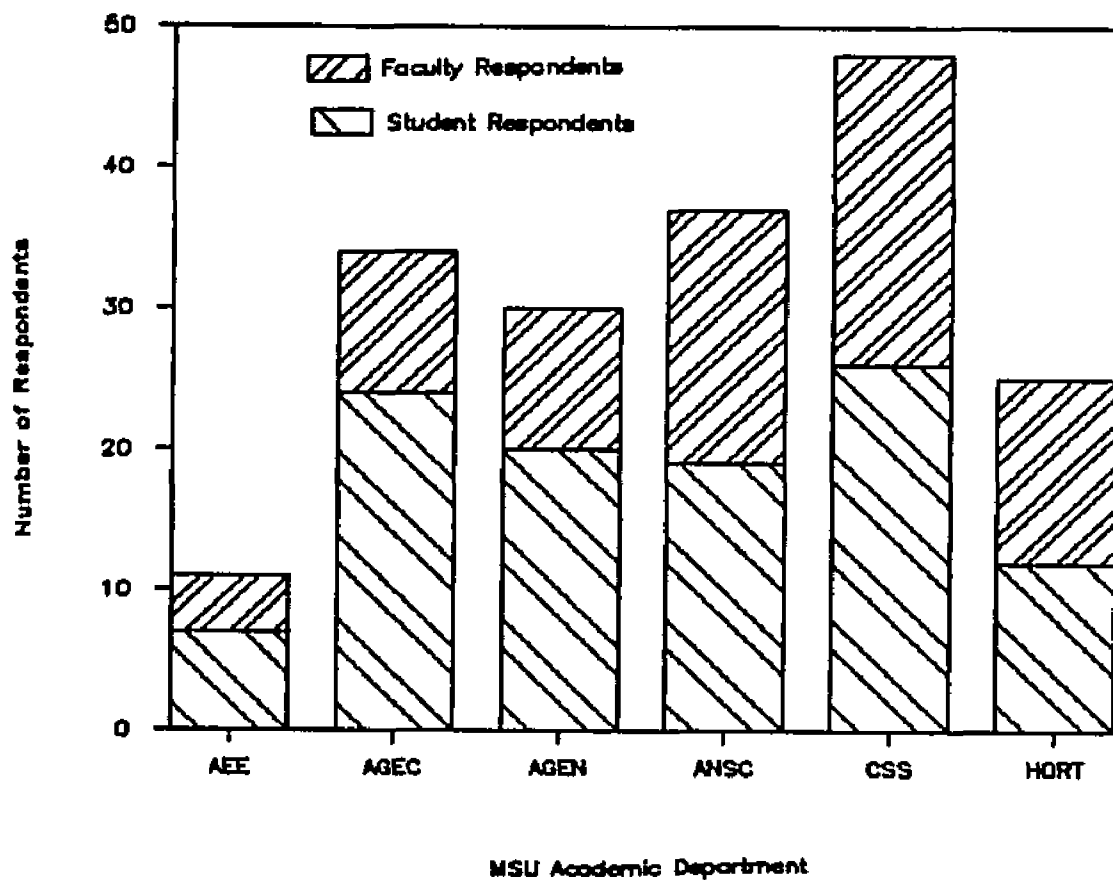


Figure 5. Number of faculty and student respondents

Faculty members with the rank of Professor represented 63.6% of all respondents as shown in Figure 6. All 4 respondents from the AEE department (100%), 15 out of 18 respondents from the ANSC department (83.3%), and 7 out of 10 respondents from the AGECE department (70%) were listed at the rank of Professor. In addition, a total of 51 of the 77 respondents (66.3%) had spent 10 or more years on the faculty at MSU.

Further analysis of data from faculty member responses indicated that 65% had spent one year or less working outside the U.S. (excluding military). More specifically, it was shown that

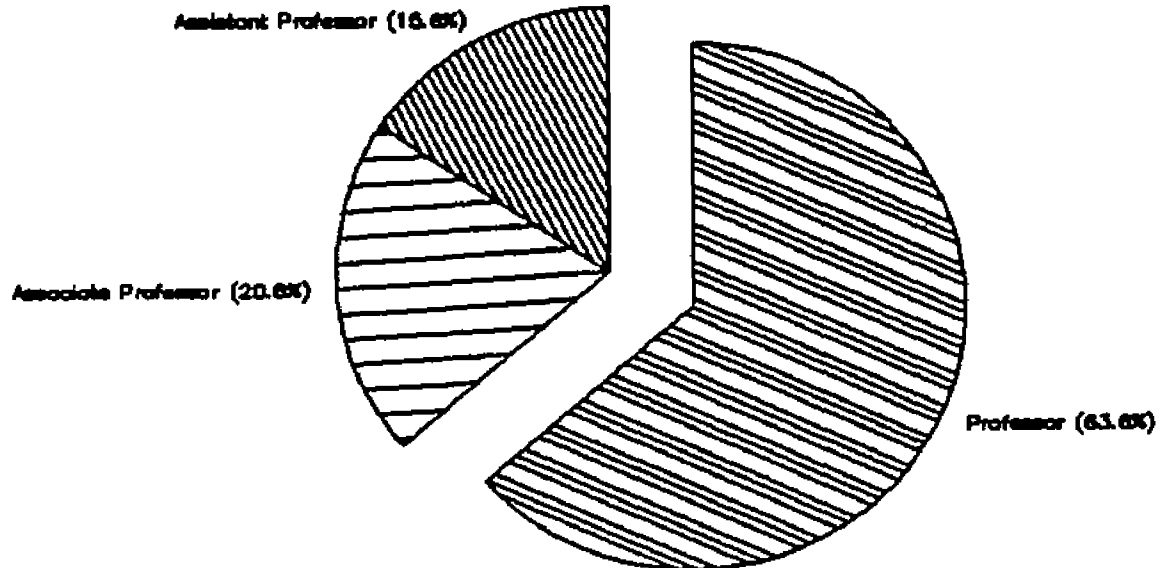


Figure 6. Rank of faculty respondents

12 faculty members (18.2%) who advised international students had never worked outside the United States at all. A core group of 17 respondents (22.1%) had spent more than 2 years working outside the U.S. Data from cross-tabulations, displayed in Figure 7, indicated that the AGECE department, with 6 out of the 10 respondents (60%) having 2 years or more of work experience outside the U.S., ranked highest in that category among the departments represented in the survey population. The AGEN department with 4 out of 10 respondents (40%) reporting no international work experience ranked lowest in that category.

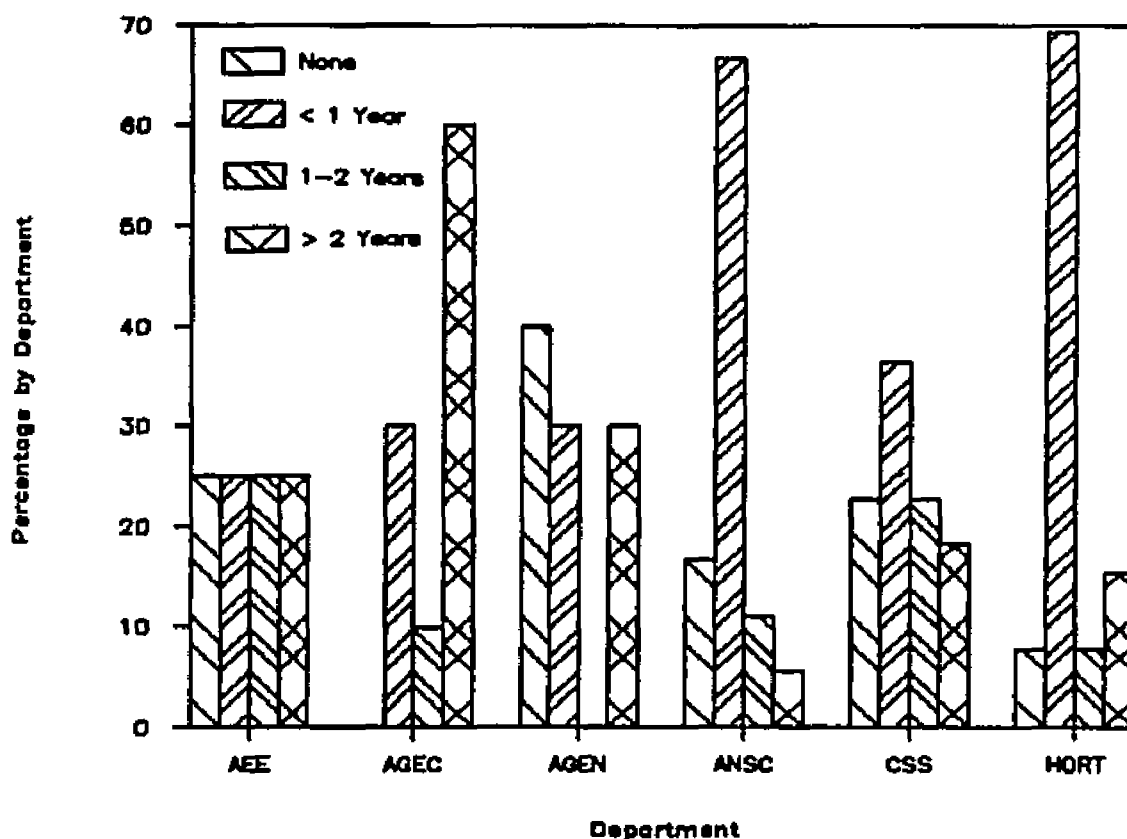


Figure 7. Faculty respondent time spent working outside of U.S.

A total of 22 out of 77 faculty members (28.9%) indicated that they had previously supervised an international graduate student in a practical training experience. The following are written comments from 4 faculty respondents, specifying the type of practical experiences they had supervised.

"participated in extension programs off campus for producers"

"but not formal--participated in field trial--no credit"

"but not in this country"

"only field trips--non-credit"

When the survey was administered, in the winter term 1986, only 3 out of 77 respondents (3.9%) indicated that they had a current international graduate student advisee in a practical training experience. The Kellogg Biological Station summer program in September 1985 (Steele & Quiroz, 1986) was listed by both respondents who provided a written explanation.

Graduate Students from Developing Countries

The international student respondents provided information about the following personal and academic characteristics: (1) country and subregion of origin, (2) region of origin, (3) gender, (4) age, (5) full-time employment prior to coming to MSU, (6) length of time spent in the U.S., (7) job assured in home country after graduation, (8) type of sponsorship, (9) academic level, (10) stage of current graduate program, (11) department, (12) currently holding graduate assistantship, and (13) practical training as part of current

degree program. Important aspects of these characteristics have been presented in the discussion that follows.

The international student respondents' country and subregion of origin are displayed in Table 5. The geographic categories were adopted from Open Doors: 1984-85 Report on International Educational Exchange (Zikopoulos, 1985). Canadian and European students were not included in the survey population. Student respondents were not unevenly distributed among any particular country or subregion. Only two countries had more than six student representatives in the respondent group—nine of the respondents were from Egypt and eight were from Brazil.

The student respondents' region of origin is indicated in Figure 8. African students comprised 42.6% of the student

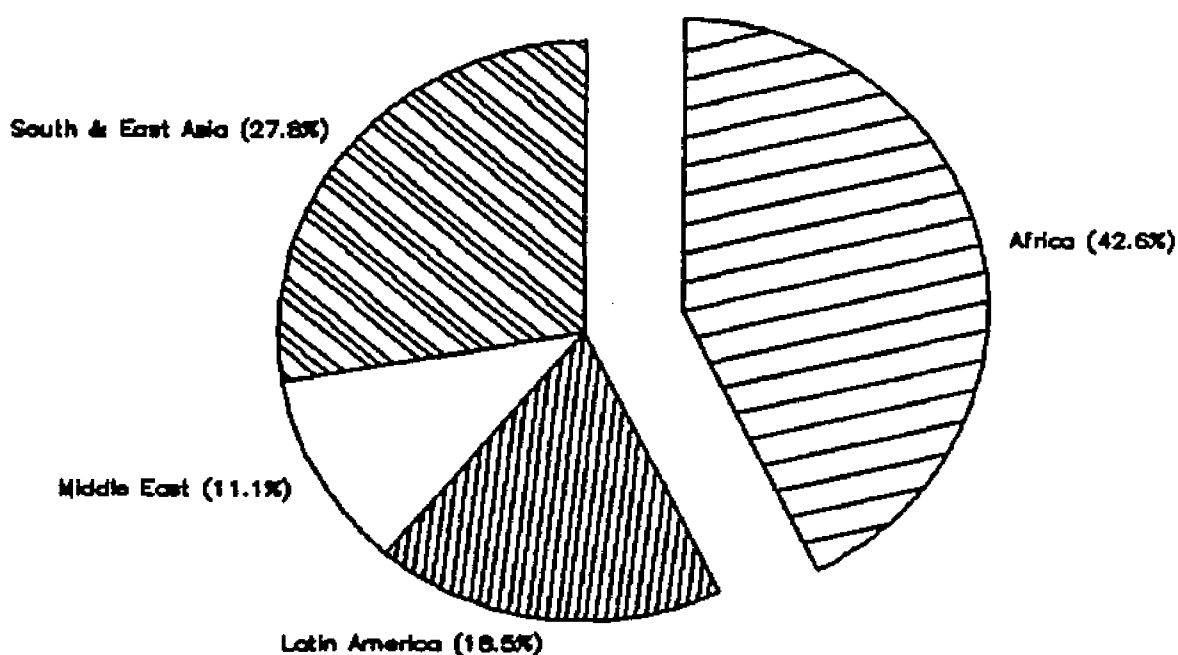


Figure 8. Student respondent region of origin

Table 5. Student respondent country and subregion of origin

Subregion/ Country	No.	No.	Subregion/ Country	No.	No.
Eastern Africa subregion		14	Central America subregion		5
Ethiopia	2		El Salvador	1	
Kenya	2		Guatemala	1	
Malawi	2		Mexico	3	
Somalia	1				
Tanzania	2		South America subregion		14
Uganda	1		Brazil	8	
Zimbabwe	4		Chile	2	
Central Africa subregion		1	Colombia	1	
Cameroon	1		Paraguay	1	
			Peru	1	
North Africa subregion		15	Venezuela	1	
Egypt	9		Middle East subregion		12
Morocco	1		Iran	5	
Sudan	5		Iraq	2	
			Jordan	1	
Southern Africa subregion		2	Lebanon	3	
Botswana	1		Syria	1	
Swaziland	1		East Asia subregion		16
West Africa subregion		14	China	6	
Bourkina Fasso	2		South Korea	4	
Ghana	1		Taiwan	6	
Guinea	1		South Central Asia sub.		6
Ivory Coast	1		Nepal	2	
Mali	2		Pakistan	3	
Mauritania	1		Sri Lanka	1	
Nigeria	4				
Senegal	2		Southeast Asia subregion		8
Caribbean subregion		1	Indonesia	5	
Haiti	1		Malaysia	2	
			Philippines	1	

respondents, while South and East Asians comprised only 27.8% of the respondents. This difference is in contrast to the overall U.S. international student population, Data indicated that African students comprised only 13.7% while South and East Asian students comprised 49.8% of the total international student population in the U.S. (Zikopoulos, 1985, p.12). However, in Profiles (Zikopoulos, 1984, pp.28-29) it was reported that a higher percentage of African students (6.6%) than South and East Asian students (1.9%) in the United States are studying agriculture. In the fall 1985 academic term, there was a total of 181 African and 1,039 South & East Asian students enrolled in all colleges at MSU. Of these, 63 Africans (34.8%) and 105 South & East Asians (10.1%) were enrolled in programs within the College of Agriculture and Natural Resources (Horner, 1985).

Selected personal characteristics of student respondents are summarized in Table 6. It should be noted that only 11.1% of the respondents were female. Nationally, the percentage of females studying agriculture at the graduate level is slightly higher. According to the 1983-84 statistical report, 16.8% of all international students in the U.S. studying agriculture at the graduate level were female (Zikopoulos, 1984, p.60).

The student respondents were primarily between the ages of 25 and 39 (88.9%), with the 30-34 age group being the largest (38%). Only four students were in the 20-24 age group (3.7%).

Table 6. Selected personal characteristics of student respondents

Personal characteristic	No.	%
Gender		
Female	12	11.1
Male	96	88.9
Age		
20-24	4	3.7
25-29	32	29.6
30-34	41	38.0
35-39	23	21.3
40-44	7	6.5
45-49	1	0.9
Full-time employment prior to coming to MSU		
Less than 1 year	19	17.6
1-4 years	37	34.3
5-9 years	36	33.3
10 years or more	16	14.8
Length of time spent in the U.S.		
Less than 6 months	10	9.3
6 months to 2 years	33	30.6
2 years to 5 years	50	46.3
More than 5 years	15	13.9
Job assured in home country after graduation		
No	25	23.1
Yes	83	76.9
Type of financial sponsorship		
USAID or USDA	49	45.4
Home Government	33	30.6
Other	26	24.1

Almost half (48.1%) of the students had worked full-time for five years or more prior to coming to MSU. Only 17.6% of the student respondents had less than one year of previous work experience. The African and Latin American students had longer full-time employment experience prior to coming to MSU than did either the Middle East or South & East Asian students (see Figure 9).

A total of 76.9% of student respondents had been living in the U.S. between six months to five years. Only 15 students (13.9%) had been living in the U.S. more than five years. However, 7 out of the 12 Middle Eastern students (58.3%) had lived in the U.S. more than five years.

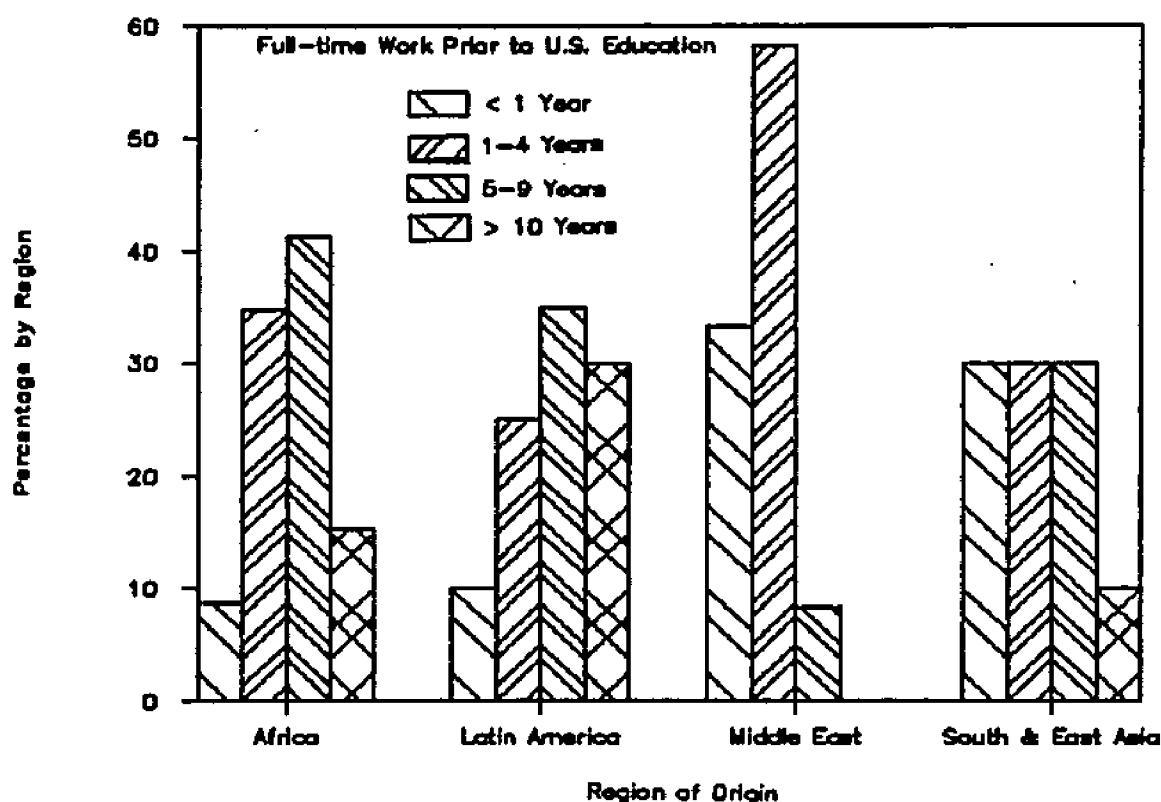


Figure 9. Student respondent previous work experience

Over three-fourths (76.9%) of the student respondents had a job assured after graduation when they returned home. African students had a higher rate of job assurance (91.3%) than students from any other geographic region as indicated in Figure 10. Students from the Middle East had the lowest rate of job assurance (33.3%) at home.

A combination of USAID/USDA and home government agencies provided the financial sponsorship for 76.1% of the international student respondents. A total of 89% of the students from the USAID/USDA or home government sponsorship categories had assurance of a job in their home country. By contrast, only 10 out of the 26 students (38.5%) in the "other" sponsorship category had assurance of a job in their home country. In addition, data from students in the "other" sponsorship category indicated a trend toward having been in the U.S. longer, had less full-time work experience prior to coming to MSU, and holding a higher percentage of graduate assistantships at MSU than did comparative data from sponsored students in either the USAID/USDA or home government sponsorship categories. A high percentage (63%) of the USAID sponsored students are from the African region as shown in Figure 11. It can also be observed that a high percentage, 8 out of 12 (66.7%), of students from the Middle East region are in the "other" sponsorship category.

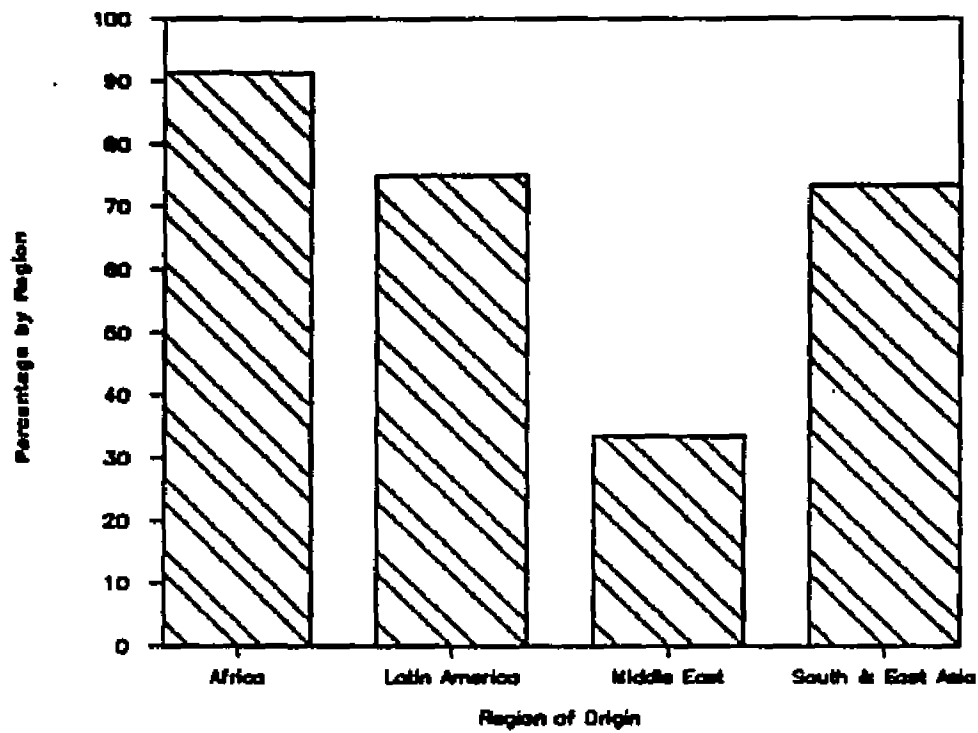


Figure 10. Student respondent assurance of job in home country

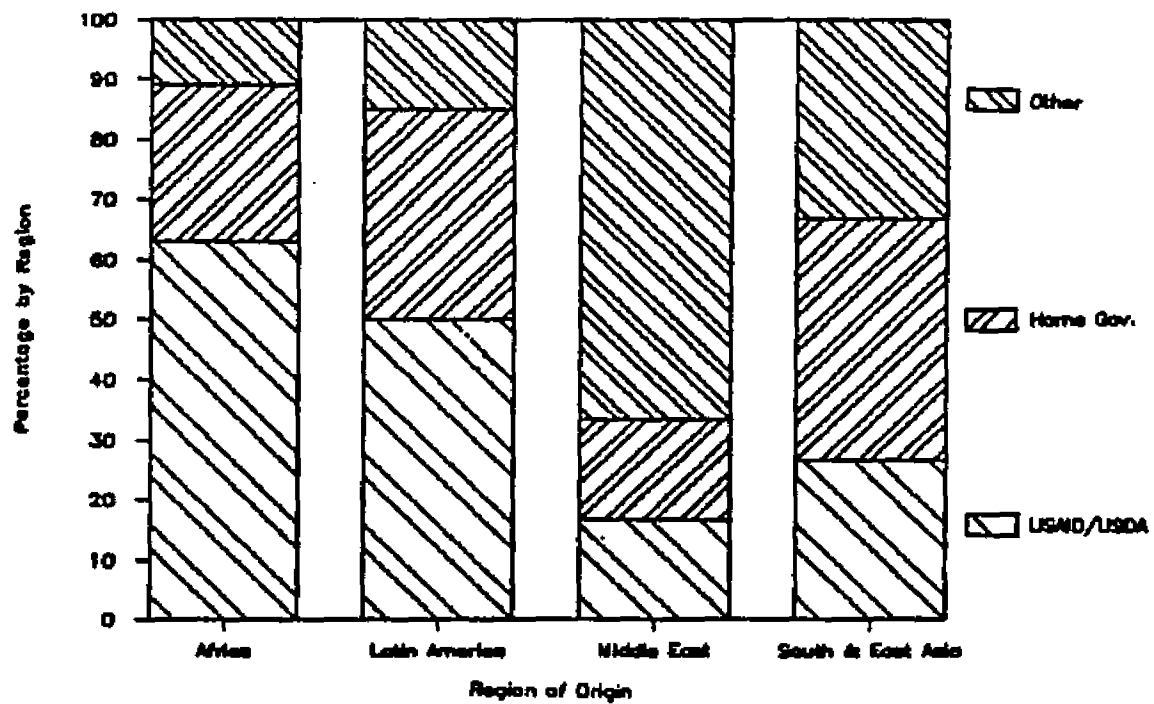


Figure 11. Student respondent sponsorship type

Some selected academic characteristics of student respondents are displayed in Table 7. Slightly more students were studying at the Ph.D. level (55.6%) than at the M.S. level (44.4%). Data from a cross-tabulation of student academic level by student region of origin displayed in Figure 12, showed that 22 out of the 46 African respondents (47.8%) were Ph.D. students. Figure 12 also reveals that 11 out of 12 Middle Eastern students (91.7%) were Ph.D. students. In addition, it can be noted from data in Table 7 that almost half of the international students (46.7%) indicated that they were near the graduation stage of their program.

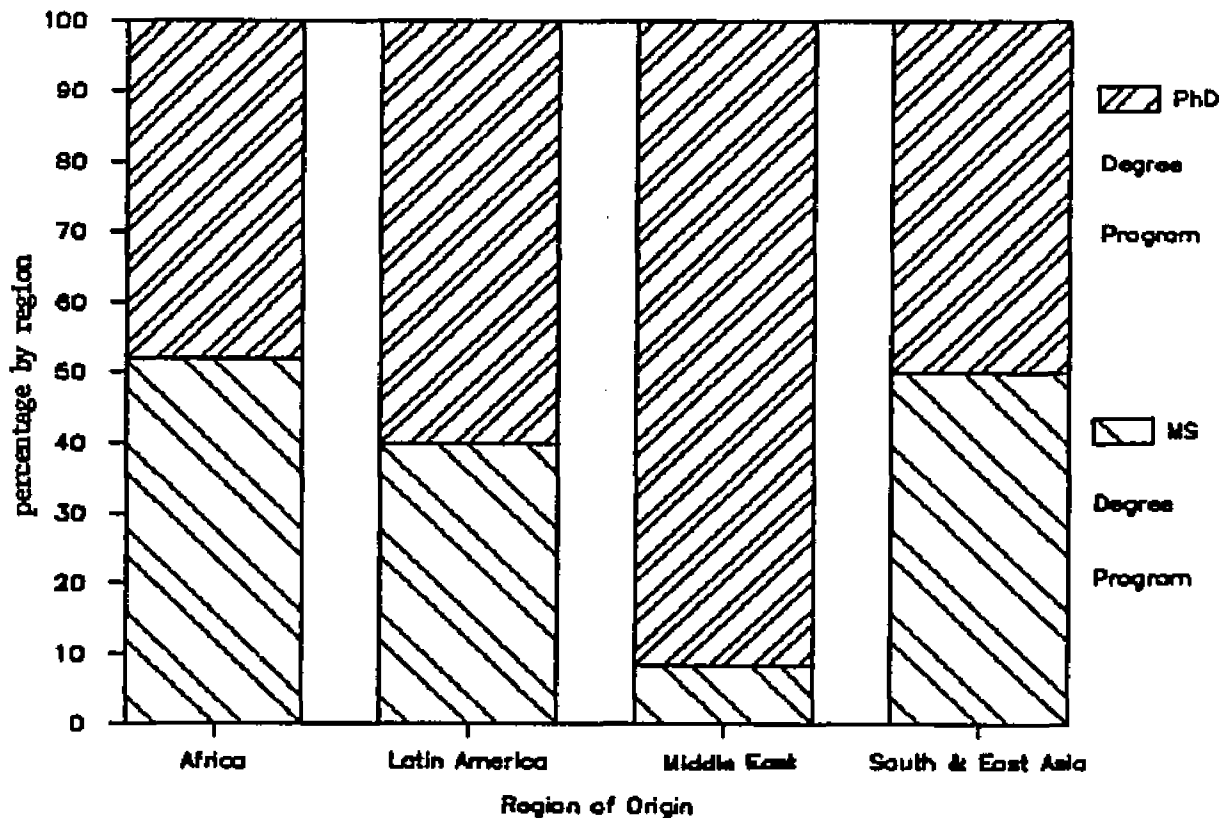


Figure 12. Student respondent academic level

Table 7. Selected academic characteristics of student respondents

Academic characteristic	No.	%
Current academic level		
M.S. degree program	48	44.4
Ph.D. degree program	60	55.6
Stage of current graduate program		
Early stages	22	20.6
Near Midpoint	35	32.7
Near Graduation	50	46.7
No Response	1	--
Department		
Agricultural and Extension Education	7	6.5
Agricultural Economics	24	22.2
Agricultural Engineering	20	18.5
Animal Science	19	17.6
Crop and Soil Science	26	24.1
Horticulture	12	11.1
Currently holding a Graduate Assistantship		
No	77	71.3
Yes	31	28.7
Practical training as part of current degree program		
No	96	88.9
Yes	12	11.1

The CSS department (26 students) and AGEK department (24 students) had the two largest groups of student respondents. The AEE department (7 students) and HORT department (12 students) had the smallest group of student respondents. The AGEN department respondents were represented by a higher percentage of the students from the Middle East, as well as from the South & East Asian regions, than respondents from other regions as indicated by data presented in Figure 13. Only one-third of the AGEK students were studying at the Ph.D. level in contrast to nearly three-fourths of the AGEN and CSS students at the Ph.D. level (see Figure 14).

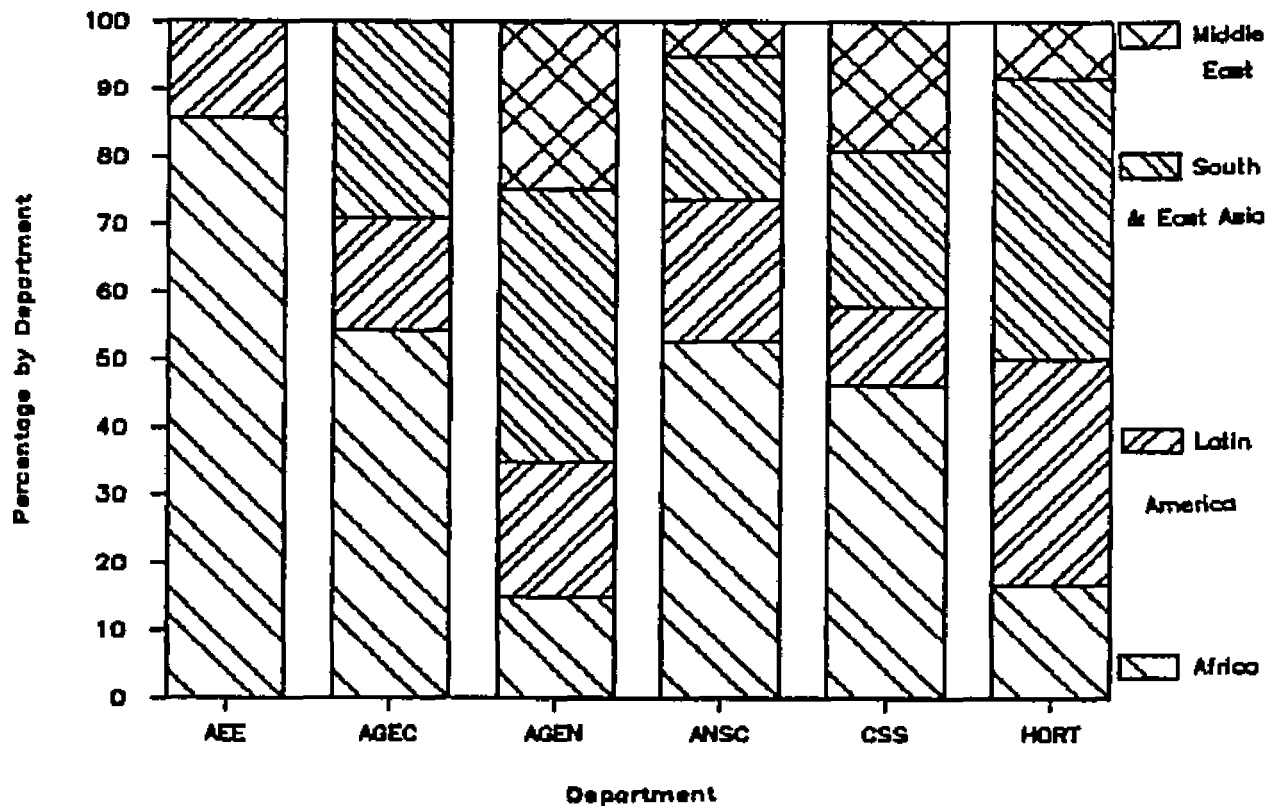


Figure 13. Student respondent region of origin

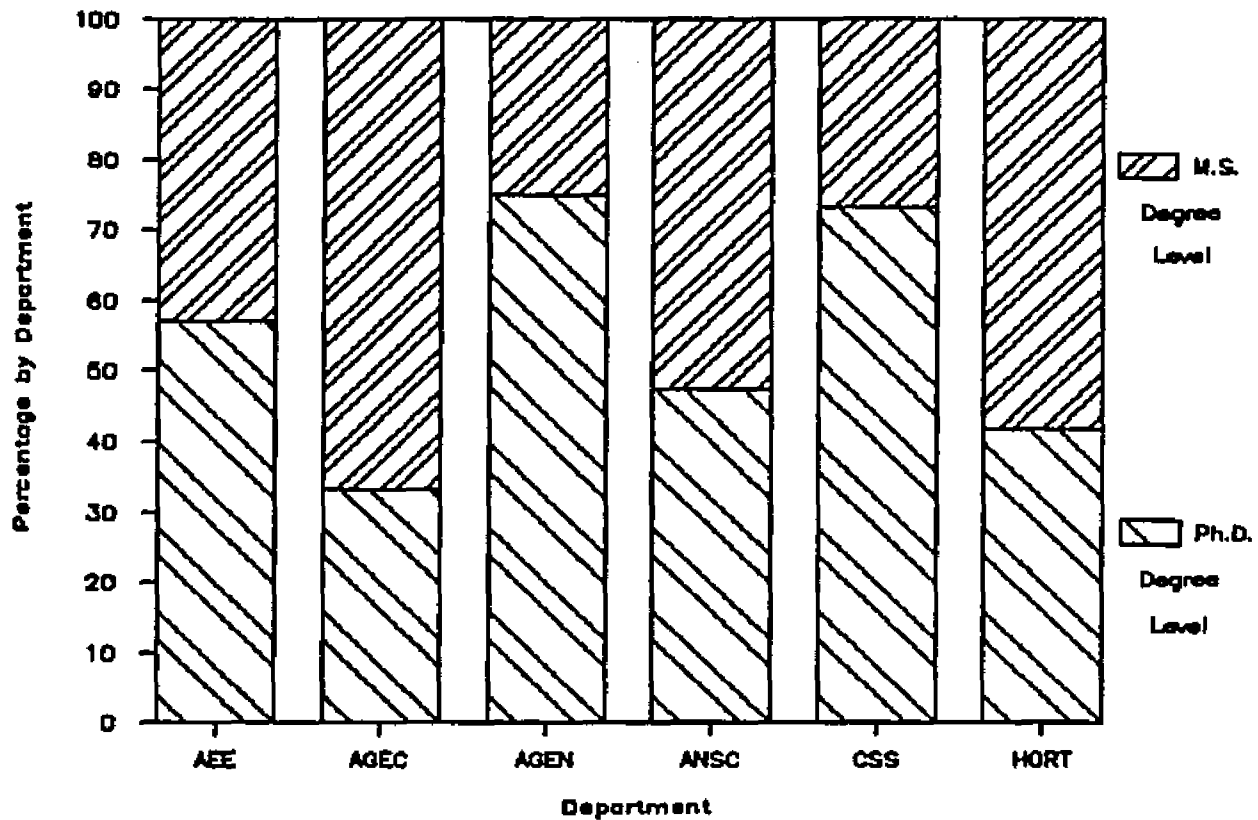


Figure 14. Student respondent academic level

A total of 28.7% of the student respondents held graduate assistantships at the time of questionnaire completion. A higher proportion of international students in the CSS (42.3%), HORT (41.7%), and AGEN (35%) departments held graduate assistantships than in the other three departments included in the study (see Figure 15). Only 4 out of 46 (8.7%) students from the African region held graduate assistantships in contrast to 15 out of 30 (50.0%) students from the South and East Asian region (see Figure 16).

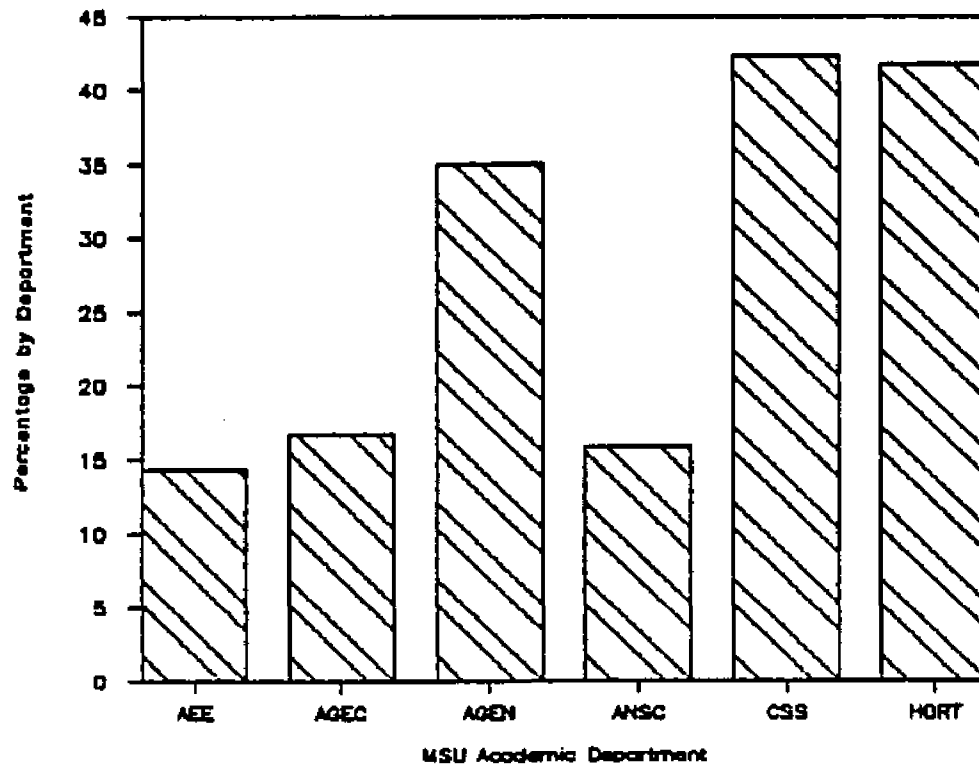


Figure 15. Student respondents holding graduate assistantships

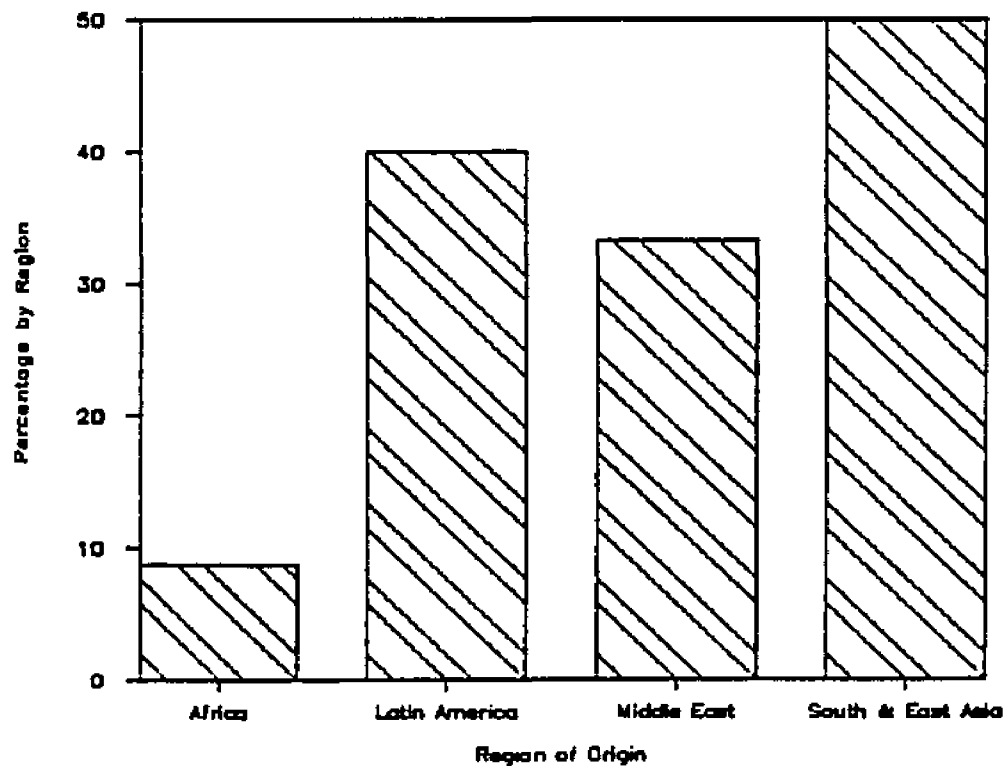


Figure 16. Student respondents holding graduate assistantships

It was calculated that 12 out of 108 students (11.1%) had practical training as a part of their program at the time of participating in the survey. All 12 of the respondents indicating a practical training component made a written comment to indicate the specific nature of the experience. The one-week program offered at the MSU Kellogg Biological Station in September 1985 (Steele & Quiroz, 1986) was mentioned by 3 students. Other practical experiences mentioned were:

"thesis field work--bean program..."

"visits to private orchards and developing of experiments of my research program at MSU Experiment Station..."

"drying corn...for my research..."

"multilocation testing of cultivars"

"farmers' meetings, field demonstrations, testing of breeding lines in locations...outside MSU campus"

"rust disease methodologies in Beltsville, Maryland"

"AID seminars between each term...in different states of U.S....total of 7 seminars"

"USDA on job training..."

"visits to and participation in some faculty projects off campus"

CES Field Agents with Agricultural Responsibilities

The CES field agent respondents provided information about the following personal characteristics: (1) gender, (2) CES administrative region, (3) primary job responsibilities, (4) years as CES employee, (5) time spent working outside the U.S.,

and (6) new employee during 1985 or later. Summaries of the characteristic are displayed in Table 8. Following is a brief discussion of important aspects of these characteristics.

A total of 10 of the 63 CES field agent respondents (15.9%) are female. All CES administrative regions were represented among the survey respondents, with the highest number (19 agents) coming from the Southeast. The smallest representation came from the Upper Peninsula (3 agents) and the North (4 agents) regions.

The majority of the respondents (57.1%) were in jobs that were categorized as having general agriculture responsibilities. The smallest job groupings were one crop agent (1.6%) and three farm management agents (4.8%). Almost half (46.8%) of the CES field agents had been employed four years or less by the CES. At the other extreme, only 7 out of the 63 CES field agent respondents (11.3%) had been with the CES for 20 years or more. New CES employees hired during 1985 or later accounted for 10 of the 63 respondents (15.9%).

The CES field agents had very little experience working outside the U.S. (excluding military) as indicated in Figure 17. Only 3 out of the 63 respondents (4.8%) reporting having more than one year of work experience outside the U.S.

County Extension Directors

The County Extension Directors (CEDs) provided information about the following personal characteristics: (1) gender, (2) CES administrative region, (3) agricultural

Table 8. Selected characteristics of CES field agents.

Personal characteristic	No.	%
Gender		
Female	10	15.9
Male	53	84.1
CES administrative region		
Upper Peninsula	3	4.8
East Central	12	19.0
West Central	13	20.6
North	4	6.3
Southwest	12	19.0
Southeast	19	30.2
Primary job responsibility		
Agriculture	36	57.1
Crops	1	1.6
Horticulture	16	25.4
Farm management	3	4.8
Livestock or Dairy	7	11.1
Years as CES employee		
0-4 Years	29	46.8
5-9 Years	12	19.4
10-19 Years	14	22.6
20 Years or more	7	11.3
No response	1	-
Time spent working outside the U.S.		
None	47	74.6
Less than one year	13	20.6
1-2 Years	2	3.2
More than 2 years	1	1.6
New employee during 1985 or later		
No	53	84.1
Yes	10	15.9

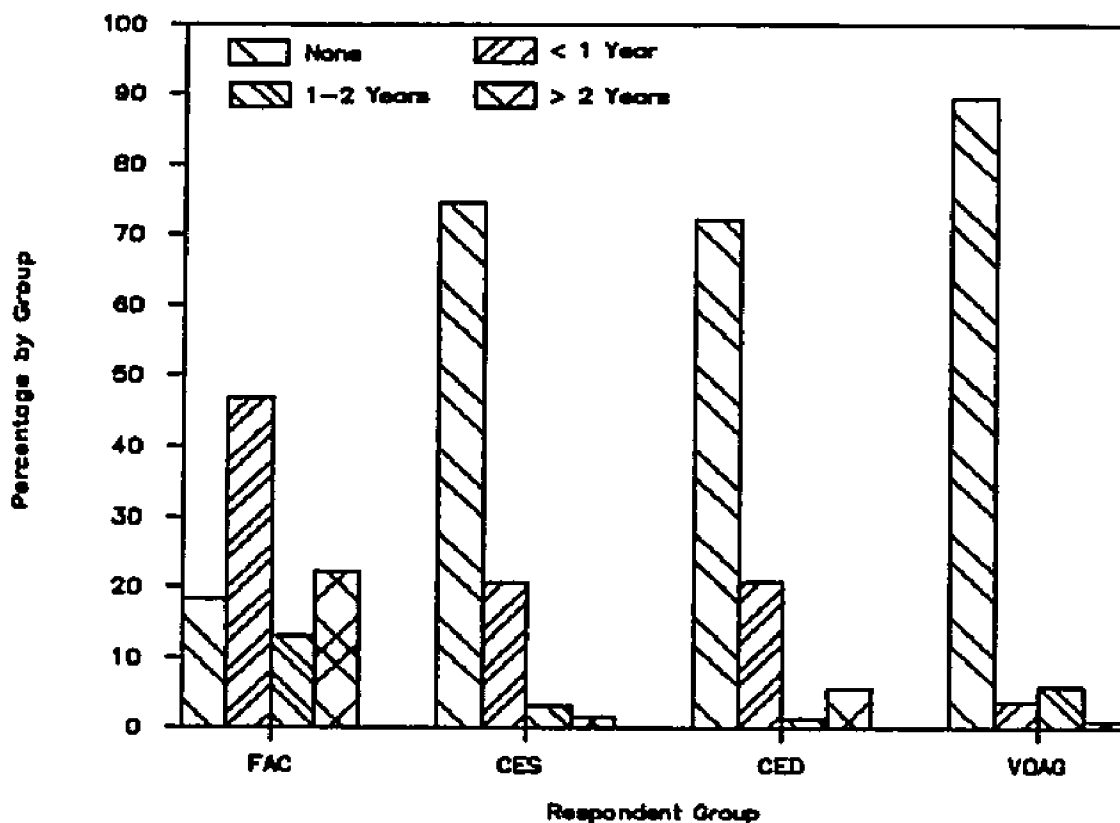


Figure 17. Respondent time spent working outside of the U.S

background, (4) years as CES employee, (5) time spent working outside the U.S., and (6) new employee during 1985 or later. Summaries of the characteristics are displayed in Table 9. Following is a discussion of important aspects of these characteristics.

A total of 9 of the 73 CED respondents (8.3%) are female. All CES administrative regions were represented among survey respondents, with the highest number (19 CEDs) coming from the North region. The smallest representation came from the Southwest (7 CEDs) region.

Table 9. Selected characteristics of County Extension Directors

Personal characteristic	No.	%
Gender		
Female	9	12.5
Male	63	87.5
No response	1	-
CES administrative region		
Upper Peninsula	10	13.9
East Central	13	18.1
West Central	13	18.1
North	19	26.4
Southwest	7	9.7
Southeast	10	13.9
No response	1	-
Agricultural training and experience in background		
No	15	20.8
Yes	57	79.2
No response	1	-
Years as CES employee		
0-4 Years	8	11.1
5-9 Years	16	22.2
10-19 Years	32	44.4
20 Years or more	16	22.2
No Response	1	-
Time spent working outside the U.S.		
None	52	72.2
Less than one year	15	20.8
1-2 Years	1	1.4
More than 2 years	4	5.6
No response	1	-
New employee during 1985 or later		
No	66	91.7
Yes	6	8.3
No response	1	-

A total of 15 of the 73 CEDs (20.8%) were identified as having a non-agricultural employment background. Data from a cross-tabulation revealed that 8 out of 15 of the CEDs with non-agricultural employment backgrounds (53.3%) are female. The CED group had more years of experience as CES employees than did the CES field agent group. A total of 48 of the 73 CED respondents (66.6%) were identified as having been employed by CES for 10 years or more. Only 6 CEDs were identified as new CES employees hired during 1985 or later.

The CEDs had very little experience working outside the U.S. (excluding military) as was previously shown in Figure 17. Only 5 out of the 73 CED respondents (6.8%) indicated more than one year of international work experience. Data from cross-tabulations revealed that 2 of the newly employed CEDs had worked outside of the U.S. for a period of more than 2 years.

Vocational Agriculture Instructors

The Vo-Ag instructors who responded provided information about the following personal characteristics: (1) gender, (2) FFA region, (3) years a Vo-Ag instructor, (4) Vo-Ag classroom enrollment in 1985-86, (5) FFA chapter membership in 1984-85, (6) time spent working outside the U.S., and (7) new employee in 1985 or later. Summaries of the characteristics are displayed in Table 10. Following is a brief discussion of important aspects of these characteristics.

Table 10. Selected characteristics of Vo-Ag instructors

Personal characteristic	No.	%
Gender		
Female	9	8.6
Male	96	91.4
FFA region		
Region 1	17	16.2
Region 2	13	12.4
Region 3	13	12.4
Region 4	14	13.3
Region 5	13	12.4
Region 6	8	7.6
Region 7	16	15.2
Region 8	11	10.5
Years as Vocational Agriculture teacher		
0-4 Years	22	21.2
5-9 Years	19	18.3
10-19 Years	34	32.7
20 Years or more	29	27.9
No response	1	-
Vocational Agriculture enrollment in 1985-86		
0-24 students	12	11.4
25-49 students	35	33.3
50-74 students	39	37.1
75-99 students	14	13.3
100 or more students	5	4.8
FFA chapter membership in 1984-85		
0-24 members	12	11.4
25-49 members	31	29.5
50-74 members	42	40.0
75-99 members	15	14.3
100 or more members	5	4.8
Time spent working outside the U.S.		
None	93	89.4
Less than one year	4	3.8
1-2 Years	6	5.8
More than 2 Years	1	1.0
No response	1	-
New employee during 1985 or later		
No	93	88.6
Yes	12	11.4

Only 9 of the 105 Vo-Ag instructor respondents (8.6%) are female. In addition, cross-tabulations indicated that all 9 of the females had been employed as a Vo-Ag instructor for 9 years or less. All FFA regions were represented among respondents, with the highest number coming from Region 1 (17 instructors) and Region 7 (16 instructors). The smallest representation of instructors came from Region 6 (8 instructors).

A total of 63 of the 105 respondents (60.6%) indicated that they had worked as a Vo-Ag instructor for 10 years or more. New employees during 1985 or later accounted for 12 of the 105 respondents (11.4%).

Vo-Ag classroom enrollment and FFA chapter membership figures were almost identical. A total of 74 of the 105 Vo-Ag instructors (70.4%) had Vo-Ag enrollments of 25 to 74 students in 1985-86.

The Vo-Ag instructors who responded had very limited experience working outside the U.S. (excluding military) as previously indicated in Figure 17. Only seven respondents (6.7%) reported having more than one year of experience working outside the U.S. Only one Vo-Ag respondent reported having more than two years of overseas work experience. None of the female respondents had any international work experience. Region 7 had the most respondents (four instructors) with at least one year of overseas work experience.

Attitudes Toward Aspects of a Practical Experience

The main tables presented in this section display the results of one-way analysis of variance (ANOVA) tests on individual items and composites in Part I. Each table indicates the mean, standard deviation, F statistic, level of significance, and significant differences at the .05 level between groups based on t-test results.

It should be noted that, as explained in Chapter III, a few questionnaire items are included in more than one benefit composite. In addition, questionnaire item No. 26 (have to be in the international graduate student's academic major area to be valuable) appears in Part I of the questionnaire but was not included in any of the composite scores or listings for Part I. The student group reported a significantly higher mean score (3.906), and the CEDs a significantly lower score (2.603), on item 26 than each of the other four groups.

The main tables list the total sample mean and standard deviation in addition to the mean and standard deviation for each of the five respondent groups. Individual items are arranged in the tables with the item displaying the highest total sample mean score at the top of the table followed by the remaining items listed below in descending order according to the total sample mean score of each item. The item displaying the lowest total sample mean score appears at the bottom of each table.

The scale for questionnaire items in Part I that were judged to provide measures of a negative attitude response were reversed during statistical analysis. Therefore, when reading the tables, a higher mean score can always be interpreted as a measure of a more positive attitude toward the practical training experience than for a lower mean score. Items for which the scales were reversed are marked with an asterisk (*) preceding the item number whenever it appears. Multiple responses and nonresponses were treated as missing data. A five point Likert-type scale with the following values was used for all items in Part I:

- 1 = Strongly Disagree (SD)
- 2 = Disagree (D)
- 3 = Undecided (U)
- 4 = Agree (A)
- 5 = Strongly Agree (SA)

Significant differences, if any, between the five groups based on t-test results were displayed in the far right column of each table. Each of the respondent groups is represented in the far right column by a number:

- 1 = faculty advisors (FAC)
- 2 = international students (STU)
- 3 = CES field agents (CES)
- 4 = County Extension Directors (CEDs)
- 5 = Vocational Agriculture Instructors (VOAG)

Significant differences between groups are denoted by a comma (,) placed between numbers. For example, the notation (5, 2) is interpreted as follows: a significant difference existed

at the .05 level between the mean score of group 2 (international students) and the mean score of group 5 (Vo-Ag instructors). If the mean scores from one respondent group differed from two or more of the other groups the (&) symbol was used to join all of the groups that were different. For example, the notation (3&4&5, 2) is interpreted as follows: a significant difference existed at the .05 level between the mean score of group 2 and all of the individual mean scores of group 3, group 4, and group 5. The reader should note that in displaying the notation (3&4&5, 2), for example, no statement about the inter-relationship between group 3, group 4, and group 5 was intended.

Composite Scores

Scores from all four of the composite groupings, presented in Table 11, indicated that each of the five groups had a positive attitude toward practical training experiences. On the total attitude composite, for the total sample, the mean score was 3.670. This score fell almost half-way between "Agree" and "Undecided" on the Likert-type scale used in the study. The most positive overall attitude was demonstrated by the student group (3.844) and the least positive attitude was computed for the faculty group (3.413). The results of t-tests indicated that the students were significantly higher than each of the other four groups and the faculty were significantly lower than each of the other four groups on the total attitude composite. No significant differences were indicated between the CES, CEDs, and Vo-Ag instructors groups for any of the composite mean scores.

Table 11: Attitudes toward involvement by composite scores
in Part I

Scale: 1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Composite description	Total (n=426) Mean S.D.	Faculty (n=77) Mean S.D.	Student (n=108) Mean S.D.	CES (n=63) Mean S.D.	CED (n=73) Mean S.D.	VOAG (n=105) Mean S.D.	F Probab- ility	Level of Signif- icance	Signif. t-test Between groups p. < .05
Total attitude composite Item 1-25	3.670 0.407	3.413 0.478	3.844 0.349	3.609 0.342	3.693 0.343	3.654 0.376	16.589	0.001	** (2838485, 1) (38485, 2)
Benefit to student composite Items No. 3,4,6, 9,11,12,14,15, 17,20,23,25	3.912 0.431	3.624 0.577	4.086 0.387	3.902 0.309	3.911 0.360	3.955 0.349	14.469	0.001	** (2838485, 1) (38485, 2)
Benefit to Mich. State composite Items No. 2,8,12, 16,17,19,21,25	3.703 0.526	3.417 0.649	3.976 0.524	3.589 0.419	3.729 0.401	3.654 0.502	14.366	0.001	** (28485, 1) (38485, 2)
Benefit to U.S. community Items No. 1,2,5, 7,10,13,16 18,22,24	3.303 0.470	3.050 0.441	3.594 0.419	3.216 0.448	3.307 0.419	3.257 0.477	18.080	0.001	** (2838485, 1) (38485, 2)

** 1=FAC 2=STU 3=CES 4=CED 5=VOAG

The faculty respondent group had the highest standard deviation on three out of the four composites.

Scores for each of the five groups on the student, MSU, and community benefit composites are presented in Figure 18. The student benefit composite received the highest total sample mean score (3.912) as well as the highest mean score from each of the five respondent groups were recorded on the student benefit composite. The results from t-tests indicated that the student mean score (4.086) was significantly higher than each of the other four groups and that the faculty mean score (3.624) was significantly lower than each of the other four groups.

The second highest total sample mean score (3.703) as well the second highest mean score from each of the five respondent groups were recorded on the MSU benefit composite. Once again, the results of t-tests indicated that the student mean score (3.976) was significantly higher than each of the other four groups. The faculty mean score (3.417) was significantly lower than each of the others, with the exception of the CES field agent group.

The lowest total sample mean score (3.303) as well as the lowest mean score from each of the five respondent groups were recorded on the U.S. community benefit composite. As with the other three composites, the results from t-tests indicated that the student mean score (3.594) was significantly higher than each of the other four groups and that the faculty mean score (3.050) was significantly lower than the other four groups.

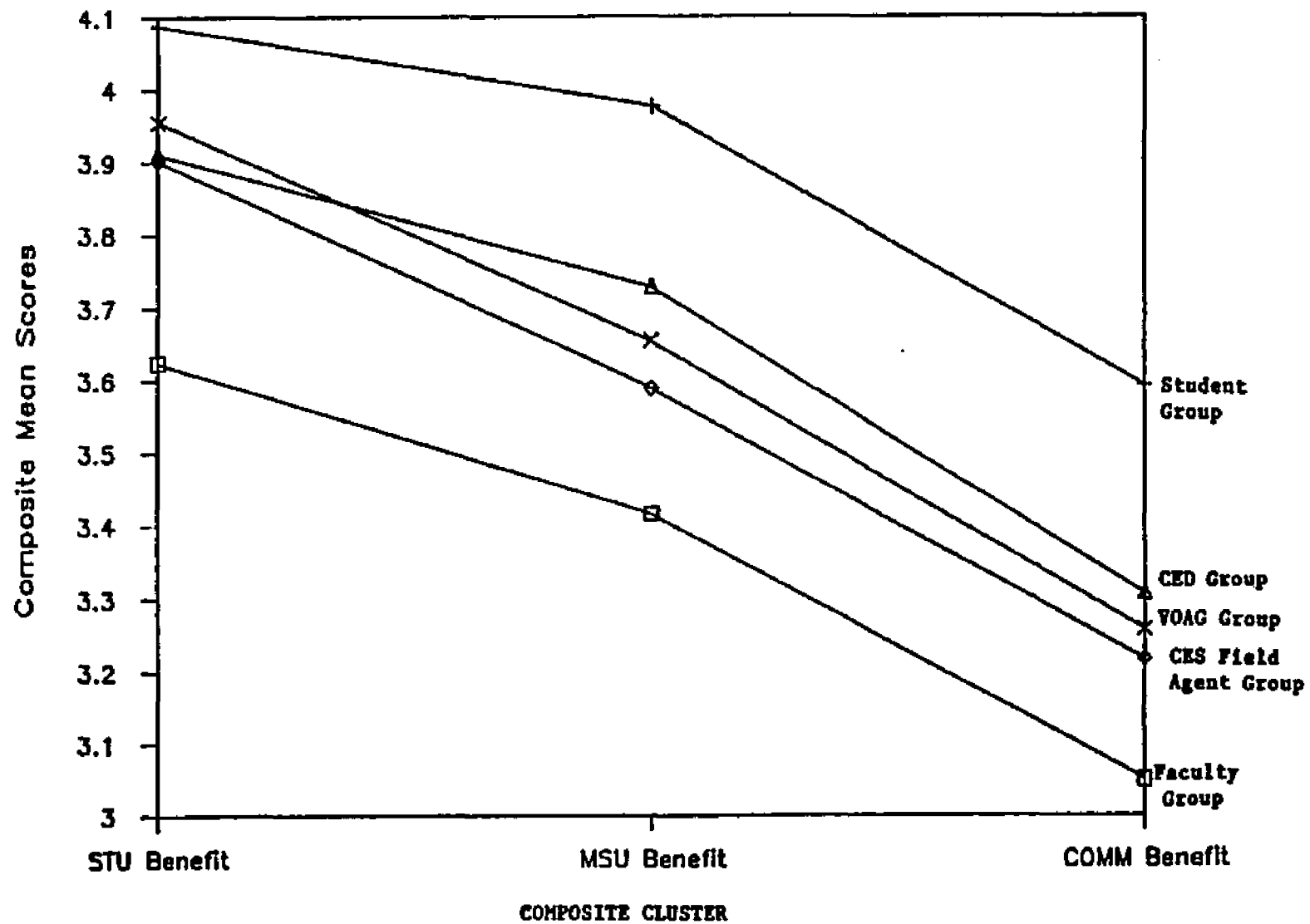


Figure 18. Perceived benefits of practical experience

Scores from Items in Student Benefit Composite

Results from the ANOVA and t-test analysis for the items in the student benefit composite are presented in Table 12. All items received a positive attitude rating (higher than three on the five-point Likert-type scale) on the total sample mean score as well as for mean scores on each item for all five of the respondent groups. Item 9 (realistic understanding of U.S.) received the highest total sample mean score (4.400). Item #6 (not related to Agriculture in student home) received the lowest sample mean score (3.533) in this composite.

Statistical data from 11 of the 12 items in the student benefit composite indicated a significant difference between the student group and the faculty group. Following is a discussion of selected differences and important findings related to the student benefit composite.

Item 9 (realistic understanding of U.S.) was ranked highest by all of the five groups, except for the student group where it placed fifth highest. It was the only item in the composite that data from the t-tests did not indicate a statistically significant difference between any of the five group mean scores. All mean scores for Item 9 were in the "Agree" to "Strongly Agree" range (4.269 - 4.479).

Item 20 (exposure to management experience) was ranked in the top three items, in the student benefit composite, by each of the five groups. Statistical differences in mean scores were noted between the lowest score, computed for the faculty (3.896),

Table 12. Attitudes toward involvement by respondent group
by item in Part I: Student composite

Scale: 1=SD 2=D 3=U 4=A 5=GA
(scores for negative items reversed)

Item No.	Item description	Total Mean S.D.	Faculty Mean S.D.	Student Mean S.D.	CES Mean S.D.	CED Mean S.D.	VOAG Mean S.D.	F Probab- ility	Level of Signif- icance	Signif. t-test Between groups p. < .05
9.	Realistic under- standing of U.S.	4.400 0.640	4.390 0.610	4.269 0.793	4.419 0.497	4.479 0.556	4.476 0.606	1.823	0.122	
20.	Exposure to manage- ment experience	4.148 0.646	3.896 0.788	4.380 0.591	4.190 0.564	4.041 0.633	4.143 0.562	7.372	0.001	** (26385, 1) (445, 2)
25.	Satisfy important need of student	4.021 0.708	3.711 0.950	4.308 0.665	3.889 0.512	4.014 0.612	4.038 0.603	9.268	0.001	** (26485, 1) (38485, 2)
*14.	Means for student to remain in U.S.	4.016 0.836	4.039 0.818	4.389 0.818	3.790 0.656	3.945 0.797	3.800 0.870	9.017	0.001	** (265, 1) (38485, 2)
3.	Chances for profes- sional advancement	4.002 0.794	3.584 0.879	4.343 0.713	4.113 0.680	3.740 0.782	4.077 0.692	14.428	0.001	** (26385, 1) (445, 2) (385, 4)
*11.	Not justif. invest of student time	3.983 0.904	3.701 1.052	4.245 0.778	3.871 0.983	4.014 0.778	3.971 0.882	4.497	0.002	** (26485, 1) (385, 2)
12.	Applic. of theory and techniques	3.943 0.799	3.584 0.965	4.234 0.796	3.903 0.646	3.795 0.726	4.038 0.678	9.084	0.001	** (26385, 1) (384, 2) (5, 4)
4.	Attract students to MSU	3.889 0.788	3.506 0.941	4.037 0.875	3.952 0.612	4.041 0.611	3.876 0.689	6.591	0.001	** (2638485, 1)
*23.	Unnecess. delay return to home	3.786 0.744	3.390 0.934	3.898 0.885	3.730 0.515	3.877 0.600	3.933 0.505	7.945	0.001	** (2638485, 1)
*17.	Detract from acad. curric. in major	3.671 0.847	3.224 1.138	3.755 0.882	3.825 0.583	3.918 0.493	3.648 0.784	8.154	0.001	** (2638485, 1) (5, 4)
15.	Easier for student to get job at home	3.546 0.880	3.182 0.914	3.435 1.061	3.677 0.696	3.603 0.740	3.810 0.735	6.838	0.001	** (2638485, 1) (5, 2)
* 6.	Not related to Ag. in student home	3.533 0.900	3.299 0.988	3.676 0.965	3.484 0.954	3.466 0.801	3.635 0.764	2.493	0.042	** (265, 1)

* = Negative items with scores reversed

** 1=FAC 2=STU 3=CES 4=CED 5=VOAG

and each of the other four groups, except the CEDs (4.041). The student group had the highest mean score (4.380) on this item and was significantly higher than each of the other groups, except for the CES field agent group (4.190).

Item 25 (satisfy important need of student) was ranked in the top 6 items by all five groups. The results from t-tests indicated that the faculty group mean score (3.711) was significantly lower than mean scores from each of the other four groups, except for the CES field agent group (3.889). The student mean score (4.308) was significantly higher than mean scores from each of the other four groups.

Item #14 (means for student to remain in U.S.) was ranked as the highest item in the composite by the student group (4.389) and as the second highest item in the composite by the faculty group (4.039). According to t-test results, the student group mean score was significantly higher than each of the other five groups and the faculty mean score was statistically higher than the Vo-Ag instructor group mean score (3.800). The reader is reminded that this high score indicated a "disagree" response to the item since the scale was reversed during data analysis.

Data from t-tests for item 3 (chances for professional advancement) indicated the only statistically significant difference for items in this composite between these three response groups: CES field agents, CEDs, and Vo-Ag instructors. The mean score for the CED group (3.740) was significantly lower than both the Vo-Ag group (4.077) and CES field agent group (4.113).

Data from item 12 (application of theory and techniques) and item *17 (detract from academic curriculum in major) indicated the only other statistical differences between the CED group and the Vo-Ag instructor group in this composite. Vo-Ag instructors had a significantly higher mean score than CEDs on item 12 and CEDs had a significantly higher mean score than Vo-Ag instructors on item *17.

The faculty mean scores for item 4 (attract students to MSU), item *17 (detract from academic curriculum in major) and item 15 (easier for student to get job at home) were significantly lower than each of the other four groups. There also was a finding, indicated by data from item 15, that was unique for this composite--the Vo-Ag group mean score (3.810) was significantly higher than the student group mean score (3.435).

Selection of the "undecided" category was most influential on mean scores for item 3 (chances for professional advancement), item *17 (detract from academic curriculum in major), item 15 (easier for student to get job at home), and item *6 (not related to agriculture in student home). Over 30% of each of the faculty and CED groups selected "undecided" for item 3. On item 17, over 20% of both the student and Vo-Ag instructor groups selected undecided. On item 15 and Item *6 (not related to agriculture in student home) the undecided choice was selected by unusually large numbers of respondents in all groups. The selection of undecided by a large number of respondents may indicate questionnaire items that were unclear to the reader.

The effect of high undecided response category selection was to move the mean score either up or down, toward the number 3.

Undecided response data for part I are presented in Appendix C.

Scores from Items in MSU Benefit Composite

Results from ANOVA and t-test analysis for the items in the Michigan State University (MSU) benefit composite are presented in Table 13. All items in this composite, except for item #16 (require more supervision than an American), received a positive attitude rating on each item from the five respondent groups. Only data from the student group (3.370) indicated a positive mean score and significant differences, based on t-test results, from each of the other four groups for item #16. Each of the other four groups had mean scores within the range of 2.156 to 2.466. The only additional significantly different group mean score on item #16, the faculty group, had a lower mean score (2.156) than the CED group (2.466).

Statistical data from seven out of the eight questionnaire items in the MSU benefit composite indicated a significant difference between the student group and the faculty group. Only on item #19 (only for publicity for an organization) were the mean scores for the faculty (3.882) and student (3.880) group not statistically different. The CES field agent group had a significantly lower mean score (3.619) on item #19 than the CED group (4.083) and the student group (3.882). In addition, the CED group mean score (4.083) was significantly higher than the Vo-Ag instructors group (3.810) mean score on item #19.

Table 13. Attitudes toward involvement by respondent group
by item in Part I: MSU benefit composite

Scale: 1=SD 2=D 3=U 4=A 5=SA
(scores for negative items reversed)

Item No.	Item description	Total Mean S.D.	Faculty Mean S.D.	Student Mean S.D.	CES Mean S.D.	CED Mean S.D.	VOAG Mean S.D.	F Probab- ility	Level of Signif- icanace	Signif. t-test Between groups p. < .05
* 8.	Neg. reflect quality of MSU	4.087 0.868	3.961 0.986	4.389 0.841	3.952 0.895	4.137 0.652	3.914 0.856	5.340	0.001	** (1838485, 2)
25.	Satisfy important need of student	4.021 0.708	3.711 0.950	4.308 0.665	3.889 0.512	4.014 0.612	4.038 0.603	9.268	0.001	** (28485, 1) (38485, 2)
12.	Applic of theory and techniques	3.943 0.799	3.584 0.965	4.234 0.796	3.903 0.646	3.795 0.726	4.038 0.678	9.084	0.001	** (28385, 1) (384, 2) (5, 4)
*19.	Only for publicity for organizations	3.858 0.849	3.882 0.832	3.880 0.934	3.619 0.812	4.083 0.727	3.810 0.845	2.670	0.031	** (482, 3) (5, 4)
*21.	Not justif. invest of faculty time	3.803 0.885	3.338 1.096	4.287 0.656	3.698 0.754	3.781 0.750	3.724 0.860	15.733	0.001	** (2838485, 1) (38485, 2)
2.	Strengthen ties MSU and community	3.719 0.879	3.481 0.968	3.889 0.857	3.645 0.889	3.630 0.808	3.827 0.841	3.170	0.014	** (285, 1) (4, 2)
*17.	Detract from student curriculum	3.671 0.847	3.224 1.138	3.755 0.882	3.825 0.583	3.918 0.493	3.648 0.784	8.154	0.001	** (2838485, 1) (5, 4)
*16.	Require more super vision than Americ	2.540 1.081	2.156 0.961	3.370 1.173	2.190 0.859	2.466 0.914	2.229 0.823	27.833	0.001	** (284, 1) (38485, 2)
* = Negative items with scores reversed										** 1=FAC 2=STU 3=CES 4=CED 5=VOAG

Each of the five groups, except for the Vo-Ag instructors, rated item #8 (Negatively reflect quality of MSU) with the highest total mean score (4.087) out of the eight items in the MSU composite. Once again, the student group mean score (4.389) was significantly higher than each of the other four groups.

Data from item #21 (not a justifiable investment of faculty time) indicated a significant difference between both the highest mean score (4.287) of the student group and the lowest mean score (3.338) of the faculty group and each of the other three groups. The faculty group had a high level of "undecided" selections (24.7%) for item #21 that contributed toward lowering their mean score as indicated by data presented in Appendix C.

Scores from Items in Community Benefit Composite

Results for ANOVA and t-tests for items in the community benefit composite are presented in Table 14. All items in this composite, except for item #16 (require more supervision than an American) and item 18 (work on project American couldn't), received a positive attitude rating based on the total sample as well as from the CES field agent, CED, and Vo-Ag instructor groups. The student group only rated one item from this composite, item 18, in the negative category. The faculty group rated five items from this composite in the negative category: item 18, item #16, item 10 (provide technical skills from student home), item 5 (help U.S. community explore international trade), and item 24 (community access to trade information). Even though

Table 14. Attitudes toward involvement by respondent group
by item in Part I: Community composite

Scale: 1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item No.	Item description	Total Mean S.D.	Faculty Mean S.D.	Student Mean S.D.	CES Mean S.D.	CED Mean S.D.	VOAG Mean S.D.	F Probab- ility	Level of Signif- icanace	Signif. t-test Between groups p. < .05
*13.	Only attractive if U.S. wants trade	3.946 0.742	4.092 0.677	3.796 0.873	3.887 0.704	4.041 0.676	3.962 0.692	2.264	0.061	** (184, 2)
* 7.	Reduce employment for U.S. citizens	3.866 0.922	3.974 0.917	4.111 0.813	3.629 0.927	3.849 0.758	3.686 1.068	4.327	0.002	** (345, 241)
1.	Provide cultural info. to community	3.858 0.840	3.688 1.042	3.916 0.859	3.823 0.713	3.944 0.669	3.885 0.828	1.157	0.329	
2.	Strengthen ties MSU and community	3.719 0.879	3.481 0.968	3.889 0.857	3.645 0.889	3.630 0.808	3.827 0.841	3.170	0.014	** (245, 1) (4, 2)
*22.	Less benefit than comparable America	3.370 1.061	3.000 1.064	3.907 0.986	3.175 1.009	3.444 0.963	3.162 1.030	11.913	0.001	** (244, 1) (34445, 2)
24.	Community access trade information	3.257 0.935	2.733 0.935	3.654 0.859	3.286 0.869	3.205 0.897	3.243 0.902	11.865	0.001	** (2434445, 1) (34445, 2)
5.	Help U.S. communit explore int. trade	3.180 1.011	2.714 0.944	3.486 0.994	3.177 0.897	3.111 0.958	3.257 1.065	7.149	0.001	** (2434445, 1) (344, 2)
10.	Provide tech skill from student home	3.057 0.914	2.701 0.933	3.311 0.940	3.098 0.851	3.014 0.825	3.067 0.902	5.231	0.001	** (2434445, 1) (445, 2)
*16.	Require more super vision than Americ	2.540 1.081	2.156 0.961	3.370 1.173	2.190 0.859	2.466 0.914	2.229 0.823	27.833	0.001	** (244, 1) (34445, 2)
18.	Work on project American couldn't	2.307 0.863	2.117 0.794	2.406 0.964	2.302 0.733	2.288 0.697	2.362 0.972	1.397	0.233	** (2, 1)

* = Negative items with scores reversed

** 1=FAC 2=STU 3=CES 4=CED 5=VOAG

all groups produced a negative mean score on item 18 (work on a project American couldn't), the faculty group mean score (2.117) was still significantly lower than the student group mean score (2.406).

Statistical data from 8 out of the 10 items in the community benefit composite reveal a significant difference between student and faculty groups. Item 1 (provide cultural information to community) was the only item in this composite that data from t-tests did not indicate statistically significant differences between any of the five mean scores. Based on group mean scores, item 1 was ranked as one of the top three questionnaire items in this composite by each respondent group.

Item *7 (reduce employment for U.S. citizens) was the only other item in the community benefit composite that the student mean score (4.111) did not differ significantly from the faculty mean score (3.974). However, significant differences were computed on item *7 between the higher mean scores of the faculty and student groups and the lower mean scores of the CES field agents (3.629) and Vo-Ag instructors (3.686).

The highest total sample mean score for this composite was computed for item *13 (only attractive if U.S. wants trade). In addition, all respondent groups, except the student group, recorded the highest mean score for the community benefit composite on this item. Significant differences were indicated between the lower student group mean score (3.796) and the higher faculty group (4.092) and CED group (4.041) mean scores on item *13.

Data from item 2 (strengthen ties between MSU and community) showed that the Vo-Ag instructor group had a significantly higher mean score (3.827) than the faculty group (3.481). Both the faculty group (3.481) and CED group (3.630) mean scores were significantly lower than the student group (3.889) mean score on item 2.

Data from item #22 (less benefit than a comparable American) indicated that the CED group (3.444) had a significantly higher mean score than the faculty group (3.000). In addition, the student mean score (3.907) was significantly higher than each of the other four groups.

Questionnaire item 24 (community access to trade information) and item 5 (help U.S. community explore international trade) were similar and produced almost identical results. The faculty group mean scores for these two items were in the "disagree" range (2.733 & 2.714) and were significantly lower than the mean scores for each of the other four groups which were in the "Agree" range (3.111 to 3.654). On both item significantly 24 and item 5 the student group mean scores (3.654 & 3.486) were higher than each of the other four groups, with the exception of the Vo-Ag group for item 5. The respondents selected the "undecided" category for both item 24 and item 5 at a higher than average rate according to data presented in Appendix C.

There was a significant difference between the faculty group (2.701), the only group with a mean score in the negative range, and each of the other four groups on item 10 (provide

technical skill from student home). In addition, the student group mean score (3.311) was significantly higher than both the CED (3.014) and the Vo-Ag instructor (3.067) mean scores. Item 10 also produced the highest rate of indecision, as seen in Appendix C, for Part I of the questionnaire. A total of 33.2% of the total sample respondents selected the "undecided" response category.

Student Group by Selected Characteristics

Dividing the student group by region of origin produced small differences in mean scores on individual questionnaire items, but no significant differences were measured on the total attitude composite as data in Table 15 indicated. Even though differences were noted on individual items in Part I, no consistent pattern of overall difference was observable between groups of students from different regions. For example, African students differed significantly from South & East Asians on six of the items in Part I. The mean score for the South & East Asian group was significantly higher than the African group on item 1 (provide cultural information to community), item *6 (not related to agriculture in student home), and item 9 (realistic understanding of U.S.). The mean score of the African group was significantly higher than the South & East Asian group on item *14 (means for student to remain in U.S.), item 20 (exposure to management experience), and item *21 (not justifiable investment of faculty time). The African student group had the highest

Table 15. ANOVA for significant items in Part I
by student region of origin1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item No.	Item description	Africa (n=46) Mean S.D.	Lat Amer (n=20) Mean S.D.	Mid East (n=12) Mean S.D.	SE Asia (n=30) Mean S.D.	F Probab- ility	Level of Signif- icance	Signif. t-test bet group p. < .05
ALL	Total attitude composite No. 1-25	3.861 0.382	3.952 0.289	3.947 0.307	3.876 0.330	0.425		
1.	Provide cultural info. to community	3.778 1.020	3.750 0.786	3.917 0.900	4.233 0.504	2.061	0.109	** (4, 1)
* 6.	Not related to Ag. in students home	3.457 1.130	3.700 0.865	3.750 0.965	3.967 0.669	1.765	0.157	** (4, 1)
9.	Realistic understanding of U.S.	4.087 1.007	4.250 0.639	4.417 0.515	4.500 0.509	1.844	0.142	** (4, 1)
*13.	Only attractive if U.S. wants trade	3.739 0.828	4.300 0.923	3.833 0.718	3.533 0.860	3.418	0.020	** (164, 2)
*14.	Means for student to remain in U.S.	4.587 0.686	4.550 0.945	3.917 0.900	4.167 0.791	3.447	0.019	** (384, 1) (3, 2)
15.	Easier for student to get job at home	3.196 1.185	3.350 1.040	4.250 0.754	3.533 0.819	3.495	0.018	** (16284, 3)
18.	Work on project American couldn't	2.311 0.900	2.053 0.970	2.500 1.168	2.733 0.907	2.267	0.084	** (4, 2)
*19.	Only for publicity for organization	3.935 0.998	3.950 0.887	4.417 0.515	3.533 0.900	2.937	0.036	** (4, 3)
20.	Exposure to management experience	4.500 0.587	4.300 0.571	4.500 0.522	4.200 0.610	1.890	0.134	** (4, 1)
*21.	Justifiable invest of faculty time	4.326 0.701	4.600 0.503	4.333 0.492	4.000 0.643	3.774	0.013	** (162, 4)
**23.	Unnecess. delay return to home	3.913 0.985	4.300 0.470	3.833 0.835	3.633 0.890	2.383	0.072	** (4, 2)

* = Negative items with scores reversed

** 1=Africa 2=Lat Amer 3=Mid East 4=SE Asia

standard deviation for the total attitude composite as well as for 7 out of the 11 questionnaire items listed in Table 15.

Students who reported that they had five years or more of full-time work experience prior to coming to MSU were compared to those students who had four years or less of full-time work experience. According to t-test results, significantly higher mean scores on the student benefit composite were computed for the more experienced group of students on item 4 (attract students to MSU), item #11 (not justifiable investment of student time), and item 20 (exposure to management experience) as indicated by data displayed in Table 16 and Figure 19.

Students who were 20 to 29 years of age, those who were 30 to 34 years of age, and those who were 35 to 39 years of age were divided into three groups for ANOVA and t-test comparisons on items in Part I. The 20 to 29 years of age group had significantly lower mean scores than both of the older groups on the student benefit composite and item #23 (unnecessarily delay return to home) as indicated by data presented in Table 17 and Figure 20. In addition, the 20 to 29 years of age group had a significantly lower mean score than the 30 to 34 years of age group on item 4 (attract students to MSU) and item #11 (justifiable investment of student time).

The ANOVA and t-tests results for the student group, divided up into three sponsorship categories: (1) USAID/USDA,

Table 16. Students by years of prior work experience for items in Part I

1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item No.	Item description	0-4 yrs of work exper. (n=56)	5 yrs or more work exper. (n=52)	t statistic	Probability of t (two-tail)
		Mean S.D.	Mean S.D.		
ALL	Total attitude composite No. 1-25	3.85 0.35	3.94 0.32	1.208	0.228
	Student benefit composite	4.01 0.41	4.16 0.35	1.984	0.047
4.	Attract students to MSU	3.88 1.06	4.21 0.57	2.027	0.043
*11	Not justif. invest of student time	4.09 0.80	4.41 0.73	2.157	0.031
20.	Exposure to management experience	4.27 0.62	4.50 0.54	2.069	0.039

* = Negative items with scores reversed

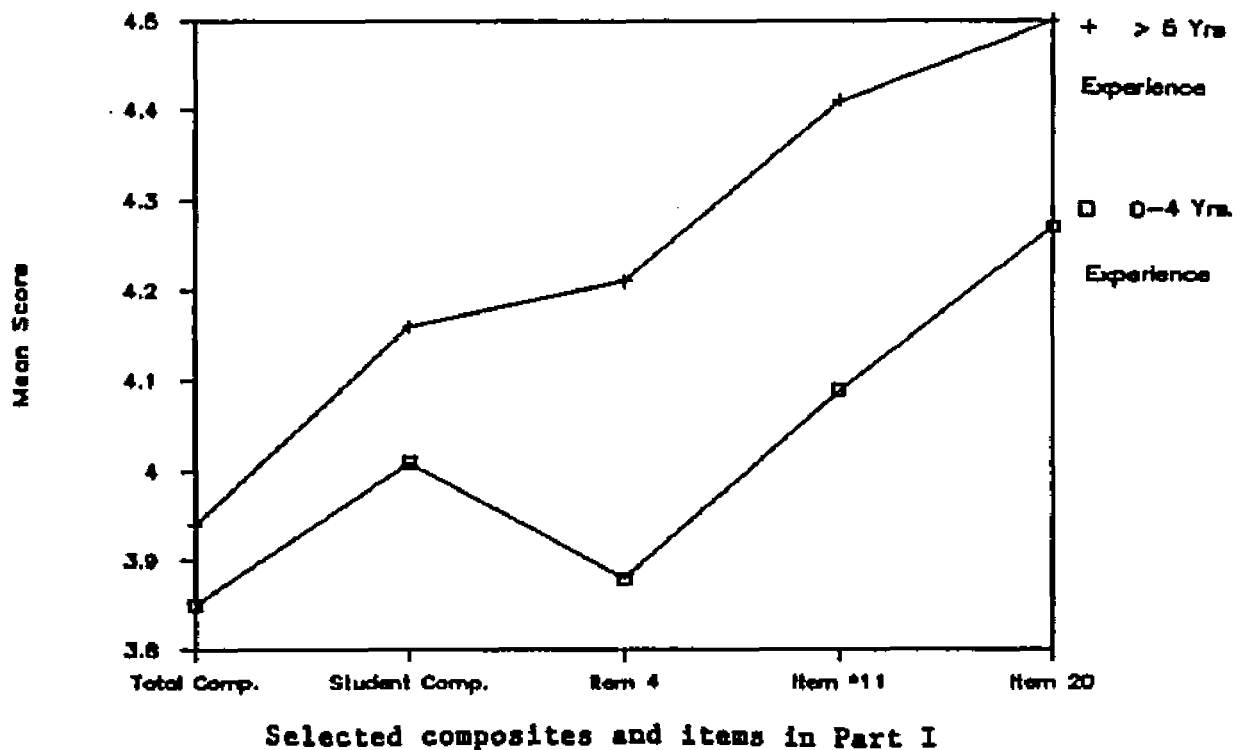


Figure 19. Attitudes of student respondents grouped by prior work experience

Table 17. ANOVA by student age for significant items in Part I

1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item No.	Item description	20-29 yr of age (n=36)	30-34 yr of age (n=41)	35-49 yrs of age (n=31)	F Probab- ility	Level of Signif- icance	Signif. t-test bet group p. < .05
		Mean S.D.	Mean S.D.	Mean S.D.			
ALL	Total attitude composite No. 1-25	3.791 0.365	3.913 0.360	3.979 0.254	2.513	0.084	
	Student benefit composite	3.935 0.407	4.137 0.393	4.180 0.323	3.867	0.024	** (2, 1)
4.	Attract students to MSU	3.750 1.079	4.220 0.822	4.129 0.562	3.122	0.047	** (2, 1)
*11.	Not justif. invest of student time	3.971 0.904	4.463 0.596	4.258 0.773	3.940	0.022	** (2, 1)
*23.	Unnecess. delay return to home	3.556 1.054	4.049 0.805	4.097 0.651	4.321	0.015	** (2, 1)

* = Negative items with scores reversed

** 1=20-29 yrs 2=30-34 yrs 3=35-49 yrs

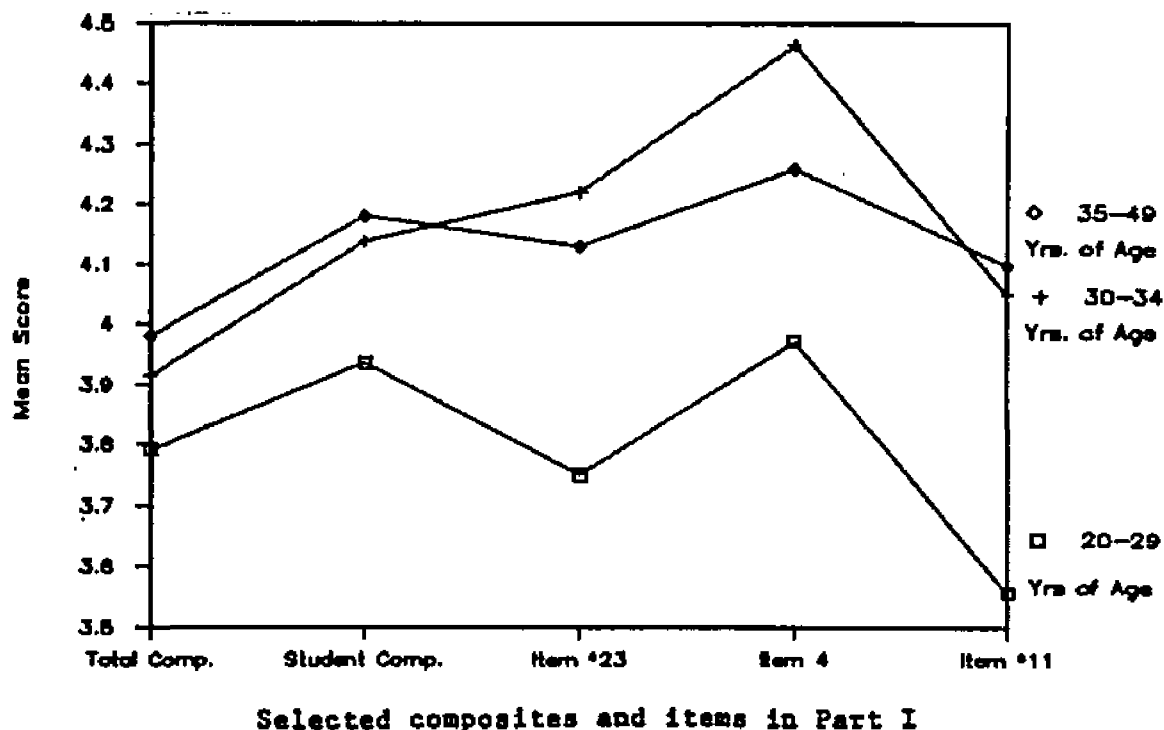


Figure 20. Attitudes of student respondents grouped by age

(2) home government, and (3) other are displayed in Table 18. No significant difference was identified for any of the composite mean scores. However, the USAID/USDA sponsored students mean score was significantly higher than the "other" sponsorship category mean score for item #14 (means for student to remain in U.S.), item #21 (justifiable investment of faculty time), and item #23 (unnecessarily delay return to home). The USAID/USDA group mean score was significantly lower than both of the other two groups for item 15 (easier for student to get job at home). In addition, the USAID/USDA mean score was lower than the home

Table 18. ANOVA for significant items in Part I
by student sponsorship type

1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item No.	Item description	USAID/USDA (n=49) Mean S.D.	Home Gov. (n=33) Mean S.D.	Other (n=26) Mean S.D.	F statistic	Level of Significance	Signif. t-test bet group p. < .05
ALL	Total attitude composite item 1-2	3.871 0.349	3.959 0.352	3.847 0.303	0.884	0.581	
* 6.	Not related to Ag. in student home	3.531 1.023	3.970 0.847	3.577 0.945	2.274	0.106	** (2, 1)
*14.	Means for student to remain in U.S.	4.592 0.734	4.333 0.777	4.077 0.935	3.643	0.029	** (3, 1)
15.	Easier for student to get job at home	3.020 1.127	3.848 0.755	3.692 1.011	7.911	0.001	** (2&3, 1)
*21.	Not justif. invest of faculty time	4.388 0.606	4.303 0.684	4.077 0.688	1.953	0.145	** (3, 1)
* 23.	Unnecess. delay return to home	4.000 0.816	4.000 0.791	3.577 1.065	2.309	0.102	** (3, 1)

* = Negative items with scores reversed

** 1=USAID/USDA 2=Home Gov. 3=Other

government sponsorship group mean score for item #6 (not related to agriculture in student home).

Mean scores for graduate students from developing countries who held a graduate assistantship at the time of questionnaire completion were compared statistically through the use of t-tests with those students who did not hold an assistantship. No significant differences between the two groups were indicated for any of the composite mean scores. However, mean scores for those students without graduate assistantships were significantly higher on item 20 (exposure to management experience), item #14 (means for student to remain in U.S.), and item #11 (not justifiable investment of student time) as indicated by data reported in Table 19 and Figure 21.

Students who were assured of a job when they returned home did not have significantly different mean scores on any of the four composites than did those students who did not have assurance of a job at home as indicated by data reported in Table 20. Results from t-tests, for this characteristic on all individual items in Part I, produced only two important differences. The data indicate that those with a job assured at home had a significantly higher mean score on item #14 (means for student to remain in U.S.) than those without a job assured at home. By contrast, those without a job assured at home had a significantly higher mean score on item 15 (easier for student to get job at home) than did those with a job assured at home.

Table 19. Students with graduate assistantships
for significant items in Part I1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item No.	Item description	NO graduate assistantship (n=77) Mean S.D.	YES graduate assistantship (n=31) Mean S.D.	t statistic	Probability of t (two-tail)
ALL	Total attitude composite No. 1-25	3.89 0.37	3.86 0.29	0.400	0.693
20.	Exposure to management experience	4.45 0.57	4.19 0.59	2.108	0.035
*14.	Means for student to remain in U.S.	4.53 0.69	4.03 0.97	2.977	0.004
*11.	Not justif. invest of student time	4.34 0.75	4.00 0.77	2.070	0.038

* = Negative items with scores reversed

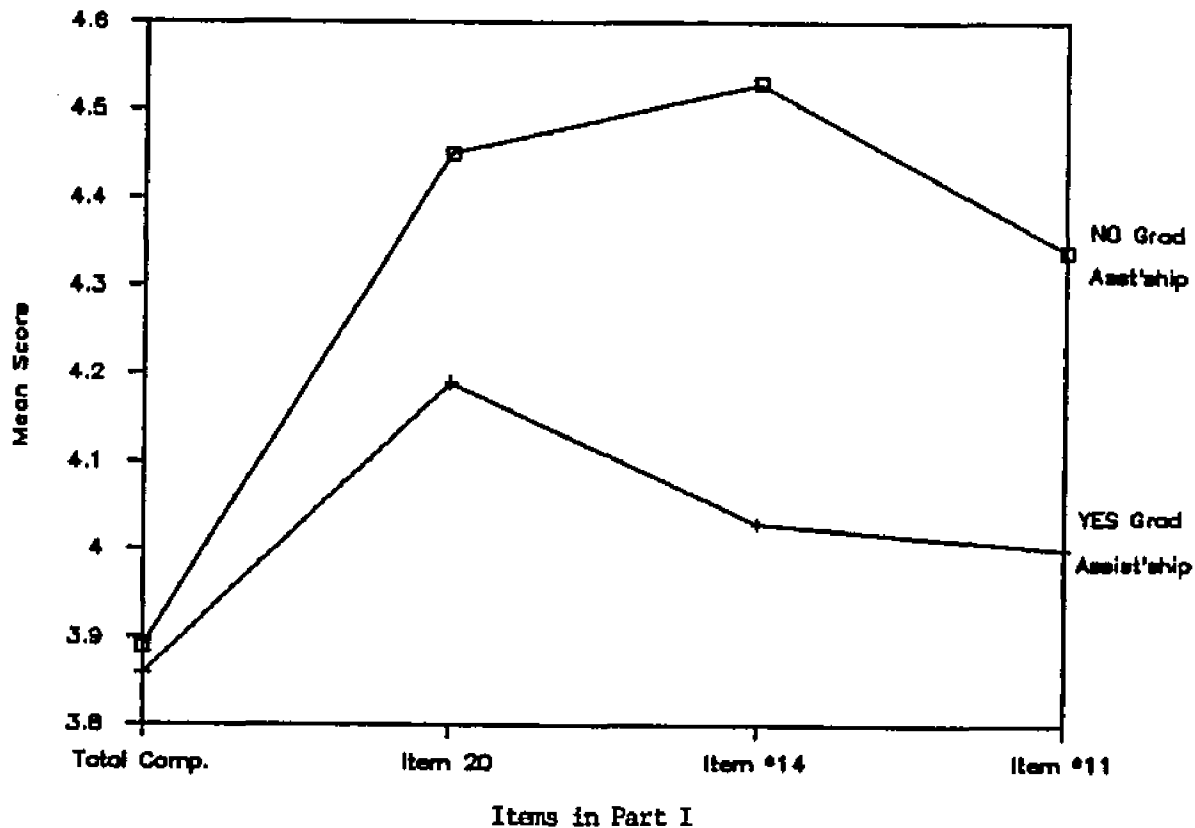
Figure 21. Attitudes of student respondents grouped by those with
and without graduate assistantships

Table 20. Student assurance of job at home
for items in Part I1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item No.	Item description	NO job is not assured at home (n=25) Mean S.D.	YES job is assured at home (n=83) Mean S.D.	t stat- istic	Proba- bility of t (two-tail)
ALL	Total attitude composite No. 1-25	3.87 0.30	3.90 0.35	0.319	0.749
*14.	Means for student to remain in U.S.	4.08 0.84	4.48 0.78	2.191	0.029
15.	Easier for student to get job at home	3.88 0.86	3.30 1.07	2.445	0.015

* = Negative items with scores reversed

Faculty and Student Group by Department

Mean scores and standard deviations are provided for all of the composite benefit groupings and for selected individual items in Part I for the student group by department in Table 21 and for the faculty group by department in Table 22. Due to the small number of respondents in some departments, ANOVA and t-tests were not used in the departmental analysis.

Student respondents from the Agricultural Engineering (AGEN) department produced the highest mean score (4.034) on the total attitude composite in Part I and Agricultural Economics (AGEC) student respondents produced the lowest mean score (3.762)

Table 21. Mean scores for selected items
in Part I for student by department

1=SD 2=D 3=U 4=A 5=SA

Item No.	Item description	AEE (n=7) Mean S.D.	AGEC (n=24) Mean S.D.	AGEN (n=20) Mean S.D.	ANSC (n=19) Mean S.D.	CSS (n=26) Mean S.D.	HRT (n=12) Mean S.D.
ALL	Total attitude composits No.1-25	3.920 0.301	3.762 0.345	4.034 0.338	3.887 0.367	3.871 0.361	3.858 0.315
	Student benefit composits	4.119 0.414	3.942 0.397	4.192 0.420	4.120 0.455	4.125 0.345	4.030 0.195
	Community benefit composits	3.583 0.264	3.418 0.403	3.765 0.373	3.574 0.429	3.500 0.417	3.858 0.410
	MSU benefit composits	4.214 0.466	3.854 0.439	4.175 0.373	3.938 0.470	4.005 0.483	3.750 0.895
* 7.	Reduce employment for U.S. citizens	4.286 0.756	4.292 0.624	3.900 0.852	4.211 0.631	3.731 1.002	4.667 0.492
15.	Easier for student to get job at home	3.143 0.900	3.000 0.834	4.000 0.795	3.632 1.342	3.231 1.142	3.667 0.888
24.	Community access trade information	3.143 0.690	3.333 0.868	3.900 0.912	3.947 0.911	3.500 0.762	4.091 0.539

* = Negative items with scores reversed

Table 22. Mean scores for selected items in Part I
for faculty by department

1=SD 2=D 3=U 4=A 5=SA

Item No.	Item description	AEE (n=4) Mean S.D.	AGEC (n=10) Mean S.D.	AGEN (n=10) Mean S.D.	ANSC (n=18) Mean S.D.	CSS (n=22) Mean S.D.	HRT (n=13) Mean S.D.
ALL	Total attitude composite No.1-25	4.130 0.227	3.495 0.512	3.228 0.594	3.588 0.354	3.312 0.476	3.217 0.273
	Student benefit composite	4.313 0.275	3.787 0.423	3.483 0.807	3.727 0.493	3.530 0.588	3.410 0.472
	Community benefit composite	3.800 0.216	2.989 0.549	2.910 0.373	3.265 0.362	2.910 0.417	2.915 0.270
	MSU benefit composite	4.125 0.270	3.611 0.811	3.137 0.851	3.566 0.422	3.403 0.622	3.083 0.518
1.	Provide cultural info. to community	5.000 0	4.100 0.994	3.500 1.080	3.833 1.043	3.545 1.011	3.154 0.899
2.	Strengthen ties MSU and community	4.250 0.957	3.700 0.823	3.200 1.033	4.000 0.840	3.273 0.827	2.923 1.038
10.	Provide tech skill from student home	3.750 0.500	2.200 0.632	2.800 1.033	2.778 0.808	2.409 1.008	3.077 0.862
*22.	Less benefit than comparable America	4.000 0.816	3.500 1.080	2.200 0.632	3.389 0.916	2.727 1.077	2.846 1.068
24.	Community access trade information	4.250 0.500	1.889 0.601	2.900 0.994	3.111 0.758	2.619 0.921	2.385 0.650
25.	Satisfy important need of student	4.750 0.500	4.200 0.789	3.500 0.972	3.667 0.767	3.818 0.795	3.000 1.206

* = Negative items with scores reversed

for the total attitude composite as shown in Figure 22. The AGEK students were also low scoring, and the AGEN students comparatively high scoring, on the other three composites.

Three other individual items in Part I produced a wide range in mean scores by student departmental groups. Data from item #7 (reduce employment for U.S. citizens) indicated that Horticulture (HORT) students produced a higher mean score (4.667) than was computed for either the Crops and Soil Science (CSS) (3.731) or the AGEN student respondents (3.900). Data reported for item 15 (easier for student to get job at home) indicate that

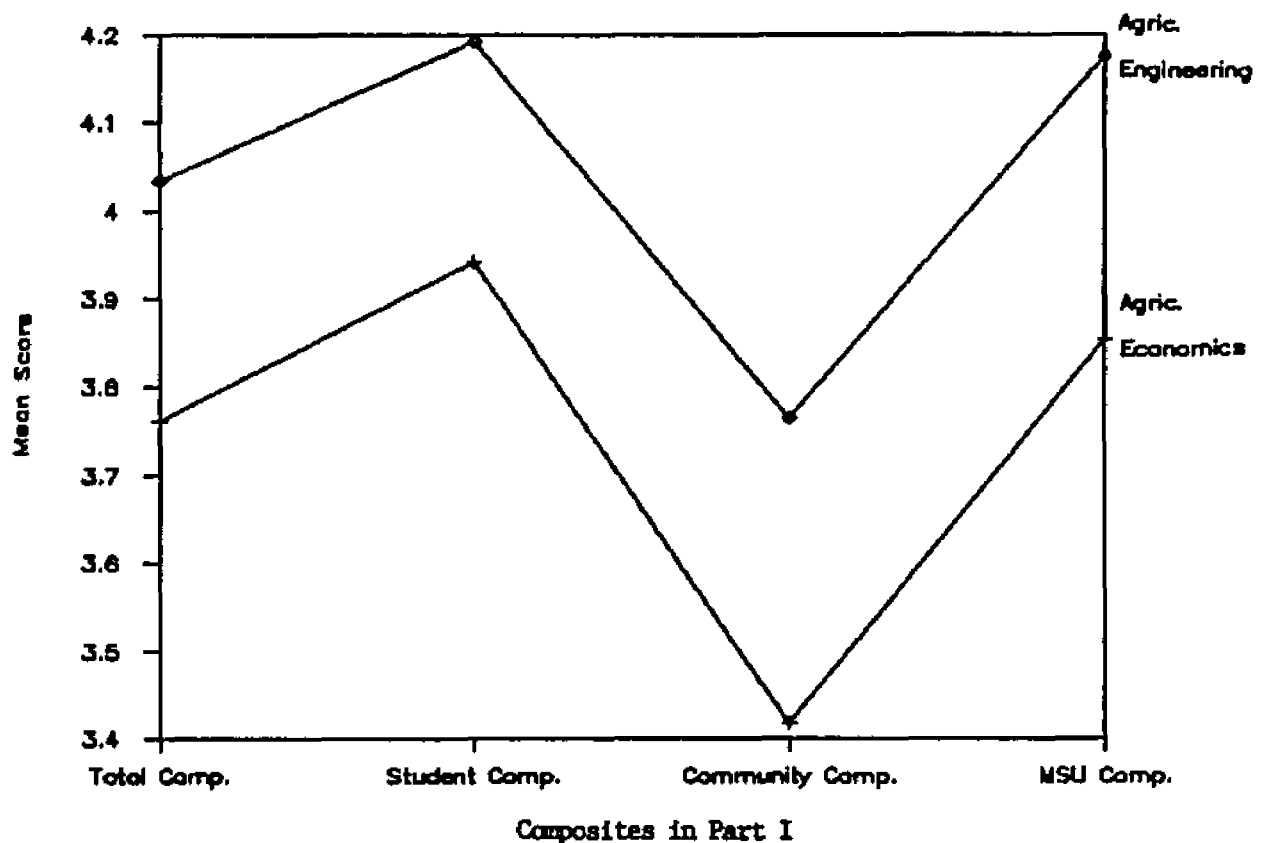


Figure 22. Attitudes of student respondents grouped by department

AGEN students had a higher mean score (4.000) than did AGECE students (3.000), Agricultural and Extension Education (AEE) students (3.143), or CSS students (3.231). Mean scores for item 24 (community access to trade information) showed the HORT (4.091), Animal Science (ANSC) (3.947), and AGEN (3.900) students to have higher mean scores than either the AEE (3.143) or AGECE (3.333) students.

Faculty respondents from the AEE Department produced the highest mean score in every composite category as indicated by Figure 23. The ANSC and AGECE faculty respondents produced either the second or third highest mean scores for each of the composites.

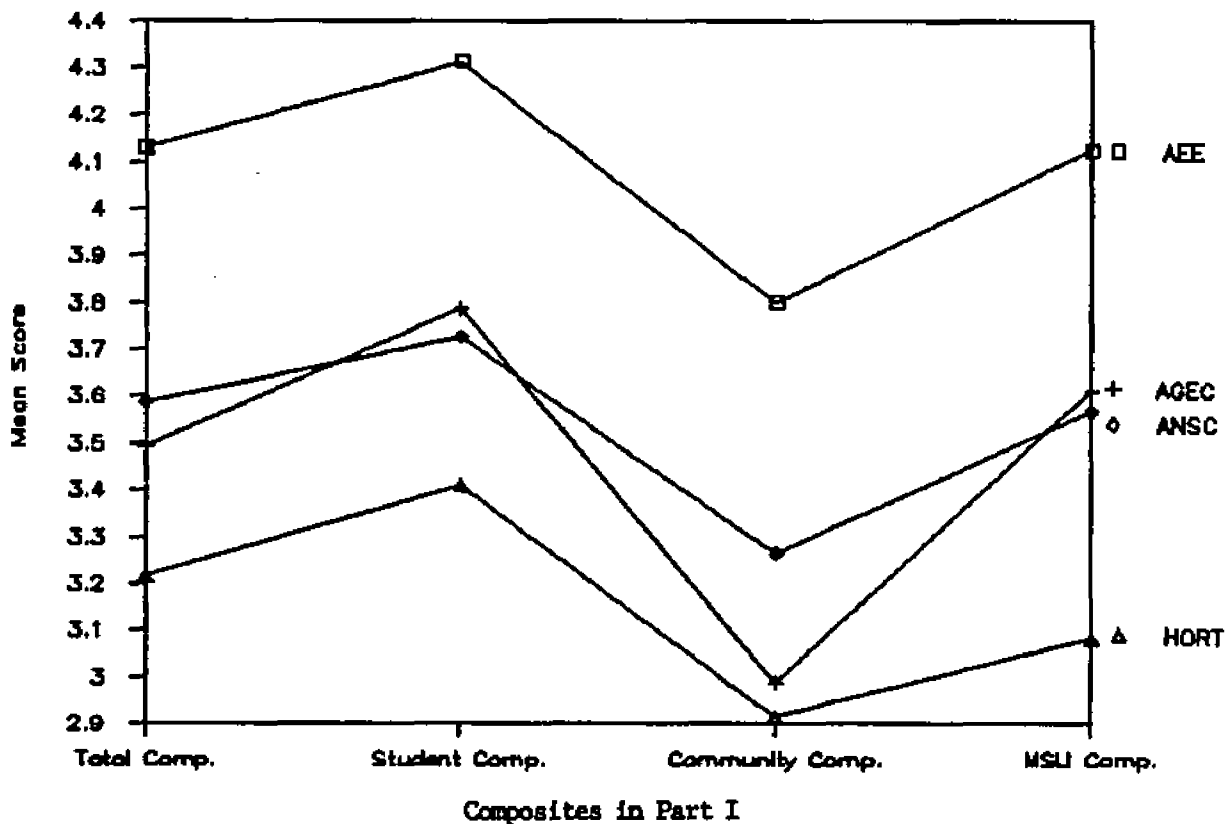


Figure 23. Attitudes of faculty grouped by department

The HORT faculty respondents had the lowest mean scores on all the composites except the community benefit composite. The highest standard deviation scores on several composites and individual questionnaire items were recorded by the AGEN faculty group.

Five individual items from Part I produced wide ranges of mean scores between faculty departmental groups. Data for item 1 (provide cultural information to the community) indicated high scores for the AEE (5.000) and AGECE (4.100) faculty groups. The HORT faculty group recorded the lowest mean score (3.154) on item 1. Mean scores from item 2 (strengthen ties with MSU and community) were high for AEE (4.250) and ANSC (4.000) faculty groups but low for the HORT faculty group (2.923). Data from item 10 (provide technical skill from student home) showed AEE faculty (3.750) at the high end and AGECE faculty (2.200) at the low end of the mean score scale.

The AGEN faculty group produced the lowest score (2.200) for item #22 (less benefit than comparable American) and AEE (4.000), AGECE (3.500), and ANSC (3.389) faculty groups produced higher scores. The widest range of scores was recorded on item 24 (community access to trade information for all items in Part I --the AGECE faculty group had the lowest mean score (1.889) and the AEE faculty group had the highest mean score (4.250). All faculty groups, except the HORT respondents (3.000), recorded positive mean scores for item 25 (satisfy important need of student), with the AEE (4.750) and AGECE (4.200) faculty groups recording the highest mean scores.

The comparison of faculty and student mean scores on the total attitude composite is presented in Figure 24. The graph indicates similarities and differences between attitudes of student and faculty respondents from the same departments. The largest discrepancy in measured attitude was between the higher total attitude mean score of the AGEN students (4.034) and the lower total attitude mean score of the AGEN faculty (3.228). At the other extreme, the AEE faculty members (4.130) demonstrated a slightly higher attitude toward a practical training experience when compared to their AEE student advisees (3.920).

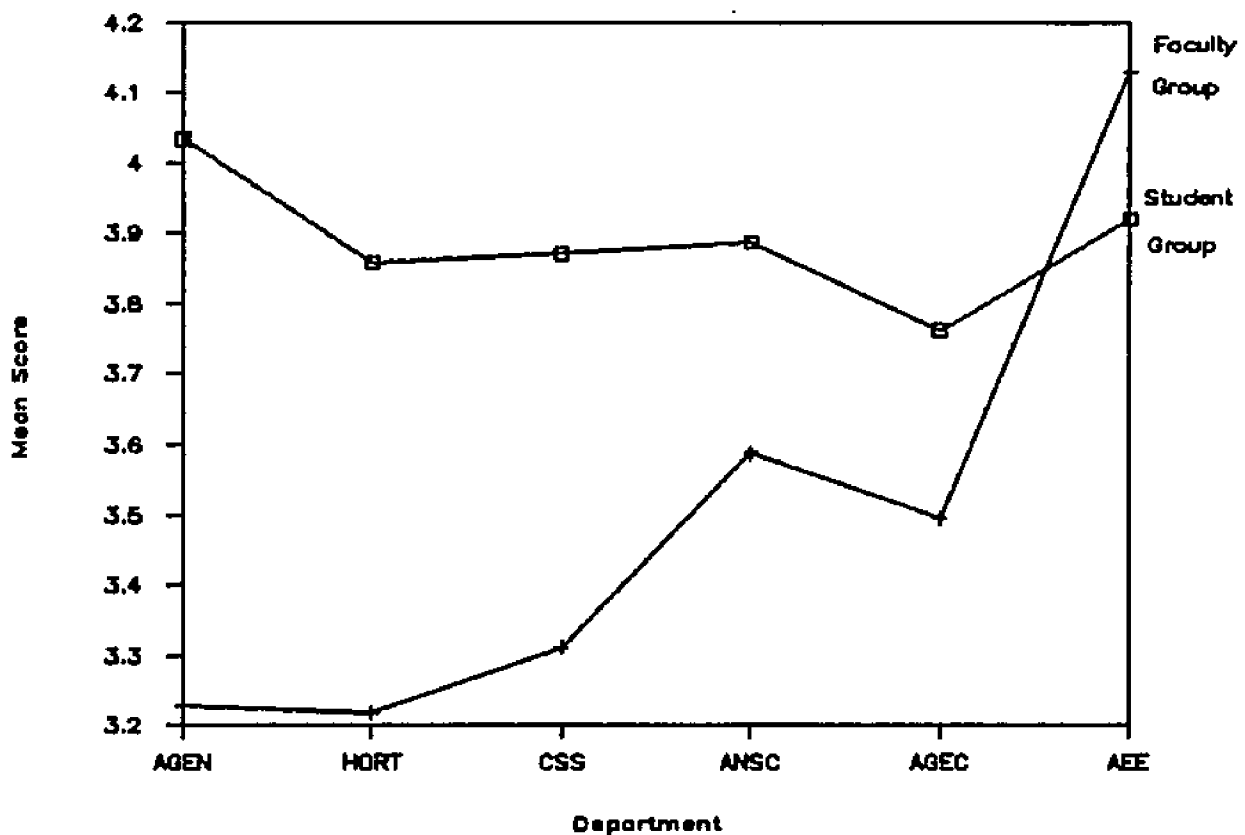


Figure 24. Comparison of students and faculty attitudes grouped by department

Vo-Ag Instructor Group by Selected Characteristics

When data from the Vo-Ag instructor group divided by four categories representing years in current job was subjected to ANOVA tests for items in Part I, significant differences were noted on two composites. Vo-Ag instructors with 20 or more years of experience had a higher mean score (3.784) on the total benefit composite than did both the 5 to 9 years of experience age group (3.516) and the 10 to 19 years of experience age group (3.585) as indicated by data reported in Table 23 and Figure 25. Mean scores from the student benefit composite indicate that the 20 or more years of experience group (4.051) was significantly higher than the 5 to 9 years of experience group (3.838).

Mean scores and standard deviations for Vo-Ag instructors grouped by the FFA region are presented in Table 24 and Figure 26. A review of the data shows that the Vo-Ag instructors from Region 2 had the highest mean score on three out of the four composites. Region 6 instructors had the second highest mean score for three out of the four composites. The three lowest sets of mean scores for the composites were computed for Vo-Ag instructors from Region 1, Region 5, and Region 7. Instructors from Region 8 showed the greatest difference between scores for the three different composites by recording the highest mean score (4.159) for the student benefit and the second lowest (3.080) mean score for the community benefit composites.

Table 23. ANOVA for items in Part I by Vo-Ag instructor years in current job

1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item description	0-4yrs (n=22) Mean S.D.	5-9 yrs (n=19) Mean S.D.	10-19 yr (n=34) Mean S.D.	20 or > (n=29) Mean S.D.	F Stat- istic	Level of Signif- icance	Signif. t-test bet group p. < .05
Total attitude composite No. 1-25	3.718 0.398	3.516 0.287	3.585 0.398	3.784 0.354	2.609	0.055	**(243, 4)
Student benefit composite	4.004 0.407	3.838 0.342	3.922 0.324	4.051 0.315	1.696	0.172	** (4, 2)

** 1=0-4 yrs 2=5-9 yrs 3=10-19 yrs 4=20 or > yrs

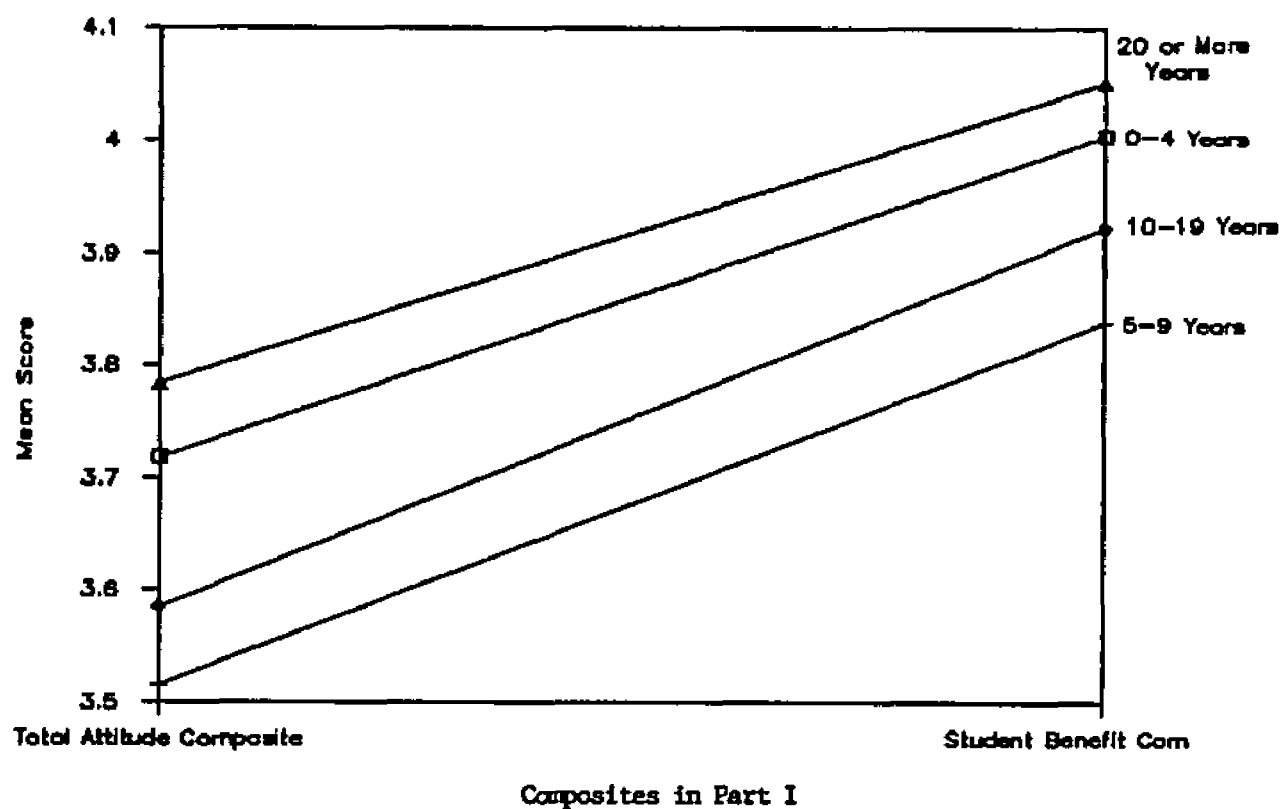


Figure 25. Attitudes of Vo-Ag instructors grouped by years of teaching experience

Table 24. Mean scores for Vo-Ag instructors by FFA region for composites in Part I 1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item description	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8
	(n=17)	(n=13)	(n=13)	(n=14)	(n=13)	(n=8)	(n=16)	(n=11)
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Total attitude composite No. 1-25	3.458 0.470	3.857 0.332	3.726 0.290	3.720 0.337	3.528 0.305	3.760 0.631	3.620 0.318	3.672 0.252
Student benefit composite	3.823 0.416	4.035 0.426	3.981 0.207	4.042 0.328	3.782 0.251	4.011 0.489	3.901 0.250	4.159 0.344
Community benefit composite	3.031 0.534	3.492 0.403	3.362 0.448	3.286 0.415	3.192 0.547	3.443 0.702	3.263 0.403	3.080 0.308
MSU benefit composite	3.414 0.738	3.904 0.412	3.740 0.333	3.670 0.297	3.548 0.400	3.766 0.783	3.563 0.438	3.761 0.431

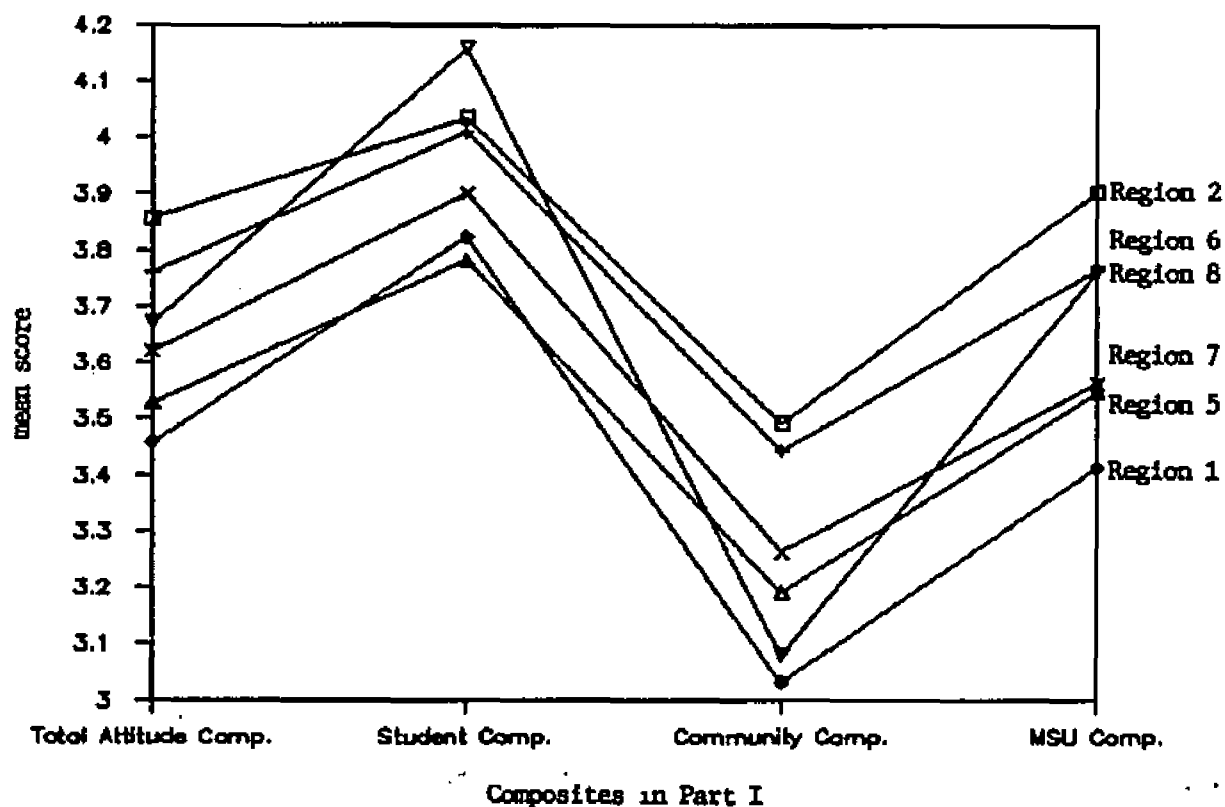


Figure 26. Attitudes of Vo-Ag instructors grouped by FFA region

Combined CES Field Agent and CED Groups by Region

Primary differences in mean scores between combined CES field agent and CED groups by supervisory region were found between the higher composite scores of the West Central and Upper Peninsula Regions as compared to the lower composite scores of the Southwest and Southeast Regions. The West Central and Upper Peninsula respondents were the highest or second highest for each of the four composites as indicated by data presented in Table 25 and Figure 27. Respondents from the two lowest regions, the Southwest and Southeast, had the lowest or second lowest mean scores on three out of the four composites for Part I.

Combined Faculty, CES, CED, and Vo-Ag Groups

Mean scores, standard deviations, and ANOVA results for selected composites and individual items in Part I grouped by combined Faculty, CES, CED, and Vo-Ag groups years of work experience outside of the United States are reported in Table 26. On the total attitude composite, a significant difference was computed between the highest mean score of the group with no experience (3.631) and the mean score of the group with less than one year of overseas work experience (3.500). Data from the student benefit composite, item #11 (not justifiable investment of student time), and item #17 (detract from academic curriculum in major) each show that the group with no experience computed significantly higher mean scores than both the group with less than one year and the group with 1-2 years of work experience

Table 25. Mean scores for combined CES/CED groups by region for composites in Part I 1=SD 2=D 3=J 4=A 5=SA
(scores for neg. items reversed)

Item description	U.P.	E. Cent.	W. Cent.	North	S. West	S. East
	(n=13)	(n=25)	(n=26)	(n=23)	(n=19)	(n=29)
	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
Total attitude composite No. 1-25	3.723 0.260	3.628 0.352	3.760 0.217	3.663 0.274	3.568 0.423	3.609 0.436
Student benefit composite	3.917 0.277	3.879 0.306	4.022 0.279	3.807 0.276	3.904 0.404	3.914 0.410
Community benefit composite	3.400 0.316	3.240 0.470	3.377 0.287	3.353 0.356	3.095 0.440	3.189 0.560
MSU benefit composite	3.731 0.288	3.645 0.414	3.784 0.256	3.673 0.388	3.559 0.533	3.616 0.503

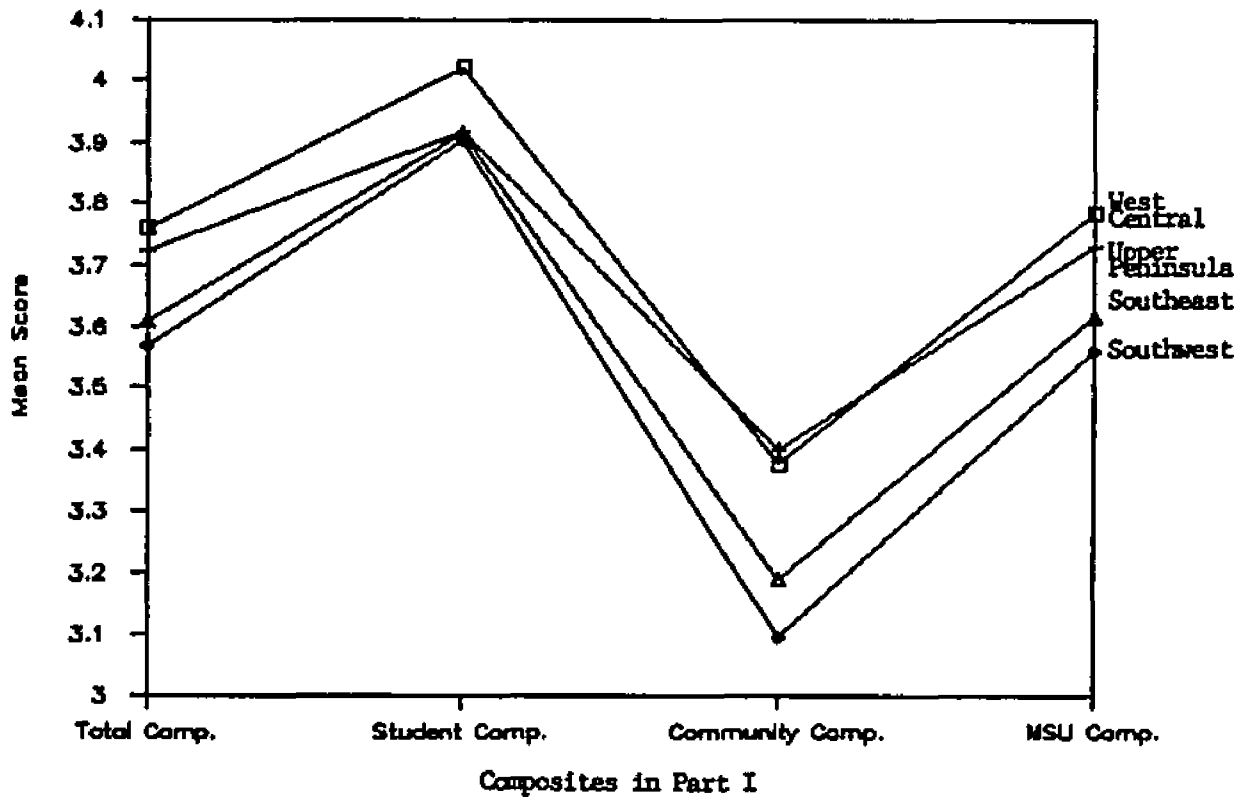


Figure 27. Attitudes of combined CES/CED groups by supervisory region

Table 26. ANOVA for combined FAC, CES, CED, & VOAG groups for items in Part I by overseas work experience 1=SD 2=D 3=U 4=A 5=SA
(Scores for negative items reversed)

Item No.	Item description	None (n=206) Mean S.D.	< 1 yr (n=68) Mean S.D.	1-2 yrs (n=19) Mean S.D.	> 2 yrs (n=23) Mean S.D.	F Stat- istic	Level of Signif- icance	Signif. t-test bet group p. < .05
ALL	Total attitude composite No. 1-25	3.631 0.388	3.500 0.430	3.547 0.415	3.615 0.425	1.811	0.144	** (2, 1)
	Benefit to student composite	3.922 0.382	3.712 0.489	3.702 0.518	3.822 0.474	5.064	0.002	** (2&3, 1)
9.	Realistic understanding of U.S.	4.466 0.573	4.328 0.533	4.368 0.761	4.696 0.470	2.616	0.050	** (4, 2)
*11.	Not justify invest of student time	3.990 0.869	3.731 0.978	3.421 1.121	3.957 1.022	3.149	0.025	** (2&3, 1)
12.	Applic of theory and techniques	3.961 0.718	3.627 0.813	3.789 0.713	3.522 1.039	4.794	0.003	** (2&4, 1)
*13.	Only attractive if U.S. wants trade	3.947 0.707	3.970 0.602	4.053 0.780	4.500 0.512	4.484	0.005	** (1&2&3, 4)
*14.	Means for student to remain in U.S.	3.791 0.826	3.985 0.707	4.158 0.688	4.304 0.822	4.183	0.007	** (4, 1)
15.	Easier for student to get job at home	3.694 0.758	3.448 0.875	3.316 0.749	3.217 0.951	4.287	0.006	** (2&3&4, 1)
*17.	Detract from acad. curric. in major	3.777 0.654	3.388 1.058	3.158 1.167	3.652 0.935	6.311	0.001	** (2&3, 1)
24.	Community access trade information	3.216 0.895	3.029 0.897	2.833 1.098	2.682 0.995	3.236	0.022	** (4, 1)
25.	Satisfy important need of student	3.971 0.616	3.761 0.780	3.737 0.991	4.174 0.778	3.011	0.030	** (1&4, 2) (4, 3)

* = Negative items with scores reversed

** 1=None 2= < 1 yr 3= 1-2 yrs 4= > 2 yrs

outside of the U.S. In addition, the group with no experience scored significantly higher on item 12 (application of theory and techniques) and item 15 (easier for student to get job at home) than did the group with two years or more experience.

The group with the most overseas work experience had a score that was significantly higher (4.500) than each of the other three groups on item *13 (only attractive if U.S. wants trade). By way of contrast, the group with the most overseas work experience reported the lowest mean score (2.682) on item 24 (community access to trade information).

Those respondents with two or more years of work experience outside of the U.S. computed higher mean scores than each of the other groups on item 9 (realistic understanding of U.S.), item *14 (means for student to remain in U.S.), and item 25 (satisfy important need of student). The group with no experience had a significantly lower mean score (3.791) on item *14 than did the group with two or more years of work experience outside of the U.S.

Problems Encountered During a Practical Experience

Mean score, standard deviations, as well as ANOVA and t-test results, for the total problem composite and for all but one of the questionnaire items in Part II are presented in Table 27. Data is displayed for the five respondent groups and the total sample mean. Individual items are arranged in the table with the item displaying the highest total sample mean score at

Table 27. ANOVA for items in Part II: Problems

Scale: 1=NOT problem 2=SMALL problem
3=MODERATE problem 4=SERIOUS problem

Item No.	Item description	Total Mean S.D.	Faculty Mean S.D.	Student Mean S.D.	CES Mean S.D.	CED Mean S.D.	VOAG Mean S.D.	F Probab- ility	Level of Signif- icanace	Signif. t-test Between groups p. < .05
ALL	Total Problem Composite #27-39	2.055 0.473	2.040 0.542	1.953 0.426	2.139 0.473	1.989 0.433	2.173 0.485	1.603	0.174	** (5, 2)
29.	English ability of student	2.555 0.859	2.494 0.955	2.123 0.801	2.823 0.820	2.822 0.770	2.696 0.755	11.860	0.001	** (28384, 1) (38485, 2)
31.	Transportation for student	2.491 0.969	2.507 0.978	2.350 1.058	2.656 0.929	2.500 0.897	2.516 0.944	0.990	0.586	
36.	Workers Comp for host	2.335 1.019	2.537 0.966	1.727 0.795	2.407 1.000	2.508 1.057	2.518 1.042	8.222	0.001	** (1838485, 2)
34.	Balance student and host needs	2.209 0.846	2.274 0.854	2.126 0.904	2.159 0.677	2.181 0.893	2.300 0.847	0.716	0.584	
32.	Housing for student	2.172 0.950	2.093 0.903	2.392 1.100	2.206 0.864	2.181 0.828	1.980 0.927	2.582	0.036	** (561, 2)
30.	Practical knowledge and skill of stud.	2.169 0.848	2.419 0.891	1.848 0.852	2.333 0.857	2.127 0.773	2.255 0.764	6.563	0.001	** (284, 1) (38485, 2)
39.	Approval from stud financial sponsor	2.114 1.020	2.424 0.929	2.178 1.220	1.872 0.850	1.816 0.727	2.087 1.011	3.414	0.010	** (384, 1) (4, 2)
37.	Approval from Immigration (INS)	2.053 1.018	2.192 1.049	2.153 1.230	1.925 0.829	1.733 0.863	2.113 0.851	1.783	0.131	** (182, 4)
27.	Cultural difference with community	2.033 0.747	1.987 0.774	2.000 0.797	2.033 0.632	2.000 0.707	2.126 0.776	0.556	0.698	
28.	General unfriendliness of community	1.801 0.896	1.597 0.748	2.340 1.025	1.656 0.704	1.486 0.692	1.720 0.877	14.858	0.001	** (1838485, 2)
33.	Religious differences with communi	1.720 0.818	1.667 0.794	1.505 0.795	1.762 0.777	1.611 0.640	2.042 0.917	6.189	0.001	** (3, 2) (1828384, 5)
38.	Approval from stud faculty advisor	1.567 0.778	1.831 0.923	1.417 0.735	1.538 0.779	1.537 0.605	1.556 0.742	3.285	0.012	(2838485, 1)

** 1=FAC 2=STU 3=CES 4=CED 5=VOAG

the top of the table followed by the remaining items listed below in descending order of mean score. The item displaying the lowest total mean score appears at the bottom of the table. A four-point scale with the following values was used:

- 1 = Probably NOT Problem
- 2 = Probably SMALL Problem
- 3 = Probably MODERATE Problem
- 4 = Probably SERIOUS Problem

A fifth response category: (5 = no opinion), was provided for respondents but the value of "5" was not entered as a numerical value for statistical analysis purposes. All "no opinion" and multiple answers were coded the same as a nonresponse. The percentage of nonresponse for each item in Part II is presented in Appendix D. Because item 35 (tax liability for host) received the highest total sample percentage (31.8%) of nonresponse, in addition to several written comments from respondents about the item's ambiguity, it was excluded from presentation in Table 27. Other items that were included in Table 27 but which received greater than a one-fifth nonresponse rate for the total sample were item 36 (Worker's Compensation for host), item 37 (approval from immigration), and item 39 (approval from student financial sponsor).

The mean scores for the total problem composite ranged from a low of 1.953 for the student group to a high of 2.173 for the Vo-Ag instructor group. The items that were rated in the top five by each of the five groups, based on mean scores, are presented in Table 28.

Table 28. Problems receiving highest mean scores for each respondent group

Faculty	Students	CES	CED	Vo-Ag
1. Workers Comp.	Housing	English	English	English
2. Trans-port.	Trans-port.	Trans-port.	Workers Comp.	Workers Comp.
3. English	Unfriendly community	Workers Comp.	Trans-port.	Trans-port.
4. Sponsor approval	Sponsor approval	Practical knowledge	Balance needs	Balance needs
5. Practical knowledge	Immigrat. approval	Housing	Housing	Practical knowledge

The item that was rated the highest by the total sample, as well as by each of the CES field agent, CED, and Vo-Ag instructor groups, was item 29 (English ability of student). The student group mean score (2.123) for item 29 was rated as only the seventh most important problem for the student group and was significantly lower than each of the other four respondent groups. In addition, the mean score for the faculty group (2.494) on item 29 was significantly lower than both the CES field agent (2.823) and CED (2.822) groups. A comparison between respondent groups mean scores for the total problem composite and item 29 is displayed in Figure 28.

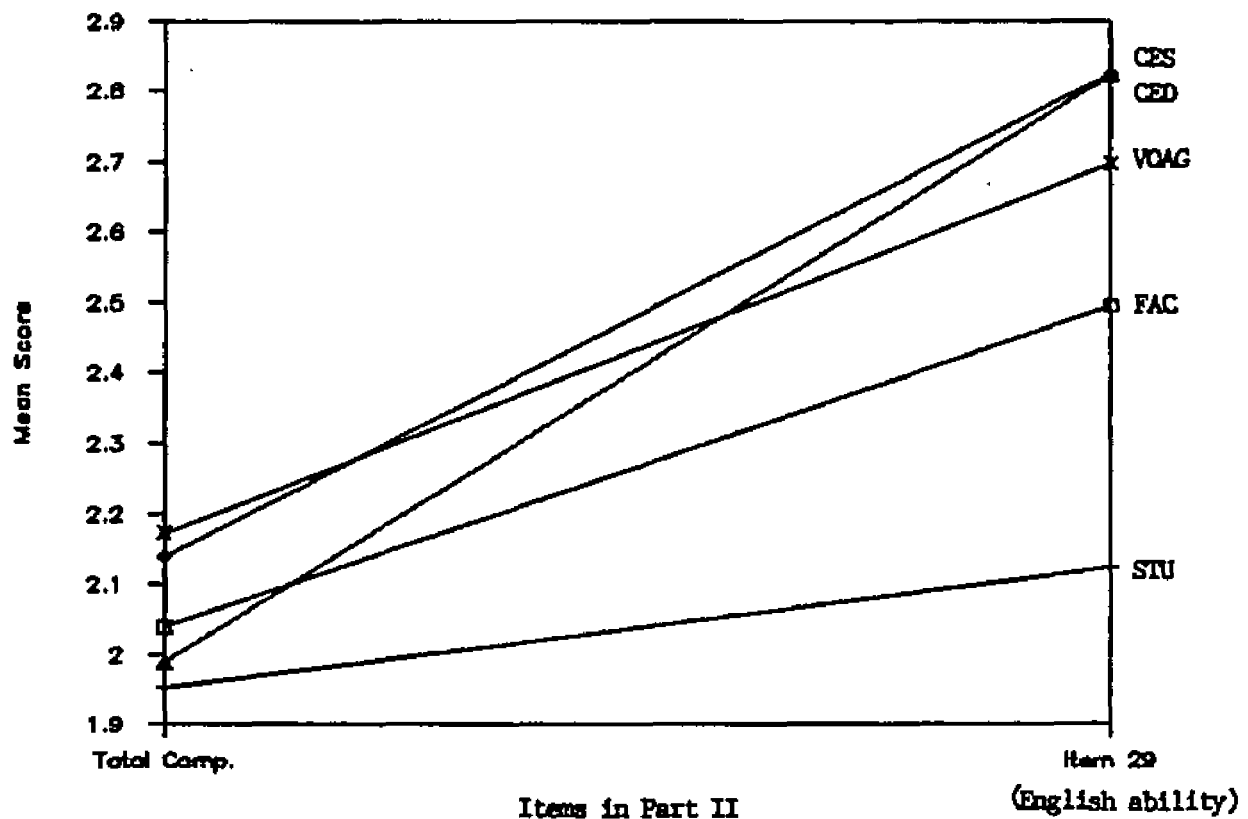


Figure 28. Potential problem of student English speaking ability

Item 31 (transportation for student) was ranked as one of the top two or three problem items by each respondent group and no significant differences were reported between group mean scores. Item 36 (Workers Compensation for host) was rated in the top two or three items by each of the faculty, CES field agent, CED, and Vo-Ag instructor groups and each had a significantly higher mean score than the student group. The mean scores for item 30 (practical knowledge and skill of student) also showed that the student group was significantly lower than each of the other four groups.

The student group demonstrated the most concern, of all the problems listed in Part II, about item 32 (housing for student).

The mean score for the student group (2.392) on item 32 was significantly higher than both the faculty (2.093) and Vo-Ag instructor (1.980) groups.

The largest difference in mean scores of any item in Part II came between the students and the other four groups on item 28 (general unfriendliness of community). The student group ranked item 28 as their third most important concern with a mean score of 2.340 and was significantly higher than each of the faculty (1.597), CES field agent (1.656), CED (1.486), and Vo-Ag instructor (1.720) groups.

The student and faculty groups registered the most concern about getting approval from the student financial sponsor. Both faculty and student groups ranked item 39 (approval from student financial sponsor) as their fourth most important concern. None of the groups ranked the problem of getting approval from immigration or a student's faculty advisor in their group of top five concerns. It is interesting to note, however, that the faculty advisor group reported a significantly higher mean score than each of the other groups on item 38 (approval from student faculty advisor).

Very few significant differences were discovered to exist between the CES field agent, CED, or Vo-Ag instructor groups on items in part II. One of the few differences occurred on item 33 (religious differences with community) where the mean score of the Vo-Ag instructor group (2.042) was significantly higher than each of the other four groups.

Selected Demographic Characteristics

Data for the student group divided into four regions of origin on the total problem composite and item 28 (general unfriendliness of community) are displayed in Figure 29. The total problem composite data did not indicate any significant differences between students in different regions when subjected to ANOVA and t-tests. However, a significant difference was identified on item 28 (general unfriendliness of community) between the higher mean score of the African students (2.614) and the lower mean score of the South & East Asian students (1.889).

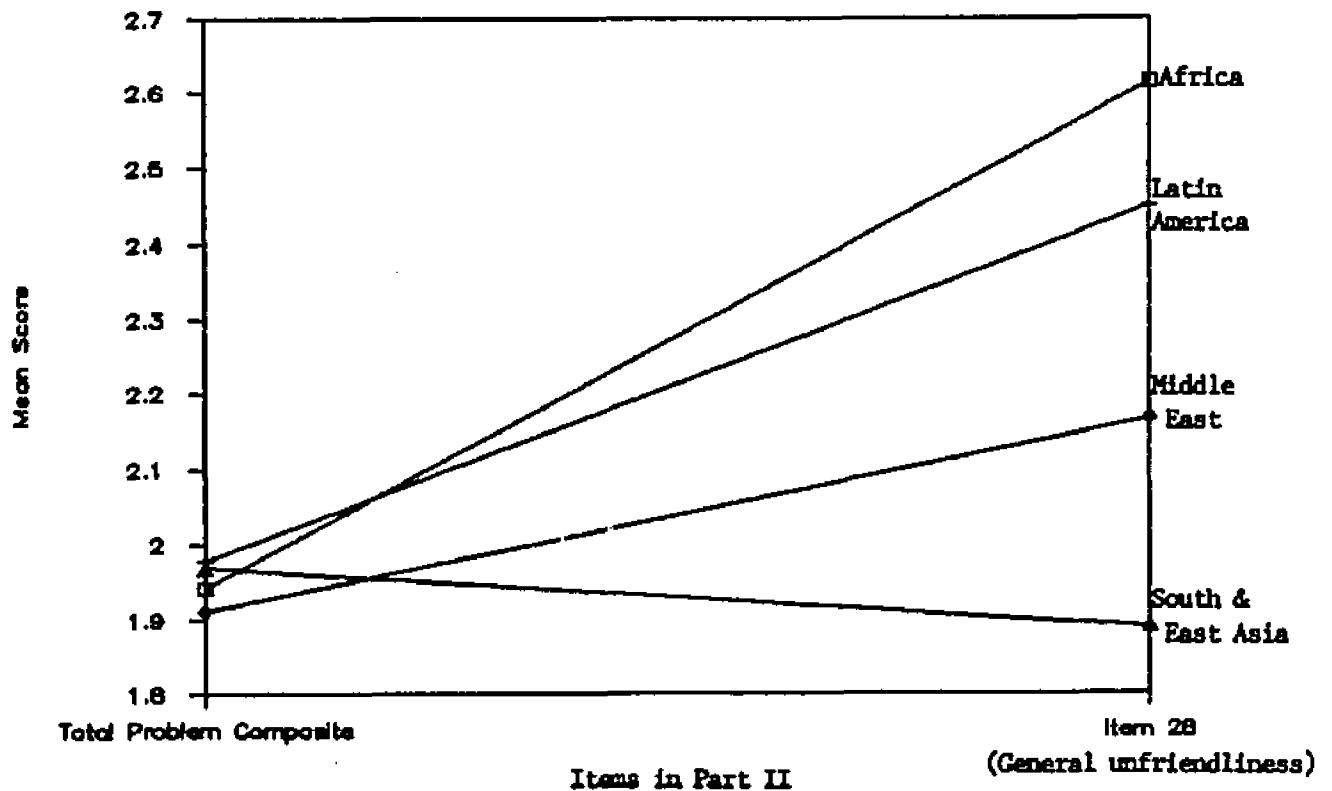


Figure 29. Anticipated problems of students by region of origin

The Vo-Ag instructor group was divided into eight regions for analysis on items in Part II (see Table 29). Vo-Ag teachers from Region 5 had the highest mean score (2.600) on the total problem composite and ranked with consistently high scores on other individual problem items. The Region 5 instructors were more concerned when compared to instructors from other regions, with item 27 (cultural differences with community), item 33 (religious differences with community), item 29 (English ability of student), item 32 (housing for student), item 31 (transportation for student) and item 36 (Workers Compensation for host). The lowest mean scores for the total problem composite are recorded by Vo-Ag instructors from Region 1 (1.939), Region 7 (1.974), and Region 8 (2.077).

Even though Vo-Ag instructors from Region 8 recorded a low mean score on the total problem composite (2.077), they still recorded the highest mean score (2.200) of all the groups for item 28 (general unfriendliness of community) and the second highest mean score (2.818) for item 29 (English ability of the student). In addition, it is notable that Vo-Ag instructors from Region 2 recorded the highest mean score for item 32 (housing for the student) and instructors from Region 4 recorded the highest mean score for item 31 (transportation for the student).

The combined CES field agent and the CED groups were separated into the six CES supervisory regions for data analysis purposes. Respondents from the Southwest Region recorded the

Table 29. Mean scores for Vo-Ag instructors for items in Part II by FFA region

1=NOT problem 2=SMALL problem
3=MOD problem 4=SERIOUS problem

Item No.	Item description	Region 1 (n=17)	Region 2 (n=13)	Region 3 (n=13)	Region 4 (n=14)	Region 5 (n=13)	Region 6 (n=8)	Region 7 (n=16)	Region 8 (n=11)
		Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
ALL	Total problem composite No.27-39	1.939 0.604	2.167 0.455	2.192 0.610	2.442 0.689	2.600 0.314	2.205 0.445	1.974 0.338	2.077 0.431
27.	Cultural difference with community	1.813 0.750	2.333 0.778	2.077 0.760	2.071 0.730	2.462 0.877	2.250 1.035	2.125 0.619	2.000 0.775
28.	General unfriendliness of community	1.625 0.719	1.667 0.888	1.615 0.768	1.385 0.650	1.769 0.832	1.875 1.356	1.800 0.775	2.200 1.229
29.	English ability of student	2.750 0.683	2.385 0.768	2.308 0.630	2.571 0.514	3.308 0.751	2.750 0.707	2.714 0.914	2.818 0.751
31.	Transportation for the student	2.357 0.842	2.300 1.059	2.417 0.793	3.077 0.862	3.000 1.044	2.625 0.518	2.133 0.915	2.273 1.104
32.	Housing for student	1.533 0.516	2.583 0.900	2.077 0.862	2.000 0.877	2.385 1.193	2.125 0.991	1.533 0.743	1.818 0.982
33.	Religious differences with community	2.067 0.704	2.182 0.874	1.615 0.870	1.923 0.760	2.417 1.165	2.125 0.835	2.000 1.000	2.111 1.167
36.	Workers Camp for host	2.714 1.069	2.545 1.128	2.333 0.866	2.714 1.069	3.091 0.944	2.167 1.169	1.923 0.954	2.429 0.976

highest mean score (2.410) on the total problem composite and ranked with consistently high scores on other individual problem items in Part II (see Table 30). The Southwest Region respondents had the highest mean scores, in relation to respondents from other regions, on item 31 (transportation for the student), item 34 (balance between student and host needs), and item 38 (approval from student faculty advisor). The respondents from the North (1.881) and Upper Peninsula (1.913) Regions recorded the lowest mean scores on the total problem composite. CES field agents and CEDs from the North and Upper Peninsula Regions also recorded the lowest mean scores, in relation to respondents from other regions, on item 28 (general unfriendliness of community) and item 31 (transportation for student).

Written Comments

Respondents were encouraged to suggest other possible problems by providing written comments. Following are a sample of the written suggestions made by respondents:

Faculty Group

"Willingness of international student to participate would be a serious problem. They would view this as forced labor".

"...grad students need summer period to do thesis research. Putting them into practical situation takes away time needed to do what is necessary for advanced degree."

"Sometimes home country wants student back ASAP. Don't agree to non-academic delays."

Table 30. Mean scores for combined CES/CED groups in Part II by supervisory region

1=NOT prob 2=SMALL prob.
3=MID prob 4=SERIOUS prob

Item No.	Item description	U.P. (n=13) Mean S.D.	E. Cent. (n=25) Mean S.D.	W. Cent. (n=26) Mean S.D.	North (n=23) Mean S.D.	S. West (n=19) Mean S.D.	S. East (n=29) Mean S.D.
ALL	Total problem composite No.27-39	1.913 0.323	2.015 0.267	2.159 0.603	1.881 0.374	2.410 0.626	2.077 0.427
27.	Cultural difference with community	2.077 0.641	2.250 0.737	1.962 0.528	2.000 0.522	1.833 0.618	1.897 0.772
28.	General unfriendliness of community	1.308 0.480	1.625 0.711	1.640 0.700	1.348 0.573	1.368 0.684	1.821 0.772
30.	Practical knowledge and skill of stud.	1.503 0.669	2.542 0.884	2.280 0.891	2.227 0.813	2.474 0.612	2.000 0.720
31.	Transportation for student	2.462 1.050	2.583 0.881	2.480 0.872	2.174 0.937	2.941 0.899	2.793 0.819
34.	balance student and host needs	1.692 0.751	2.292 0.751	2.077 0.744	2.087 0.793	2.579 0.769	2.103 0.772
38.	Approval from stud faculty advisor	1.455 0.522	1.524 0.512	1.591 0.854	1.313 0.479	1.857 1.027	1.500 0.598

Student Group

"I wonder (if) we could get the time for a practical training experience during the continuous studying plan for MS or PhD."

"The student is likely to feel isolated during the practical experience"

"...some students came here to be trained in agriculture and their background in agriculture is not enough to gain the experience in a short period of time."

CES Field Agent Group

"Liability for chemical or other recommendation made by the graduate student."

"Cultural and work ethics and practical experiences of foreign student can sometimes clash with local customs."

"Our area is very culturally oriented. Many families are first or second generation Scandinavians."

CED Group

"Many of the concerns would not be a problem if the program was developed as an internship and pay was not derived from the experience."

"With current agriculture outlook including foreign imports, I'm hearing increased concern about sharing our 'secrets'—production ideas, varieties, equipment, markets, etc. with outsiders."

"Problem of matching students' interests, departments' interests, and local experience at knowledge level of intern and host."

"Students from Iran, Iraq, USSR, and Libya would be least accepted by rural folks."

"Local area (does) not view MSU as emphasis on international agriculture."

Vo-Ag Instructor Group

"Lack of FFA knowledge and training."

"Are these people anti or pro American? Do they want trade or technical information and/or goods?"

"Labor laws, liability laws moderate or serious problem."

"Due to our crop surplus and competition from foreign countries for trade, many people in our community would not welcome these people with open arms."

"Major problem seems to be that you are assuming that this will help local community through international trade. Those students I've met would not know! Seems we are concerned about getting student out in field when our own agricultural education cannot get the support we need at home."

Terms and Conditions of a Practical Experience

Items in Part III of the questionnaire dealt with terms and conditions that would be desirable if the respondent were to be a participant in a practical training experience. All respondents were given identical versions of questionnaire items in Part III. The terms and conditions covered were: (1) type and amount of payment, (2) length of training experience, and (3) time of year and scheduling. The answer format was multiple choice with an option for a written follow-up response. A summary of relevant descriptive statistics and written comments are included in the discussion that follows.

Payment of Student During Experience

Responses to item 40 (Do you feel the international student should be paid during the practical training experience?) are summarized in Figure 30. A total of 89 out of the 426 respondents in the total sample (21.3%) answered item 40 with a "no" response. The CED group provided the highest number of "no" answers (32.4%). The student group was the most positive group, offering only 4 "no" responses (3.7%).

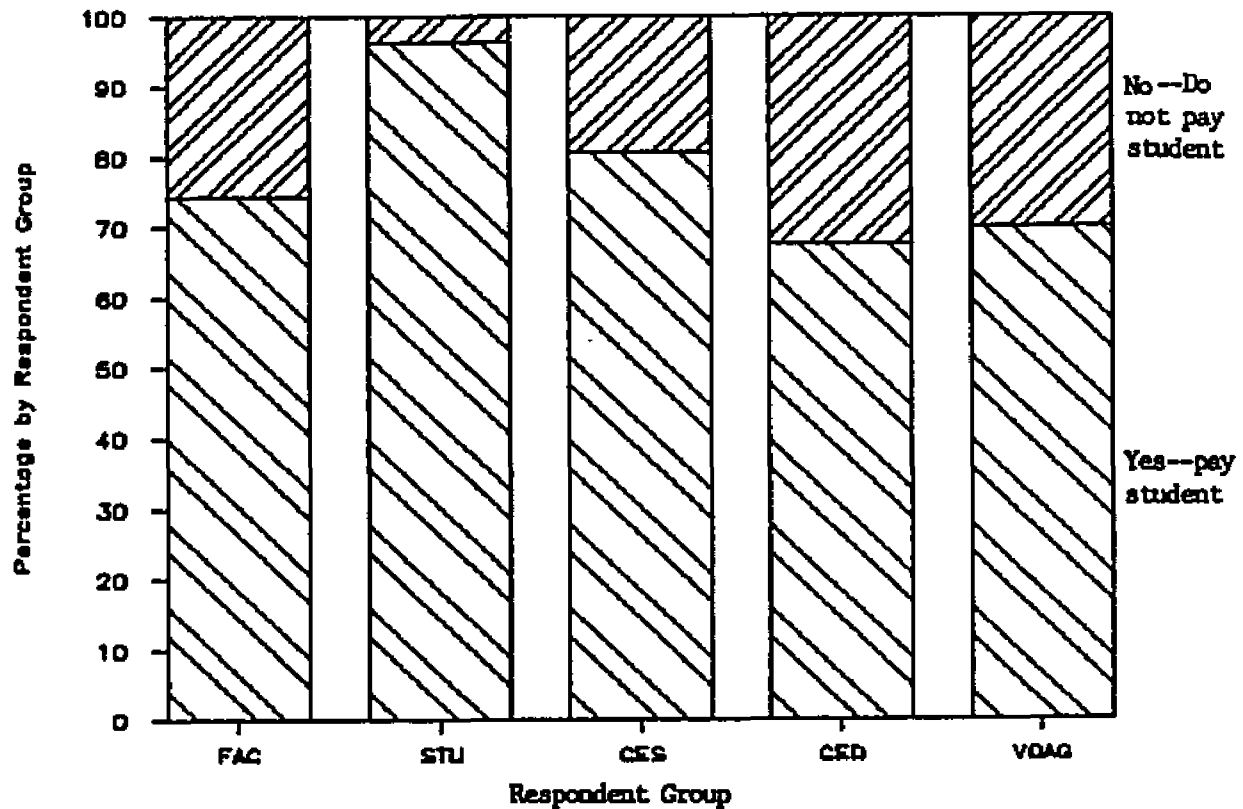


Figure 30. Payment of student during practical training

Those who answered "yes" to item 40, a total of 66.3% selected either "reimbursement for expenses only" or "payment of minimum wage" as the desired amount of compensation as indicated by data presented in Figure 31. Only 19.8% of the total sample indicated a preference for full salary. The student group indicated the highest percentage (30.1%) in favor of full salary. Written comments were provided by 50 respondents for this item. Almost half (23 comments) were suggestions for possible combinations of payments between basic living expenses and full salary. Another group of respondents (24 comments) said that providing an answer to the item was impossible because of numerous variables

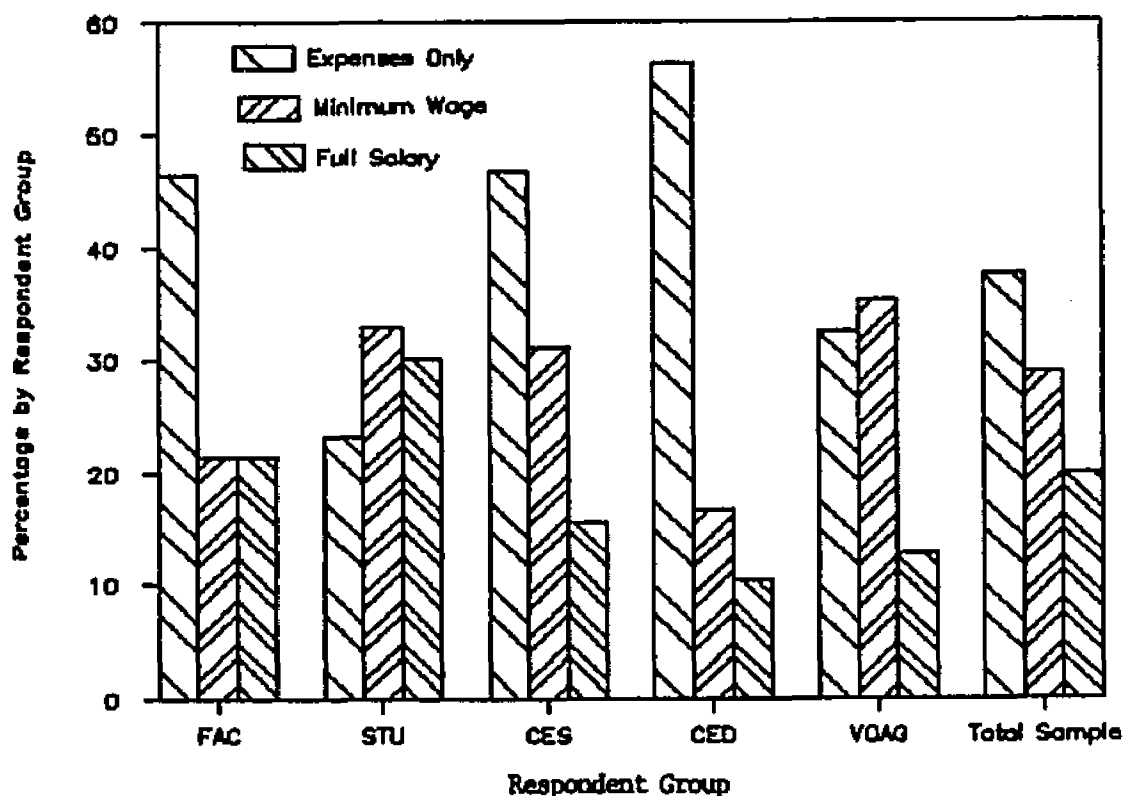


Figure 31. Amount of compensation for student during practical training experience

and unknown factors. Some of the variables and factors listed by respondents were: skill level of student, academic credit, provision of room and board, nature of work assignment, and student language ability.

A total of 47.1% of those who answered "yes" to item 40 selected either the student sponsor or Michigan State University as the desired source of compensation for the practical experience as shown in Figure 32. Only 29.2% of the respondents in the total sample selected the agricultural community in the U.S. category as the preferred source of compensation. However, it is significant to note that a total of 46 out of the 108

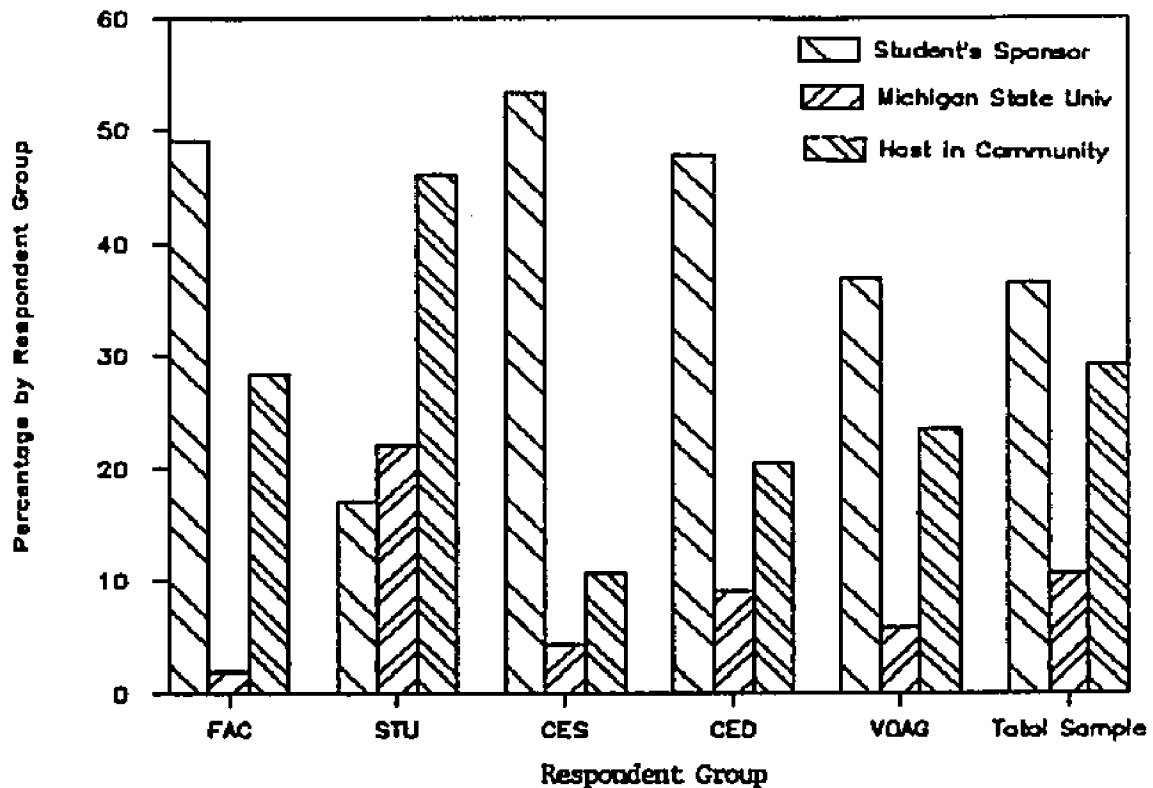


Figure 32. Source of compensation for student during practical training experience

(46.0%) respondents in the student group selected the agricultural community in the U.S. as the preferred source of compensation. In addition, the student group was higher than the other four groups in selecting Michigan State University, and lower than the other four groups in selecting the student sponsor category. A large number of respondents (23.7%) who answered "yes" selected the "other" response category and offered written comments for this item. Of the 75 written comments offered by respondents on item 40, 60 comments suggested possible combinations of funding from the student sponsor, MSU, and the local agricultural community.

Length of Training Experience

Questionnaire item 41 asked respondents to select the most desirable length of time for a practical training experience. A total of 275 out of the 426 respondents in the total sample (65.0%) selected 3-10 weeks as the preferred length as indicated by data shown in Figure 33. The 79 respondents (18.7%) who preferred a longer than 10 week period were requested to add a written comment specifying the desired length. Respondents made 34 written comments, related to this item, that indicated a desired period of from 10 to 16 weeks and another 40 comments that suggested a period of around 6 months. Only 9 written comments were received that suggested a practical training period of over one year duration.

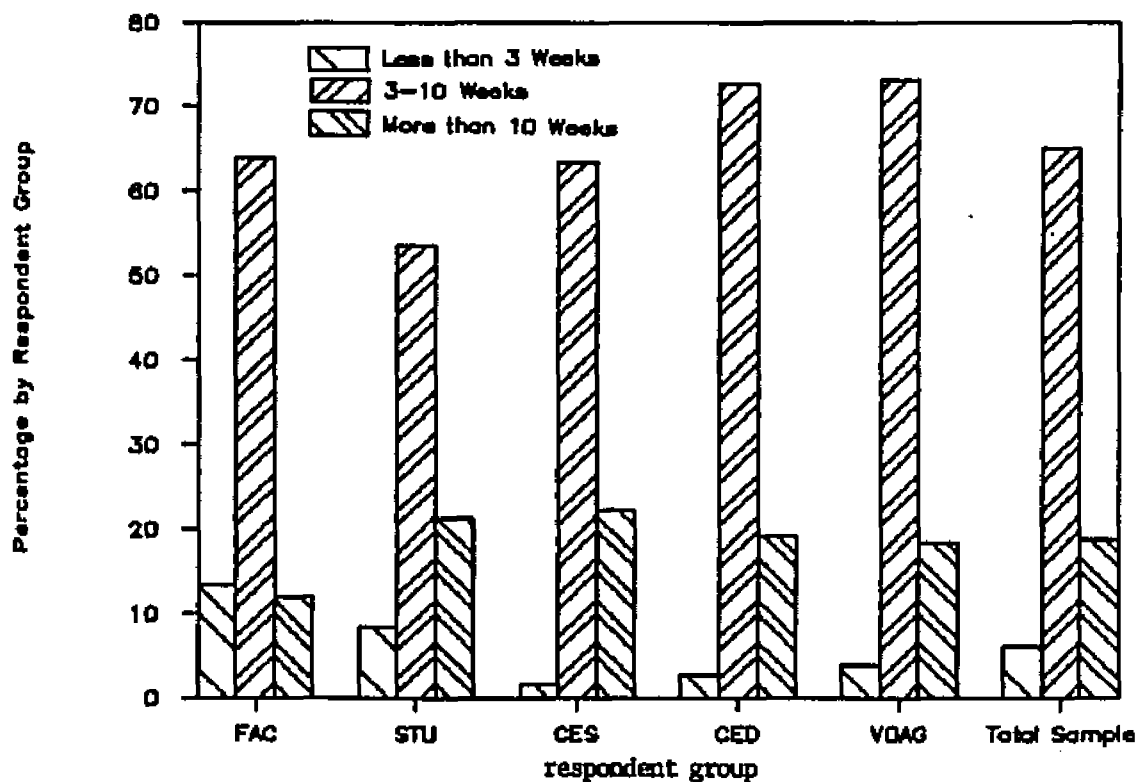


Figure 33. Desirable length of practical training experience

Time of Year and Scheduling of Training Experience

Questionnaire item 42 asked respondents to select a preference regarding time of year for a practical training experience. A total of 244 out of the 426 respondents in the total sample (58.1%) selected summer as the preferred time (see Figure 34). Winter and fall were the two least preferred seasons by all groups. A total 40 of the 95 respondents, who provided written comments on item 42, made suggestions regarding various combinations of seasons. The most frequently occurring written suggestion was for a combination of spring and summer seasons or spring, summer, and fall seasons. In addition, 40 respondents made comments regarding the need to have more unknown factors

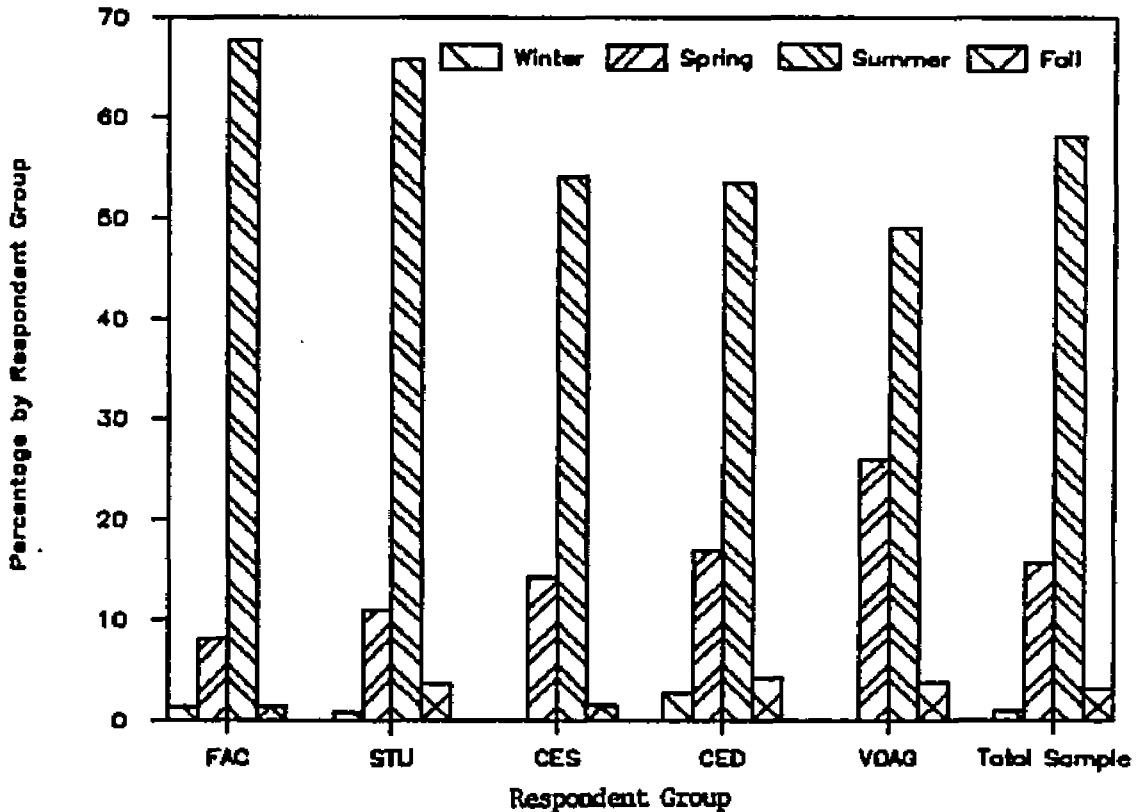


Figure 34. Best time of year for practical training

specified such as student area of interest, agricultural commodity to be studied, and climate of a student's home country in order to provide a meaningful answer to item 42.

The final question in Part III, item 43, asked respondents to select the best schedule for a potential practical training experience. A total of 184 out of the 426 respondents (43.9%) preferred the practical training experience to be full-time during one academic term (see Figure 35). The faculty group expressed the largest preference (25.7%), of all the respondent groups, for scheduling the practical training experience between academic terms. Students, on the other hand, expressed the largest preference (28.7%) of all respondent groups

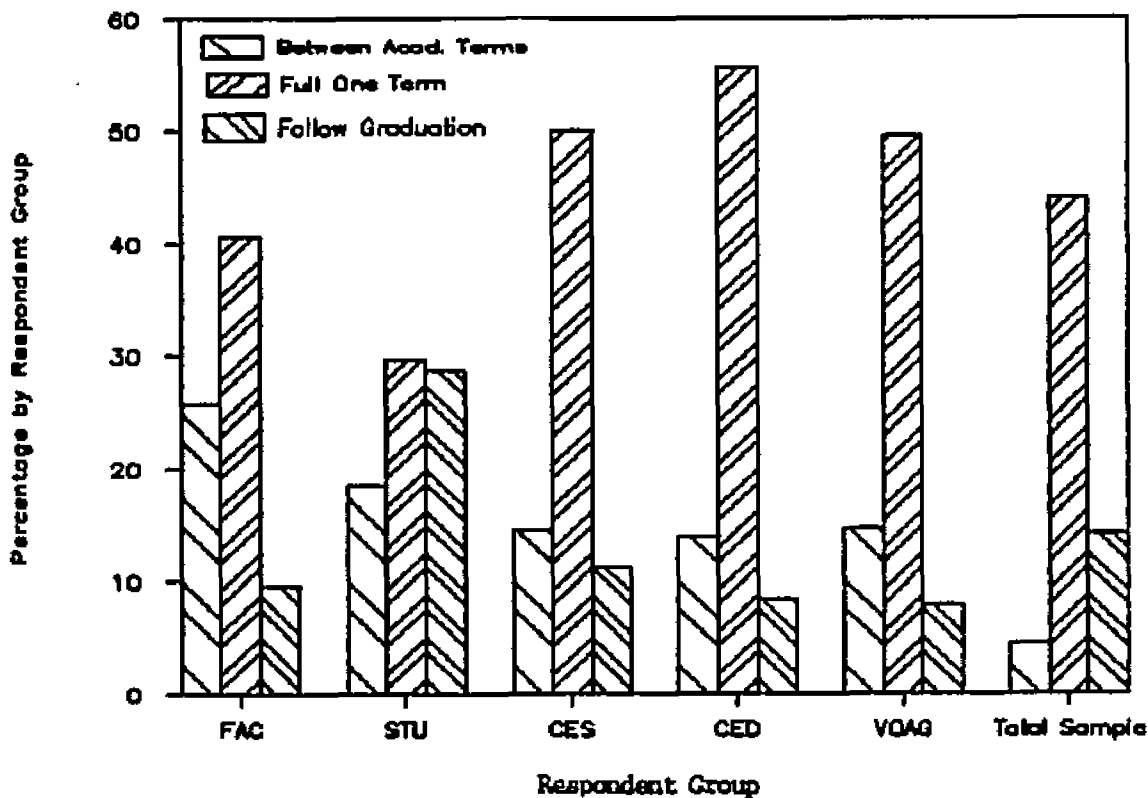


Figure 35. Best schedule for practical training experience

for scheduling the practical training experience following graduation. Several respondents offered written comments on this item suggesting other possible combinations of scheduling. The following are a sample of the written suggestions:

"near completion of degree"

"first half or second half of summer term..."

"before thesis is written"

"prior to last term"

"after at least one term (to allow for orientation) but before majority of course work requirements are completed"

"full-time during 2 academic terms"

Other Factors Related to a Practical Experience

Items 44-47 in Part IV were included only in the CES field agent, CED, and Vo-Ag instructor versions of the questionnaire. The response format for items 44-47 was a five point Likert-type scale identical to the one used in Part I of the questionnaire. However, one difference should be noted, no composite scoring or reversing of scales for negative items was performed during analysis of data from Part IV.

Only item 47 (public relations benefit to organization) produced a significant difference between groups as indicated in Table 31. On item 47, the Vo-Ag instructor group (3.806) recorded a significantly higher mean score, showing a more positive attitude, than did the CES field agent group (3.381).

Table 31. ANOVA for items 44-47 by respondent group

1=SD 2=D 3=U 4=A 5=SA

Item No.	Item description	Total (n=241) Mean S.D.	CES (n=63) Mean S.D.	CED (n=73) Mean S.D.	VOAG (n=105) Mean S.D.	F Probab- ility	Level of Signif- icance	Signif. t-test bet- ween groups p. < .05
44.	Difficult to find stud. placement	3.034 1.115	2.857 1.014	3.125 1.198	3.078 1.118	1.108	0.332	
45.	Difficult to find housing in communi	2.766 1.000	2.683 0.858	2.903 1.037	2.721 1.056	0.994	0.627	
46.	Justifiable invest of supervisor time	3.339 0.927	3.206 1.034	3.319 0.947	3.433 0.845	1.188	0.306	
47.	Public relations benefit to organiz	3.630 0.859	3.381 0.974	3.597 0.833	3.806 0.768	5.005	0.008	** (3, 1)

** 1=CES 2=CED 3=VOAG

Data are presented for the combined CES field agent and CED groups divided into supervisory region in Table 32. The most positive attitude (lowest mean scores) on item 44 (difficult to find placement) and item 45 (difficult to find housing in community) and the second most positive attitude (second highest mean scores) on item 46 (justifiable investment of supervisor time) and item 47 (public relations benefit to organization) were recorded by the respondents from the West Central Region. At the opposite extreme, respondents from the East Central Region recorded the most negative attitude (highest mean scores) on item 44 and item 45 and the lowest or second most negative attitude (lowest scores) on items 46 and 47.

Table 32. Mean scores for combined CES/CED groups on items 44-47 by supervisory region 1=SD 2=D 3=U 4=A 5=SA (Neg. scores not reversed)

Item No.	Item description	U.P. (n=13) Mean S.D.	E.Cent. (n=25) Mean S.D.	W. Cent. (n=26) Mean S.D.	North (n=23) Mean S.D.	S.West (n=19) Mean S.D.	S.East (n=29) Mean S.D.
44.	Difficult to find stud. placement	3.308 1.109	3.360 0.995	2.500 1.105	3.136 1.167	2.842 1.119	2.931 1.067
45.	Difficult to find housing in communi	2.846 1.068	3.160 1.028	2.538 0.811	2.636 0.953	2.632 0.895	2.862 0.915
46.	Justifiable invest of supervisor time	3.769 0.725	2.880 1.166	3.615 0.752	3.318 0.716	3.316 1.108	3.034 1.052
47.	Public relations benefit to organiz	3.769 0.599	3.280 1.100	3.731 0.604	3.727 0.703	3.526 0.905	3.207 1.082

Data from the Vo-Ag respondents grouped by FFA region are displayed in Table 33. Instructors from Region 1 and Region 6 provided the most positive attitude (lowest mean scores) on item 44 (difficult to find placement) and item 45 (difficult to find housing) whereas instructors from Region 5 and Region 8 provided the most negative attitudes (highest mean scores). It is interesting to note that Region 8 instructors also recorded the most negative attitudes (lowest scores) on item 46 (justifiable investment of supervisor time) and item 47 (public relations benefit to organization). Instructors from Region 2 provided the most positive attitudes (highest mean scores) on items 46 and 47.

Table 33. Mean scores for Vo-Ag instructors for items 44-47 by FFA region

1=SD 2=D 3=U 4=A 5=SA
(Negative scores NOT reversed)

Item No.	Item description	Region 1 (n=17)	Region 2 (n=13)	Region 3 (n=13)	Region 4 (n=14)	Region 5 (n=13)	Region 6 (n=8)	Region 7 (n=16)	Region 8 (n=11)
		Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.	Mean S.D.
44.	Difficult to find stud. placement	2.882 1.054	2.923 1.038	2.846 0.899	2.929 0.917	3.583 1.379	2.875 1.246	3.467 1.187	3.091 1.300
45.	Difficult to find housing in communi	2.471 0.800	2.769 1.092	2.769 1.013	2.571 0.852	3.000 1.354	2.500 1.069	2.733 1.335	3.000 1.000
46.	Justifiable invest of supervisor time	3.471 0.624	3.923 0.954	3.538 0.776	3.286 0.726	3.308 0.947	3.500 0.535	3.267 1.100	3.182 0.874
47.	Public relations benefit to organiz	4.059 0.659	4.154 0.689	3.833 0.835	3.643 0.633	3.692 0.855	3.875 0.641	3.733 0.799	3.364 0.924

Combined CES field agent, CED, and Vo-Ag instructor groups were divided into four categories by years of work experience outside of the United States. The data indicated that the more years of overseas work experience that a respondent reported, the more positive the attitude was, as indicated by a higher mean score, for both item 46 (justifiable investment of supervisor time) and item 47 (public relations benefit to organization).

The combined CES field agent, CED, and Vo-Ag instructor groups were combined into a new employee category. The results of t-tests indicated that the new employees had more positive attitudes on both item 46 (justifiable investment of supervisor time) and item 47 (public relations benefit to organization), as indicated by significantly higher mean scores, than those who were not new employees.

Academic Credit

Item 44, on both the faculty and student group versions of the questionnaire, asked respondents about academic credit for the practical experience. A total of 40.8% of the faculty respondents indicated that credit should not be given. Only 10.2% of the student respondents chose the no credit option. A total of 36.8% of the faculty respondents and 46.3% of the student respondents indicated a preference for receiving academic credits which were in addition to the normal graduation requirements. A third option, that credits should be given and count toward the student's normal graduation requirement for the degree, was selected by only 18.4% of the faculty group whereas the student group selected this category at the rate of 37.0%. The results from item 44 are displayed in Figure 36. In addition, respondents provided written comments for this item that are summarized as follows:

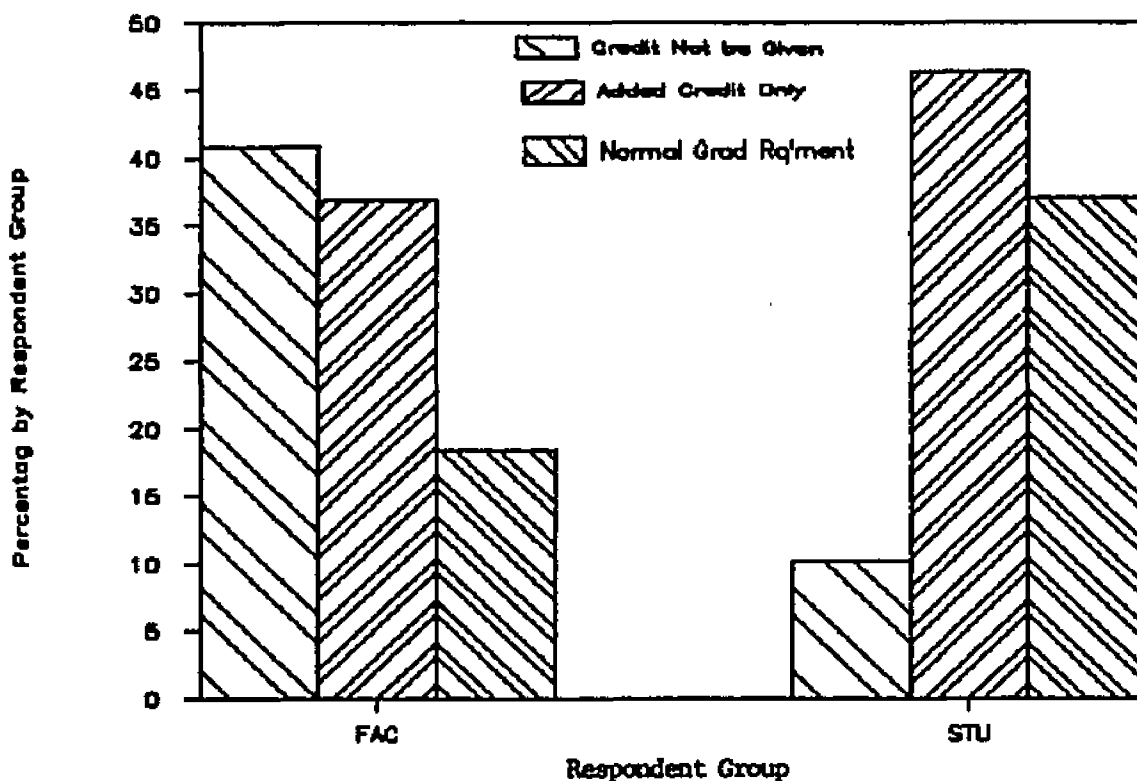


Figure 36. Faculty and student opinions about academic credit

Faculty

"no credit--unless it is a highly structured internship directly related to the program."

"no credit--unless closely related to thesis/training"

"credit toward graduation--only at an undergraduate level"

Student

"before graduation--additional credits, after graduation--no credit"

"this kind of training in each area (hortic, agric, etc.) should be a requirement for foreign graduate students."

"be counted as part of his research credits..."

"if student is being paid, it's only fair that credit not be given for practical training, but if not, some sort of reimbursement (i.e. credits) must be given."

Interest in International In-service

Item 48 on the CES field agent, CED, and Vo-Ag instructor versions of the questionnaire asked for an indication of respondent interest in an international in-service training program. The CED respondents had the highest level of interest, with 75% selecting either the moderate or high interest category. The CES field agents and Vo-Ag instructors indicated a slightly lower interest with 63% of the CES field agent respondents and 60% of Vo-Ag instructor respondents selecting either moderate or high interest (see Figure 37).

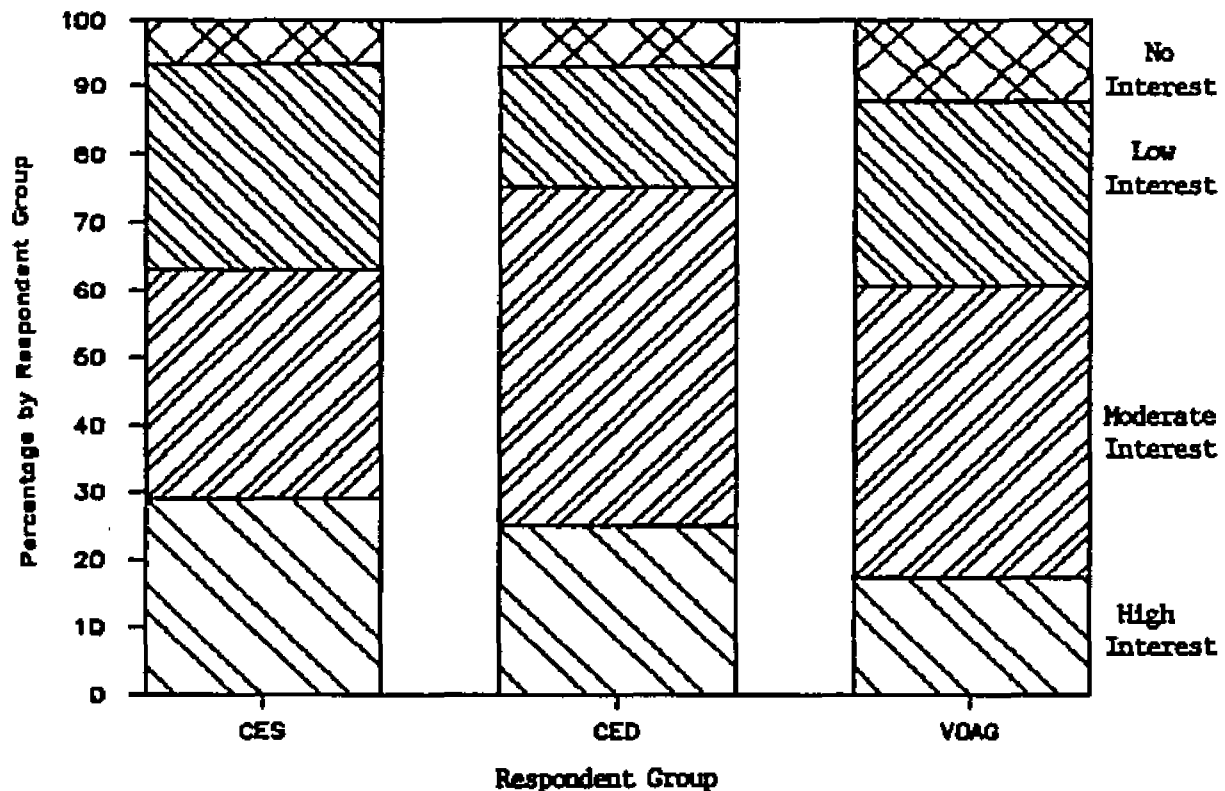


Figure 37. CES, CED, and VOAG interest in international in-service training

Interest in Short-term International Assignment

Questionnaire item 49 on the CES field agent, CED, and Vo-Ag instructor versions asked for an indication of respondent interest a short-term international assignment. Again, as with the in-service item, the CED respondents showed the highest level (76%) of moderate or high interest. The CES field agent group level of moderate or high interest (67%) was slightly lower than the CED group. The lowest level of interest was indicated by the Vo-Ag instructors. A total of 44% of all Vo-Ag instructors indicated either low or no interest in participating in a short-term overseas assignment (see Figure 38).

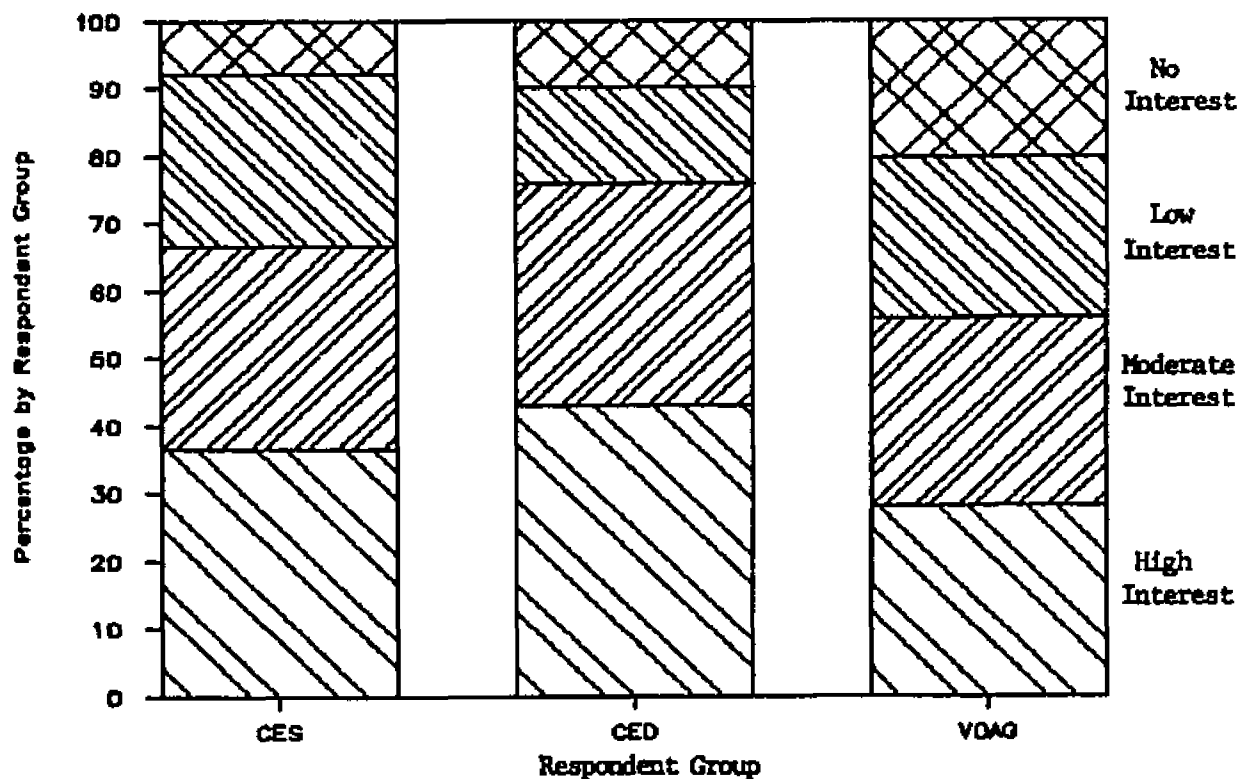


Figure 38. CES, CED, and VOAG interest in short-term international work assignment

Selected written comments for questionnaire items 48 and 49 are summarized as follows:

"it would depend a lot on cost and when during the year"

"too much else...up to my neck in other programs now"

"moderate interest--presently with family situation"

"when my family grows up and out"

"(no answer) CED/not an Ag Agent, youth work = yes"

"have been through IETP program"

"other than developing countries"

Student Interest in Practical Training Assignment

Students were asked, on item 50 of their version of the questionnaire, to describe their interest in participating in a practical training assignment as part of their current program. Only 6 out of the 108 student respondents (5.6%) reported either low or no interest. The remaining 102 respondents (94.4%) selected either a moderate or high interest in participating in a practical training experience as a part of their current program (see Figure 39).

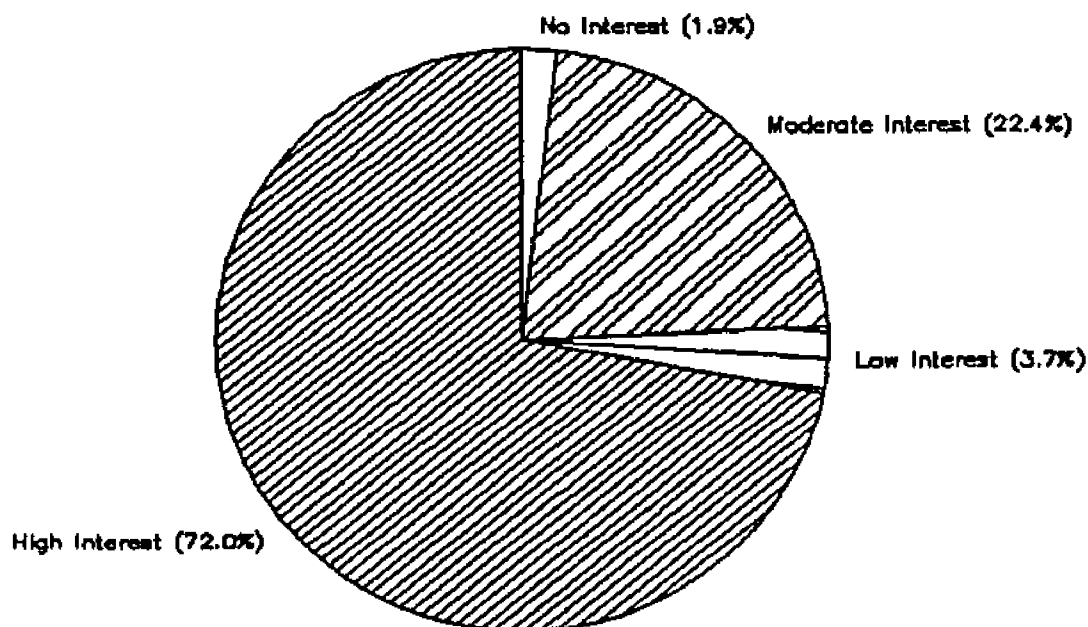


Figure 39. Student interest in participating in a practical experience

Summary of Written Comments by Respondent Group

Several individuals from each of the five groups provided a written response to the statement: "Are there any final comments or suggestions that you would like to make?" The exact number and percentage of comments received were:

Faculty	26 comments	33.8% of total
CES field agents	20 comments	31.7% of total
Students	29 comments	26.8% of total
CEDs	19 comments	26.0% of total
Vo-Ag instructors	23 comments	21.9% of total

Selected comments from the back page of the questionnaire for the five respondent groups are presented in Appendix E. The following will provide a brief discussion of the major ideas communicated by members of each group.

Five members of the faculty group made comments about the difficulty encountered in trying to respond to many of the items in the questionnaire due to various unknown factors that were not specified. One faculty respondent said that: "it is hard to respond to some of the questions because the response depends on the type of experience one is considering." A concern that was repeated three times by faculty respondents was the interference of practical experience with the primary function of a graduate education. One faculty member emphasized this point with the following comment: "foreign graduate students come to MSU to obtain a formal advanced degree. If they wanted practical experience they should go to a technical college." Three faculty members mentioned the potential opportunity that international students have to accompany extension specialists during off-campus travels. Selected other faculty comments concerned funding, cultural differences with the community, safety around equipment, validity of experience in relation to agriculture system in the students' home country, visas, and health care.

Written responses from the student group tended to be somewhat longer and more varied in content than comments from each of the other four respondent groups. There were indications that several student respondents had taken a considerable amount of time to contemplate and complete the questionnaire. No student comments indicated a totally negative attitude toward the idea of a practical training experience. However, several

students expressed the concern for careful placement and monitoring of a potential program to insure relevancy to specific student and employer needs. One student said: "while MSU and farm communities are planning to head for computer managed farms, the average 3rd world country is considering animal traction." A few critical comments were made by student respondents concerning the nature of university educational programs and the international student's role in relation to domestic students at MSU. One student said: "there is no program especially designed for international students (at MSU) at all. We take the same courses as U.S. students and do research with a topic much more related to the interest of (our) advisor than to the needs of our home country."

The group of CES field agent respondents offered a wide variety of comments also. Five respondents mentioned the potential problem of helping other countries to compete in world markets against U.S. farmers. One agent said: "If we are going to continue to train people from other countries, focus on those who cannot feed themselves now and are not a threat to current U.S. markets." Other respondents mentioned concerns such as safety around machinery, language barriers, placement, and student motivation.

The CED group offered comments that indicated a generally positive attitude toward the practical training experience. In addition, all of the CEDs who offered written comments either gave suggestions or warned of possible problems with a potential

practical training experience for graduate students from developing countries. A comment that is representative of many others from the CED group was the following: "I think it would be great to provide a local community work experience but it has to be with someone that will take the time and enjoys having them around. Most are too busy, some are indifferent."

Vo-Ag instructors provided five written comments that questioned the validity of having international students work in agricultural communities in the U.S. Their concerns related to appropriate use of available finances for programming, strong community cultural biases, competition with Vo-Ag students for placement, and existing time over-commitments of Vo-Ag instructors. A sample comment illustrates one of the Vo-Ag instructor concerns: "Right now I cannot place all of my (Vo-Ag) students...having a foreign student or students to place would complicate matters." Two instructors said that MSU should try to provide more practical training for U.S. students in addition to assisting international students. One respondent wrote: "It sounds as if you are very concerned about quality learning for foreign students and are willing to give it to them. Do the same for American students! Too often, American students are given advanced theories in the academic program, and are expected to get practical experience on their own." One Vo-Ag instructor suggested that a follow-up study of agribusinesses should be carried out to get the leads that would be needed to implement a successful practical training program.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A brief overview of the research objectives, procedures, and results is presented in the first section of this final chapter. A discussion of the major conclusions that were reached regarding the factors affecting practical training experiences for graduate students from developing countries is included in the second section. The third section contains a number of implications that were formulated based upon application of the study findings and conclusion. The final two sections of chapter V present the limitations that were encountered during the course of the study and the recommendations for future research in this area.

Summary

Many universities in the United States, particularly the land-grant institutions, have prided themselves in providing practical and relevant training for students, regardless of nationality or background. Consequently, there is an awareness among some educators of the need to be active in monitoring the practical aspects of educational experiences that students receive.

Over the years, practical experience has been a part of educational programs in many different academic disciplines and

traces its historical and philosophical roots to the field of experiential education. By definition, learning that is experiential in character involves the learner in a direct encounter with the phenomenon being studied rather than merely observing or thinking about it (Keeton & Tate, 1978).

In recent years there has been a rapidly growing number of international students attending colleges and universities in the United States. A nation-wide study was conducted by Lee (1981) to assess the perceived needs of students from developing nations. Lee indicated that one of the least met needs was for practical experience during the international student's stay in the United States. Other research added support and clarification to Lee's claim. According to Limbird: "The literature does not indicate that work experience opportunities for foreign students are thought to be needed more but are available less than similar opportunities for United States citizens and permanent residents" (1981, p.116).

This study was designed as a response to the identified need by international students for more experiential learning opportunities. The purpose of this study was to examine the factors affecting agricultural training experiences for graduate students from developing countries who are studying at colleges and universities in the United States. Five groups were identified from within a strategically selected survey population in Michigan to supply attitudinal responses and information on a mail questionnaire. The five groups were: faculty advisors for

international students, graduate students from developing countries, Cooperative Extension Service (CES) field agents with agricultural responsibilities, County Extension Directors (CEDs), and Vocational Agriculture (Vo-Ag) instructors. Attitudes of respondents toward various aspects, problems, terms, and conditions related to practical experiences were measured.

A major contribution of this study was that accepted strategies from the field of experiential education were used as the basis for developing new strategies to meet the needs of a new audience--graduate students from developing countries studying agriculture in the United States. A second contribution was that Vocational Agriculture concepts, especially the Supervised Occupational Experience (SOE) educational philosophy, was applied to the international student audience. In addition, this study contributed knowledge that may be applied to situations that are of immediate concern to decision-makers in various organizations that have responsibilities for international student curriculum development and programming.

Measurements of attitudinal characteristics were the primary means used to provide information that would assist in generating answers to the research questions. Data from the 426 questionnaires returned, out of the 473 questionnaires mailed to eligible members of the sample population (90% return rate), were analyzed using: (1) frequencies and measures of central tendency and dispersion, (2) cross-tabulations, and (3) one-way analysis of variance (ANOVA) and t-tests.

A summary of the questions that guided the research process, each followed by five of the major findings described in Chapter IV, is listed below:

Research Questions 1 & 2: What are the personal and situational characteristics of the survey population, members of the five groups, and members of other selected subgroups in the survey population? What are significant differences?

1. A total of 64.9% of faculty respondents had worked one year or less outside the U.S. (excluding military).
2. A total of 4.8% of the CES field agents, 6.8% of the CEDs, and 6.7% of the Vo-Ag instructors reported having more than 1 year of work experience outside of the U.S.
3. Respondents from the CED group indicated a higher interest than both the CES field agent and Vo-Ag instructor groups in participating in both an international in-service seminar and a short-term international assignment. The Vo-Ag instructors indicated the lowest level of interest for both categories.
4. Students from the African region comprised 42.6% while South & East Asians comprised 27.8% of the student respondents.
5. A high percentage (94.4%) of the student respondents indicated either a moderate or high interest in participating in a practical training experience as part of their current program.

Research Questions 3 & 4: What are attitudes regarding factors affecting, and potential benefits of, a practical training experience? What are significant differences?

1. The mean score for the total attitude composite on Part I of the questionnaire was 3.670 (between "Agree" and "Undecided" on the Likert-type scale), indicating a positive attitude toward practical training experiences.

2. The most positive total composite score was recorded by the student group and the least positive total composite score by the faculty group.
3. Students were significantly higher, and the faculty significantly lower, than each of the other four groups on the total attitude composite.
4. No significant differences were noted between the CES field agent, CED, and Vo-Ag instructor groups for any of the composite mean scores.
5. The student benefit composite received the highest mean scores, followed by the MSU benefit composite in second place, with the community benefit composite receiving the lowest mean scores from each of the five groups.

Research Questions 5 & 6: What are attitudes regarding problems that could occur as a result of a practical training experience? What are significant differences?

1. The highest scoring (most anticipated problems) group in Part II of the questionnaire, the Vo-Ag instructor group, had a significantly higher problem composite mean score than did the student respondents, the lowest scoring (least anticipated problems) group.
2. The top rated problem by the CES field agents, CEDs, and Vo-Ag instructors was English ability of the student. The student group only rated English ability as their 7th item in the list of 13 problem items.
3. The students were most concerned about housing and transportation problems.
4. Concern about problems associated with Worker's Compensation liability was lower for the student group than for each of the other four groups.
5. The largest difference in mean scores for Part II came on item 32 (general unfriendliness of the community). The student mean score for item 32 ranked as their third most important concern and was significantly higher than each of the other four groups.

Research Questions 7 & 8: What are opinions regarding terms and conditions necessary for a practical training experience? What are significant differences?

1. A total of 21.3% of the total sample indicated that students should not be paid during a practical training experience. The CED group had the highest, and the student group had the lowest, number of respondents indicating no payment.
2. The preferred amount of payment, as indicated by 66.3% of respondents who preferred payment, was for either reimbursement for expenses or minimum wage. The student group indicated the highest preference, of any group, for full salary.
3. Summer was selected as the preferred time of year for a practical experience by 58.1% of the total sample. The Vo-Ag instructor group preferred summer too, but also indicated a higher than average preference for spring.
4. Scheduling the practical experience for one full academic term was selected by 43.9% of the total sample. The student group showed the highest preference of all the groups, for a post-graduation practical experience. The faculty group indicated a higher than average level of interest in a practical experience that could be scheduled between academic terms.
5. Faculty prefer the practical experience to either be carried out for no academic credit (40.8%) or for credit in addition to the degree requirements (36.8%). Comparatively, only 10.2% of the student group selected the non-credit option, instead preferring to have credit given toward normal graduation requirements (37.0%) or as added credit (46.3%).

Conclusions

Statement of a major study conclusion is presented under each of nine sub-headings in this section. A brief discussion of the conclusion, with references to related study findings and relevant literature, are presented after each statement.

Conclusion No. 1: Each respondent group demonstrated a positive attitude toward practical training experiences.

It is evident from the positive mean scores that were recorded for the composite items in Part I that, overall, members from each of the five groups were sympathetic with the general principles of experiential education as they would be applied to education programs for graduate students from developing countries in agriculture programs at colleges and universities in the U.S. The response from individuals in each group was most enthusiastic concerning the potential for the practical experiences to give international students a more realistic understanding of the U.S. The five groups were also in agreement that the practical experience would provide the host community members with valuable cultural information.

These generally positive findings are supportive of the conclusions that were published by Limbird in 1981. According to Limbird, based on his study results: "All three groups--the faculty advisors, students, and employers--reflect support for joint development of a PWE (practical work experience) as educationally and practically desirable" (p.121).

It could be hypothesized, therefore, that the positive attitudes toward an experiential education philosophy of education, indicated by each group of respondents in both the Limbird study and this study, were a measure of the continuing positive influence of the land grant philosophy at both Iowa State University and Michigan State University. However, the

lack of consistently strong indicators of positive attitude, the differences in level of agreement recorded for each respondent group, and the significant differences that were recorded in mean scores for each of the three benefit composites, as well as for the remaining individual questionnaire items, leads the researcher to suggest additional important conclusions.

Conclusion No. 2: Faculty members had the least positive attitude, of all of the respondent groups, toward practical training experiences.

Faculty group mean scores indicated an attitude toward a practical training experience that was consistently lower than the student respondent group on every benefit composite and 21 out of the 25 individual questionnaire items in Part I. In addition, the faculty group demonstrated a lower attitude than each of the CES field agent, CED, and Vo-Ag instructor groups on all but one of the benefit composites. Faculty respondents were especially negative regarding the benefit that a host community might receive by participating in the practical experience. Negative attitudes, as indicated by mean scores of 3.00 or below, were recorded by the faculty on these six items:

- Permit work on a project or program in a local agricultural community which an American graduate student could not do (Item 18).
- Require more supervision time than for a comparable American (Item #16).
- Provide technical skills from the student's home country useful to the agricultural community in the U.S. (Item 10).

- Give less overall benefit to an agricultural community in the U.S. than if an American graduate student with comparable education participated (Item #22).
- Provide an agricultural community in the U.S. with access to valuable trade information about an international student's home country (Item 24).
- Help an agricultural community in the U.S. to explore international trade possibilities (Item 5).

An analysis of this list of six items reveals that the faculty members, as a total group, held negative attitudes regarding the contribution of useful skills and technical assistance that a graduate student from a developing country could make while participating in a practical training experience in a host community. A high level of concern was also indicated by the faculty members for the time demands that could be placed on the trainers and facilitators who plan and supervise a practical experience for international students. Considering these negative attitudes and associated problems, it would appear unlikely that faculty members, as a whole, would be willing to put forth the time and effort needed to pursue practical training placements for their international student advisees.

In addition, faculty were not optimistic that involvement by an international student in a practical experience could do much to increase international trade opportunities for host communities. It is interesting to note that Agricultural Economics Department faculty, the group most involved in study of international agricultural trade, were the least positive of all departmental groups about the potential for increased trade opportunities.

Another possible indicator of negative faculty attitude was the small number of faculty members, less than one-third, who previously had one or more of their international student advisees participate in an off-campus practical agricultural training program. The faculty members who had previous students in off-campus practical training programs indicated higher attitudes both on Part I and on Part II of the questionnaire, but the difference in the results were not statistically significant. Limbird (1981) had concluded that faculty respondents in his study who had previous international students in off-campus practical training programs were significantly more positive on three questionnaire items: (1) satisfying the expressed need of international students, (2) training would have to be in the major field, and (3) students should be paid. Results from this study do not lend strong support to Limbird's conclusions.

International students in the Agricultural Engineering, Horticulture, and Crop and Soil Sciences departments demonstrated attitudes on the total benefit composite that were considerably higher than their faculty advisors. This may be an indication that students and faculty in these three departments hold somewhat different sets of expectations regarding the curriculum and the nature of the academic program. It may, therefore, suggest the need for increased dialogue between the faculty advisors and their international student advisees regarding the place of practical experiences in the departmental curricula.

Conclusion No. 3: International students had the most positive attitude, of all the respondent groups, toward practical training experiences.

The results from this study lend support to the conclusions that were reached by Lee in her study of the needs of international students at colleges and universities in the United States (1981). Lee concluded that "needs for practical experience before returning home were the least met needs....Needs for relevant education and for training to apply knowledge were emphasized by students in most fields of study, but particularly in agriculture" (p.131). The student group in this study recorded a mean score of 4.308 (between Agree and Strongly Agree on the Likert-type scale) for item 25 (satisfy an important need of international graduate students studying agriculture at MSU). Data presented in this study support conclusions from previous research--primarily that graduate students from developing countries studying agriculture have a high felt need for practical training as a part of their educational programs.

As was previously stated, the student group demonstrated a more positive attitude than the faculty group for all benefit composites and on all but a few individual questionnaire items. The student group also demonstrated a more positive attitude than each of the CES field agent, CED, and Vo-Ag instructor groups as indicated by mean scores from all of the benefit composites.

Besides meeting an important student need (item 25), which was previously discussed, students were most positive about the following items:

- Increase the international student's chances for professional advancement later in his/her home country (Item 3).
- Give the foreign student exposure to useful management experience (Item 20).

Members of the student group indicated a high concerns for obtaining management skills from a practical training experience that would give them a better chance for professional advancement in their home countries. By comparison, the other four respondent groups saw management experience and professional advancement as important considerations but only rated them as secondary in importance to the student development of a realistic understanding of the U.S. through the practical experience.

In addition, students disagreed most, more than any other group, with the following item:

- Primarily be a means for the international graduate student to remain in the U.S. permanently (Item #14).

Based on this finding, it can be concluded that international students did not appreciate the assumption, presented to them in the questionnaire, that their motivation was to stay in the United States on a permanent basis. In addition to recording the highest level of disagreement, a number of written comments were added by student respondents to emphasize

the strong desire that most international students had to return to their home countries. Spaulding (1976) reported that international student non-return, especially when the student had hope for employment, was not a serious problem.

Overall, results from this study showed that students view the practical experience as more related to their home country situation and as an opportunity to apply theories and techniques from the classroom than each of the other respondent groups. The faculty group was positive, but significantly less positive than the student group, in regard to the practical management skill outcomes and the resultant application of classroom theories to the student's home country situation.

The student respondents were also more positive than faculty respondents about the potential of practical experiences in the curriculum to attract new international students to apply for admission to MSU. The combination of at least two factors could have contributed to this difference between students and faculty: (1) the difference could be another indication of the variation in value and importance that each group placed on the practical training experience, or (2) it could be a function of the method of international student recruitment. Several faculty members may be aware that the choice of school is made by sponsoring program administrators, with minimal student input--especially for those international students in the study who were sponsored by either USAID/USDA or home governments.

It cannot be concluded from this study, as it was in Limbird's study (1981), that students with USAID/USDA sponsorship were more cautious about the benefits of a practical training experience or that students differed consistently in attitude according to their geographic region of origin. It is significant to note, however, that a high percentage of students in Limbird's respondent group (60%) were from the South & East Asian region whereas only 16% of his respondents were from the African region. By comparison, the student respondent group for this study was comprised of only 27.8% South & East Asian students as compared to 42.6% African students. The difference can be attributed to the fact that a much higher percentage of African than South & East Asian students who are attending colleges and universities in the U.S. are studying agriculture.

Perhaps it is also important to note that almost 65% of respondents from the African region, as compared to less than 30% of students from the South & East Asian region, were supported by USAID/USDA. In addition, an analysis of the data revealed that the rate of job assurance for students in their home countries was positively correlated with the student being sponsored either by USAID/USDA or the home government. This is probably the reason why students from the African region reported a higher rate of job assurance at home than any of the student respondents from other regions.

The fact that students had a very high rate (76.9%) of job assurance at home agrees with what Fienup and Riley (1980, p.13)

reported in the summary of a study conducted among graduate students in Agricultural Economics programs from developing countries. They found that "approximately two-thirds of the respondents had formal commitments to return to their own countries when they completed U.S. graduate study...Africans and Middle Easterners made a somewhat higher-than-average (73 and 76 percent) commitment to return to work after completing their U.S. studies".

A summary statement about the type of student that responded to the questionnaire used in this study can be made as follows: The commitment of international student respondents to return home after completion of the graduate degree, combined with an average age between 30 and 34 years and almost five years of prior work experience, portrays a mature, serious student learner—one who is interested in a well-directed, occupationally-specific graduate educational program.

Conclusion No. 4: The CES field agents, CEDs, and Vo-Ag instructors had very few differences in attitude toward practical training experiences.

There were no major differences in attitude between the three groups included in the survey population that are involved in agricultural and extension education programs in Michigan agricultural communities. Scores for the CES field agents, CEDs, and Vo-Ag instructors were remarkably similar for each of the four benefit composites as well as for 20 of the 25 individual questionnaire items in Part I. No pattern of consistent

difference was noticeable between the three groups, even among the five questionnaire items where statistical differences between mean scores were calculated.

When asked their opinion regarding the difficulty of finding placement and housing for an international student in Part IV of the questionnaire, again no significant differences were reported between the three groups. Only on one item was a difference discovered--the Vo-Ag respondents were found to have a more positive attitude about the public relations benefit of a practical training experience than the CES field agent group. This difference, even though small, may be related to the opportunities available to Vo-Ag instructor for publicizing an international student's presence in a way that could benefit the local Future Farmers of America (FFA) chapter's local community image.

Conclusion No. 5: Students would receive the most benefit and the host community would receive the least benefit from participation in practical training experiences.

This conclusion suggests that students have the most to gain from participation in a practical training experience and that the host community has the greatest potential sacrifice. Benefits to the student were identified by respondents from each of the five groups as: (1) increased understanding of the U.S., management training, (2) increased professional advancement when the student returns home, and (3) application of classroom theories.

The following key question needs to be raised based on this conclusion: What incentives are available to motivate members

of a local community to host a student from a developing country for a practical training experience? Results from this study indicated that faculty members, CES field agents, CEDs, and Vo-Ag instructors saw the greatest values of a practical experience to be increased understanding of a foreign culture; and strengthening of ties between Michigan State University and a local agricultural community. All respondents, except for the student group, down-played the technical and professional contribution that the student trainee could make while in the U.S. community. In addition, all respondents, including students, minimized the potential for the local agricultural community to make contacts that might result in more international trade opportunities.

Certain benefits that make internships for American students attractive to employers, such as possible recruitment and retention of permanent employees, rarely exist with international student participants who intend to return home following completion of the degree program. Only larger businesses that have international offices in developing countries would be interested in international students as potential employees. A major hindrance, therefore, to implementation of successful practical training program lies in convincing an employer, trainer, or host community member of the realistic benefits that could be obtained as a result of participation in the experience.

Conclusion No. 6: Students anticipated different problems, than did members of the other four respondent groups, that could occur during a practical training experience.

All of the respondent groups, with the exception of the student group, agreed on the top three problems that might occur during a practical training experience. The top three items were: (1) English ability of the student, (2) transportation during the period of a practical experience, and (3) Worker's Compensation liability for the host. Students shared the concern for transportation but rated both language and Worker's Compensation as less severe problems.

The difference between groups on the language ability item may indicate that students were confident that they had developed and demonstrated adequate English language communication skills prior to admission or during their academic programs in the U.S. It is significant to note that even though the faculty mean score for language problems was higher than the student group, the difference was not statistically significant. This may be interpreted as a vote of confidence, by the academic advisors, who work closely with the international students, in their advisees communication abilities. The other three groups, on the other hand, may have based their opinions more on encounters with short-term international exchange visitors who may not have had the higher level of English language skills usually possessed by international students at the graduate level.

The low mean score and high nonresponse that the student group reported on the Worker's Compensation liability problem indicates that most students were not familiar with the importance it had for the host. Students were more concerned with housing needs during the practical experience and approval for participation from the financial sponsor and U.S. immigration.

Students registered a higher than average concern about the problem of general unfriendliness by members of the local agricultural community in the U.S. More specifically, data analysis revealed that students from the African region showed a significantly higher concern than students from South & East Asia. Each of the faculty, CES field agent, CED, and Vo-Ag instructor groups demonstrated a general lack of concern about the unfriendliness problem, rating it as one of the lowest scoring items in Part II. Perhaps one interpretation of the reasons for this difference might be that Americans generally perceive themselves as being part of an open and friendly culture that readily welcomes foreigners. On the other hand, visitors from other countries, especially those areas of the world with more communal living patterns, as might be found in several parts of Africa for example, interpret things quite differently. Racial prejudice, often more detectable by outsiders, may be another factor in causing the differences in attitude between respondent groups and even between student groups from different geographic regions.

Conclusion No. 7: Students differed from the faculty regarding appropriate academic credit for a practical training experience.

Not surprisingly, students were more in favor of having academic credit awarded for participation in a practical experience than their academic advisors. Students were also more inclined to have this credit as part of the minimum graduation requirements for the degree, although a large group were open to having it as added credit.

Over 40% of the faculty members did not think that credit should be awarded at all. Cross-tabulations showed that the group that selected the "no credit" option had a less positive attitude toward a practical training experience as demonstrated by significantly lower mean scores on each of the composite items in Part I. Several written comments confirmed that a large segment of the faculty members opposed, or had serious reservations, regarding the appropriateness of a practical experience in a graduate level program. In addition, the high standard deviation scores reported for the faculty group in Part I indicated a wide variability in attitude. All factors combined may indicate that segments of the faculty group have philosophical differences, and are far from united, regarding the appropriate nature of graduate programs, especially those programs for students from developing countries.

Conclusion No. 8: Respondents were in general agreement about terms and conditions for a practical training experience.

The following terms and conditions would be acceptable to the typical respondent:

- the student could be paid at a rate between basic living expenses and minimum wage,
- the payment could come from a combination of the host community and the student sponsor,
- the practical training could last from 3 to 10 weeks,
- the best time of year would be in the summer,
- the scheduling could be between academic terms or for one full term, and
- the student could receive academic credit that is in addition to the minimum graduation requirements for the degree.

Conclusion No. 9: CES field agents, CEDs, and Vo-Ag instructors indicated different interests in international involvement.

Very few CES field agents, CEDs, or Vo-Ag instructors have had work experience outside the U.S. The Michigan Cooperative Extension Service has apparently offered more opportunities and incentives for short-term overseas experience to its employees than the Vocational Agriculture profession. The International Extension Training Program (IETP) (Andrews, 1985) is accountable for providing some of the very short-term overseas experiences that the CES field agents and CEDs reported on the questionnaire. IETP participants, when compared to

non-participants, recorded slightly higher, although not significantly different, mean scores on three out of the four benefit composites in Part I of the questionnaire. The IETP group was significantly higher, however, on one important individual item--satisfy an important need of international graduate student studying at MSU.

The CED group indicated the most interest in both an in-service program and short-term overseas work while CES field agents were slightly lower. Vo-Ag instructors indicated the least interest, of the three groups, in both types of international involvement. Almost half of the Vo-Ag instructors had little or no interest in any international involvement. These differences between groups may reflect the flexibility that is available in each job as well as the reward and recognition system that is in place to allow and encourage international involvement. Vo-Ag instructors are tied to the school calendar and curriculum, including the FFA program of activities whereas CEDs may have more opportunity to get away for short-term training or international work experiences. Regardless of the differences, the over 50% of professionals from each respondent group who indicated a moderate to high interest could be identified as the target audience if in-service and short-term opportunities were to be made available.

Implications

A number of implications concerning the factors affecting practical agricultural training experiences for graduate students from developing countries can be drawn from this investigation. The reader is reminded, however, to interpret these implications with the following caution in mind: Because the study design was based on a survey population that represented only one nonrandomly selected segment of the much larger target population, the degree to which findings and conclusions can be generalized to broader situations is more limited. Major implications are stated and briefly discussed under the following five subheadings:

Implication No. 1: The land grant philosophy, as currently understood and put into practice by faculty members in colleges of agriculture, does not necessarily include a strong emphasis on the principles of experiential education.

As concluded in the previous section of this study, there was a high level of variance among international student faculty advisors concerning the type of educational experience that the college of agriculture is supposed to provide for international graduate students. Consequently, on the basis of this conclusion, it is recommended that the implications suggested by Levitov in the publication Practical Training Feasibility Project: Final Report (1982) must be re-examined. Levitov concluded, based upon results of his study, that faculty members were willing to become involved in practical training programs.

He predicted that "faculty involvement will grow as efforts in designing, placing, monitoring and evaluating trainees are increasingly recognized by department heads and deans" (p.16).

An alternate hypothesis is that the process of securing increased faculty involvement in practical training experiences will be more problematic than the Levitov study has suggested. Assuming that recognition and acceptance of principles of practical training by deans of colleges and department heads is probable, it is still doubtful that a strong enough force would be generated in the educational structures to bring about the magnitude of change that is implied by Levitov. It should be noted, however, that Levitov included many faculty members from non-agricultural academic areas in his study.

Looking specifically at colleges of agriculture, it has been suggested that one reason for variance among faculty members may be attributable to differing definitions, interpretations, and levels of adoption of the land grant principles and philosophy by faculty members. One researcher, Lionberger (1979), constructed an "ideal type" that included 16 major concepts that represented the land grant university ideal. The items were presented to selected faculty members at the University of Missouri. Faculty respondents indicated the degree of acceptance or rejection of each concept. When results were tabulated, it was found that the total deviation from the land grant ideal indicated by the faculty was small. However, the way the deviations occurred had important implications for how the

faculty were likely to function in their professional roles. In order to test the areas of deviation more specifically, Lionberger had arranged 9 of the 16 major concepts that fit neatly on a theory-to-practice continuum. It was found that "deviations became distinctly greater from the theoretical to the practical end of the continuum" (p.55). Lionberger concluded that the "general inclination of the (University of Missouri) faculty was to support knowledge development at the theoretical level nearly equal to the ideal followed by a progressive decline of support along the theory-to-practice continuum" (p. 184). A concurrent, comparative study which was conducted by Lionberger at two universities in Taiwan showed similar trends regarding the theory-to-practice continuum.

One of Lionberger's conclusions adds an additional perspective to this first implication. He found that experiences that had occurred during faculty members graduate training had the most impact on faculty members acceptance of land grant concepts at the practical end of the theory-to-practice continuum. This was true both in Missouri and Taiwan. For example, faculty members from Missouri who had been involved in church work, and faculty members from Taiwan who had been involved in social work as graduate students showed increased extension-related communication and socializing skills. Lionberger recommended that "a different kind of graduate school experience is needed...this could be achieved by encouraging voluntary affiliation of graduate students with religious and

civic agencies or more formally through regularly assigned and carefully supervised experiences in social service activities during graduate study. It was quite evident that a Ph.D. degree from an alleged land grant university did not suffice" (p.193). Perhaps by limiting graduate student programs to activities that are primarily at the theoretical rather than the practical end of the theory-to-practice continuum universities are creating, among both foreign and American students, an improper understanding of the way land grant universities should operate. It is recommended that further research be conducted to investigate the connection between the land grant philosophy held by faculty members and the extent of practical experiences encountered during their graduate training.

Implication No.2: Two major problems may hinder practical training program development.

If practical training experiences for graduate students from developing countries are to be conducted, two major problems must be recognized and creatively confronted: (1) the trainer or employer who could host the international student during the experience must be convinced of some worthwhile benefits to be obtained from the experience, and (2) the international student faculty advisor must be convinced that the experience is necessary and can be integrated into the curriculum with appropriate academic and/or financial reimbursement for the students.

Implication No. 3: Administrators and faculty advisors in colleges of agriculture need to communicate with sponsors of international student programs, particularly USAID/USDA, in order to understand what impact the increased awareness of a perceived need among students for more practical training experience will have on future student recruitment.

The literature has alerted USAID/USDA officials to the need that students have expressed for more practical experiences. Several efforts have been undertaken, as mentioned in Chapter II, to promote more practical training as part of international student programs. This study is one more step in what appears to be a continuing program effort.

Implication No. 4: The CES field agents, CEDs, and Vo-Ag instructors are in a position to provide linkages between the university academic community and the local agricultural community in the U.S.

It might be a good strategy to provide CES field agents, CEDs, and Vo-Ag instructors, especially those who have indicated a moderate or high interest in international agriculture, with opportunities, training, and incentives to increase their international understanding and involvement. Perhaps facilitating the placement and supervision of an international student in a practical training experience could be one component of a complete international involvement package. Other components could include several in-service educational opportunities and short-term work experiences in developing countries.

Assuming two things: (1) a program of practical training for graduate students from developing countries were initiated

and (2) that Michigan CES field agents, CEDs, and Vo-Ag instructors were targetted for involvement, it would be strategic to concentrate initial organizational efforts on a specific geographic region of Michigan where the professionals in all three groups had a reasonably high level of interest in combination with a relatively low level of anticipated problems. For the CES field agents and CEDs, the most positive indicators came from professionals in the West Central region of Michigan. For the Vo-Ag instructors, the most positive indications came from instructors in Region 2 (Southeast) and Region 6 (West Central). Therefore, if one area of Michigan were to be targetted to begin development of a practical training experience program, based solely upon possible involvement and assistance by all three professional groups, it would be the West Central part of the state. It is realized, of course, that many other factors associated with development of a program would contribute to decision-making.

Implication No. 5: International students are not asking for preferential treatment with regard to development of practical training opportunities.

By endorsing the experiential education concepts and emphasizing the need for increased practical training experiences, graduate students from developing countries are not asking for special treatment and services that are not already accorded to American students. Rather, they are assuming that domestic students are acquiring practical experiences in

conjunction with their educational programs in ways that aren't as easily accessible and readily available to the foreigners during their professional preparation. Interpreted correctly, the major appeal being made by international students is for equal treatment and equity in educational programming.

Study Limitations

As in any investigation, especially those that have an exploratory aspect attached to them, foreseen and unforeseen limitations are encountered. Listed below are five limitations that were recognizable at the completion of this study.

First, as has been mentioned previously, the nonprobability sampling technique limited the generalizability of conclusions that can be made to larger populations. No similarity between Michigan State University, Michigan CES, or Michigan Vocational Agriculture systems and those operating in other states is assumed in this study. Those who wish to apply results with other state systems in mind must be aware of this limitation.

Second, many respondents, particularly the faculty, offered written responses that indicated negative attitudes toward a possible "program" rather than merely the concept of practical experiences for international students. Low scores recorded by such respondents could represent, to some extent,

opposition to new programs that would complicate what they perceived as an already full academic curriculum rather than strictly a negative attitude toward the concepts of experiential education.

Third, some CES field agents, CEDs, and Vo-Ag instructors have had minimal interactions with international students. Because of this minimal contact, some indicated that it was difficult to provide informed responses to certain questionnaire items.

Fourth, several respondents indicated that certain questionnaire items were too general, making the response dependent upon item interpretation by each individual respondent completing the questionnaire. Other respondents thought that international students were too variable to be grouped together as "graduate students from developing countries". They contended that attitudes true for a certain individual or group would not be maintained for a different individual or group.

Fifth, attitudes of CES field agents, CEDs, and Vo-Ag instructors were solicited to be representative of a group of people that live and work in an agricultural community in the U.S. Opinions of other citizens such as farmers, agribusiness workers, or other potential hosts for the practical training experience might differ.

Recommendations for Future Research

As with any study, several gaps in the research literature and knowledge related to the topic were discovered. Listed below are 12 recommendations, arising directly or indirectly out of this study, that are suggested for follow-up, continued investigation, and future research.

1. Replicate the study by adapting the questionnaire for completion by international students and faculty in natural resource and other agriculturally related departments.
2. Adapt the questionnaire and replicate the study on a local, state, regional or nation-wide basis.
3. Conduct a study involving college of agriculture administrators and international student faculty advisors regarding their understanding, acquisition, and application of land-grant principles, particularly related to the theory-to-practice continuum.
4. Conduct a study involving farmers, agribusiness workers, and other potential hosts in a local agricultural community in the U.S. to determine their attitudes, perceived benefits, and factors affecting a practical training program.
5. Conduct a study involving decision-makers from international student sponsor organizations as well as decision-makers from developing countries. In particular, target those who are responsible for student funding and placement. Investigate their understanding of practical training principles and the place of practical training in the graduate school curriculum.
6. Conduct a study assessing the impact that graduate students from developing countries have, after completion of their degree programs and return to their home countries, on international trade with the United States.

7. Conduct further intensive research, possibly by means of personal interviews, with members of each of the five groups who expressed highest interest in international involvement to determine the factors that could effectively promote future programming efforts.
8. Identify existing practical training programs in agriculture that involve graduate students from developing countries and attempt to identify factors that correlate with measures of success or failure, both during the practical training experience and in professional situations after return to the home country.
9. Study the method that faculty members in colleges of agriculture use to integrate experiential education activities with the theoretical concepts that are associated with the traditional research and classroom activities.
10. Conduct a study to discover if graduate students from developing countries exhibit a higher preference for theoretical versus practical training when compared to American students.
11. Conduct a study of graduate agricultural programs for domestic and international students to discover if equal opportunities for practical training experiences as part of professional preparation are available to each group.
12. Arrange for appropriate dissemination of study results. Distribution of a summary of results should be made to professionals in colleges of agriculture, extension service, Vocational Agriculture, international student exchange programs, and international student sponsoring organizations. Efforts should be made to encourage further consideration and discussion of the place, problems, and constraints involved in integrating more practical training into the curriculum. In addition, continued efforts should be made to include developing country decision-makers and graduate students studying agriculture at colleges and universities in the United States in the continuing dialogue on this subject.

APPENDICES

APPENDIX A

COMPARISON DATA FOR NONRESPONDENTS

APPENDIX A. Comparison data for nonrespondents

Characteristic	Respondents		Nonrespondents	
	No.	%	No.	%
Respondent Group				
Faculty	77	18.1	7	15.6
Student	108	25.4	11	24.4
CES	63	14.8	5	11.1
CED	73	17.1	5	11.1
VOAG	105	24.6	17	37.8
	(n=426)		(n=45)	
Gender				
Female	43	10.1	6	13.3
Male	382	89.9	39	86.7
No Response	1			
	(n=426)		(n=45)	
Age of International Student				
20-44	4	3.7	1	9.1
25-29	32	29.6	5	45.5
30-34	41	38.0	3	27.3
35-39	23	21.3	1	9.1
40-44	7	6.5	1	9.1
45-49	1	0.9	0	0.0
	(n=108)		(n=11)	
Student Region of Origin				
Africa	46	42.6	5	45.5
Latin America	20	18.5	0	0.0
Middle East	12	11.1	3	27.3
Southeast Asia	30	27.8	3	27.3
	(n=108)		(n=11)	
Academic Level of Student				
M.S.	48	44.4	4	36.4
Ph.D.	60	55.6	7	63.6
	(n=108)		(n=11)	
Type of Student Sponsorship				
USAID/USDA	49	45.4	6	54.5
Home Government	33	30.6	2	18.2
Other	26	24.1	3	27.3
	(n=108)		(n=11)	

APPENDIX A. (cont'd)

Characteristic	Respondents		Nonrespondents	
	No.	%	No.	%
Department in CANR (Both Faculty and Students)				
AEE	11	5.9	0	0.0
AGEC	34	18.4	5	27.8
AGEN	30	16.2	1	5.6
ANSC	37	20.0	6	33.3
CSS	48	25.9	4	22.2
HRT	25	13.5	2	11.1
	(n=185)		(n=18)	
Faculty Rank				
Professor	49	63.6	4	57.1
Associate Professor	16	20.8	2	28.6
Assistant Professor	12	15.6	1	14.3
	(n=77)		(n=7)	
New Employee in 1985 or Later for CES, CED, and VOAG				
No	212	88.3	27	100.0
Yes	28	11.7	0	0.0
No Response	1			
	(n=241)		(n=27)	
IETP Participant in the Past				
No	122	90.4	9	90.0
Yes	13	9.6	1	10.0
No Response	1			
	(n=136)		(n=10)	
CES Administrative Region				
Upper Peninsula	13	9.6	0	0.0
East Central	25	18.5	1	10.0
West Central	26	19.3	3	30.0
North	23	17.0	1	10.0
Southwest	19	14.1	2	20.0
Southeast	29	21.5	3	30.0
No Response	1			
	(n=136)		(n=10)	

APPENDIX A. (cont'd)

Characteristic	Respondents		Nonrespondents	
	No.	%	No.	%
CED with Agricultural Background				
No	15	20.8	1	20.0
Yes	57	79.2	4	80.0
No Response	1			
	(n=73)		(n=5)	
CES Agricultural Agent's Primary job				
Agriculture	36	57.1	3	60.0
Crops	1	1.6	0	0.0
Horticulture	16	25.4	0	0.0
Farm Management	3	4.8	2	40.0
Livestock or Dairy	7	11.1	0	0.0
	(n=63)		(n=5)	
FFA Region of Vocational Agriculture Instructor				
Region 1	17	16.2	2	11.8
Region 2	13	12.4	0	0.0
Region 3	13	12.4	3	17.6
Region 4	14	13.3	2	11.8
Region 5	13	12.4	2	11.8
Region 6	8	7.6	1	5.9
Region 7	16	15.2	3	17.6
Region 8	11	10.5	4	23.5
	(n=105)		(n=17)	
Vocational Agriculture Enrollment in 1985-86				
0-24	12	11.4	2	11.8
25-49	35	33.3	7	41.2
50-74	39	37.1	4	23.5
75-99	14	13.3	2	11.8
100 or More	5	4.8	2	11.8
	(n=105)		(n=17)	

APPENDIX B

QUESTIONNAIRE AND SURVEY MATERIALS

Agricultural & Extension Education



Michigan State University
410 Agriculture Hall
East Lansing, Michigan 48824 - 1039
(517) 355 - 8580

January 14, 1986

[DR. FIRST & LAST NAME
DEPARTMENT
OFFICE ADDRESS

Dear Dr. [LAST NAME],

As a faculty advisor for graduate students from developing countries in the [DEPARTMENT], you are undoubtedly aware of the challenges involved in assisting these students to achieve the desired professional and educational goals in the U.S. educational system. Currently over 200 graduate students from developing countries are enrolled in the College of Agriculture and Natural Resources at Michigan State University.

We are concerned, as I am sure you are, that international students receive the highest quality and most practical education in their chosen area of agriculture. Most will return to their home countries to assume important agricultural leadership positions. With this in mind, a statewide study is being conducted to investigate "Factors Affecting Practical Agricultural Training Experiences in Michigan Communities for Graduate Students from Developing Countries."

You have been selected to participate in this study, Dr. [LAST NAME], because you are in an important position of direct contact with international students. In addition, as a professional in <NAME OF DEPARTMENT> who interacts from time to time with members of local agricultural communities in the U.S., you undoubtedly hold some important opinions that would be useful to academic planners. When completed, this study will contribute to the field of literature on experiential education for international graduate students who are studying in agriculture programs throughout the United States.

You may be assured of complete confidentiality. The questionnaire has an identification number for statistical purposes only. Your name will never be placed on the questionnaire. Completion of the survey is voluntary with no penalty for non-participation. The return of the survey constitutes your consent.

This is a Ph.D. research project. You can receive a summary of results by writing your name and address on the back of the return envelope. Please do not put this information on the questionnaire itself.

We estimate that it will take 15 minutes to complete the questionnaire. Feel free to phone either of us if you have any questions. Thank you for the contribution of your very important opinions. Please return by January 22nd.

Sincerely,

Dr. Carroll H. Wamhoff
Chairperson

Roger Steele
Research Assistant

MSU is an Affirmative Action/Equal Opportunity Institution

Agricultural & Extension Education



Michigan State University
410 Agriculture Hall
East Lansing, Michigan 48824 - 1039
(517) 355 - 6580

January 14, 1986

[STUDENT FIRST & LAST NAME]
STREET ADDRESS
CITY & STATE

Dear [STUDENT'S FIRST NAME],

As an international graduate student in the [STUDENT'S DEPARTMENT], you are undoubtedly aware of the challenges involved in achieving the desired professional and educational goals in the U.S. educational system. Currently over 200 graduate students from developing countries are enrolled in the College of Agriculture and Natural Resources (CANR) at Michigan State University.

We are concerned, as I am sure you are, that international students receive the highest quality and most practical education in their chosen area of agriculture. Most will return to their home countries to assume important agricultural leadership positions. With this in mind, a statewide study is being conducted to investigate "Factors Affecting Practical Agricultural Training Experiences in Michigan Communities for Graduate Students from Developing Countries."

You have been selected to participate in this study, [STUDENT'S FIRST NAME], because you are currently engaged in a graduate program of agricultural study. In addition, you undoubtedly hold some important opinions reflecting your previous academic and professional background from [HOME COUNTRY] that would be useful to the academic planners here in the United States. When completed, this study will contribute to the field of literature on experiential education for international graduate students who are studying in agriculture programs throughout the United States.

You may be assured of complete confidentiality. The questionnaire has an identification number for statistical purposes only. Your name will never be placed on the questionnaire. Completion of the survey is voluntary with no penalty for non-participation. The return of the survey constitutes your consent.

This is a Ph.D. research project. You can receive a summary of results by writing your name and address on the back of the return envelope. Please do not put this information on the questionnaire itself.

We estimate that it will take 15 minutes to complete the questionnaire. Feel free to phone either of us if you have any questions. Thank you for the contribution of your very important opinions.

Sincerely,

Dr. O. Donald Meaders
Professor

Roger Steele
Research Assistant



COOPERATIVE EXTENSION SERVICE
Michigan State University

Agricultural & Extension Education

410 Agriculture Hall
East Lansing, Michigan 48824-1039

January 14, 1986

<NAME OF CED
COUNTY
STREET ADDRESS
CITY, STATE, ZIP

Dear <FIRST NAME>,

As a CED in <NAME OF COUNTY> county, you have been hearing about how agricultural communities in the United States are becoming increasingly interconnected with foreign countries, primarily through export of farm and agricultural business products. Another significant linkage is the large number of international students who study agriculture in the United States. Currently over 200 graduate students from developing countries are enrolled in the College of Agriculture and Natural Resources at Michigan State University.

We are concerned that these international students receive the highest quality and most practical education. Most will return to their home countries to assume important agricultural leadership positions. With this in mind, a statewide study is being conducted to investigate "Factors Affecting Practical Agricultural Training Experiences in Michigan Communities for Graduate Students from Developing Countries."

You have been selected to participate in this study, <FIRST NAME>, because you as a CED know how important practical agricultural training experiences are in the educational process. Because you interact with farmers, government officials, and members of the agribusiness community in <COUNTY> County, your opinions are important to us and would be useful to international agricultural educators. Agents with agricultural responsibilities have also received this questionnaire.

You may be assured of complete confidentiality. The questionnaire has an identification number for statistical purposes only. Your name will never be placed on the questionnaire. Completion of the survey is voluntary with no penalty for non-participation. The return of the survey constitutes your consent.

This is a Ph.D. research project. You can receive a summary of results by writing your name and address on the back of the return envelope. Please do not put this information on the questionnaire itself.

We estimate that it will take 15 minutes to complete the questionnaire. Feel free to phone either of us if you have any questions. Thank you for the contribution of your very important opinions. Please return by January 15th.

Sincerely,

Dr. Carroll H. Wanhoff
Chairperson

Roger Steele
Research Assistant



Cooperative Extension Service programs are open to all without regard to race, color, national origin or sex.
Michigan State University, U.S. Department of Agriculture and counties cooperating
MSU is an Affirmative Action/Equal Opportunity Institution



Agricultural & Extension Education

410 Agriculture Hall
East Lansing, Michigan 48824-1039

January 14, 1986

<NAME>
 <JOB TITLE>
 <STREET ADDRESS>
 <CITY> <STATE> <ZIP>

Dear <FIRST NAME>,

As a CES agent with agricultural responsibilities, you have been hearing about how agricultural communities in the United States are becoming increasingly interconnected with foreign countries, primarily through export of farm and agricultural business products. Another significant linkage is the large number of international students who study agriculture in the United States. Currently over 200 graduate students from developing countries are enrolled in the College of Agriculture and Natural Resources at Michigan State University.

We are concerned that these international students receive the highest quality and most practical education. Most will return to their home countries to assume important agricultural leadership positions. With this in mind, a statewide study is being conducted to investigate "Factors Affecting Practical Agricultural Training Experiences in Michigan Communities for Graduate Students from Developing Countries."

You have been selected to participate in this study, <FIRST NAME>, because you as a CES agent with agricultural responsibilities, know how important practical training experiences are in the educational process. Because you interact with farmers, government officials, and members of the agribusiness community, your opinions are important to us and would be useful to international agricultural educators.

You may be assured of complete confidentiality. The questionnaire has an identification number for statistical purposes only. Your name will never be placed on the questionnaire. Completion of the survey is voluntary with no penalty for non-participation. The return of the survey constitutes your consent.

This is a Ph.D. research project. You can receive a summary of results by writing your name and address on the back of the return envelope. Please do not put this information on the questionnaire itself.

We estimate that it will take 15 minutes to complete the questionnaire. Feel free to phone either of us if you have any questions. Thank you for the contribution of your very important opinions. Please return by January 22nd.

Sincerely,

Dr. Carroll H. Wanhoff
 Chairperson

Roger Steele
 Research Assistant



Cooperative Extension Service programs are open to all without regard to race, color, sex, or handicap. Michigan State University, U.S. Department of Agriculture and counties cooperating MSU is an Affirmative Action/Equal Opportunity Institution

Agricultural & Extension Education



Michigan State University
410 Agriculture Hall
East Lansing, Michigan 48824 - 1039
(517) 355 - 8580

January 14, 1986

<NAME>
<HOME STREET ADDRESS>
<CITY, STATE ZIP>

Dear <FIRST NAME>,

As a Vocational Agriculture instructor at <NAME OF SCHOOL>, you have been hearing about how agricultural communities in the United States are becoming increasingly interconnected with foreign countries, primarily through export of farm and agricultural business products. Another significant linkage is the large number of international students who study agriculture in the United States. Currently over 200 graduate students from developing countries are enrolled in the College of Agriculture and Natural Resources at Michigan State University.

We are concerned that these international students receive the highest quality and most practical education. Most will return to their home countries to assume important agricultural leadership positions. With this in mind, a statewide study is being conducted to investigate "Factors Affecting Practical Agricultural Training Experiences in Michigan Communities for Graduate Students from Developing Countries."

You have been selected to participate in this study, <FIRST NAME>, because you as a Vocational Agricultural instructor, know how important practical training experiences are in the educational process. Because you interact with farmers, government officials, and members of the agribusiness community in the <NAME OF SCHOOL> community, your opinions are important to us and would be useful to international agricultural educators.

You may be assured of complete confidentiality. The questionnaire has an identification number for statistical purposes only. Your name will never be placed on the questionnaire. Completion of the survey is voluntary with no penalty for non-participation. The return of the survey constitutes your consent.

This is a Ph.D. research project. You can receive a summary of results by writing your name and address on the back of the return envelope. Please do not put this information on the questionnaire itself.

We estimate that it will take 15 minutes to complete the questionnaire. Feel free to phone either of us if you have any questions. Thank you for the contribution of your very important opinions. Please return by January 22nd.

Sincerely,

Dr. O. Donald Meaders
Professor

Roger Steele
Research Assistant

FIRST FOLLOW-UP
POSTCARD

[FIRST AND LAST NAME]

January 22, 1986

Last week a questionnaire seeking your opinion about practical training experiences for graduate students from developing countries was mailed to you. As [NAME OF RESPONDENT GROUP], you were selected to participate in the study because of your direct knowledge and experiences in your [PROFESSION].

If you have already completed and returned it to us please accept our sincere thanks. If not, please do so today. The survey was sent to only a small group of [NAME OF RESPONDENT GROUP] so your contribution is essential.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now (355-6580) and I will get another one in the mail to you today.

Sincerely,

Roger Steele

Agricultural & Extension Education



Michigan State University
410 Agriculture Hall
East Lansing, Michigan 48824 - 1039
(517) 355 - 8580

February 10, 1986

[FIRST AND LAST NAME]
[ADDRESS]

Dear [FIRST NAME],

About three weeks ago we wrote to you seeking your opinions about factors affecting practical agricultural training experiences in Michigan communities for graduate student from developing countries. As of today we have not yet received your completed questionnaire.

Our department has undertaken this study because of the belief that your opinions as a [RESPONDENT GROUP], who is in touch with the agricultural segment of [PROFESSIONAL RESPONSIBILITY], should be taken into account by academic planners.

We are writing to you, [FIRST NAME], because of the significance each questionnaire has to the usefulness of this study. Only a small number of professionals were selected to participate in the study. In order for the results of the study to be truly representative of the opinions of all [RESPONDENT GROUP] it is essential that each person return the questionnaire.

You may be assured of complete confidentiality. The questionnaire has an identification number for statistical purposes only. Your name will never be placed on the questionnaire. Completion is voluntary with no penalty for non-participation. Return constitutes your consent. This is a Ph.D. research project.

In the event that your questionnaire has been misplaced, a replacement is enclosed. We estimate that it will take 15 minutes for completion of the questions. Your cooperation is greatly appreciated.

Cordially,

[FACULTY NAME AND SIGNATURE]

Roger Steele
Research Assistant

P.S. Many have written to request a copy of the study results. You can receive a summary by writing your name and address on the back of the return envelope. Please do not put this information on the questionnaire itself.

21-2958



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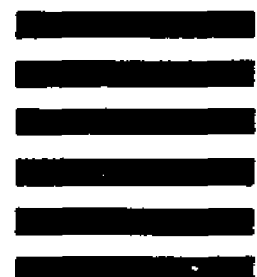
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EAST LANSING, MI.

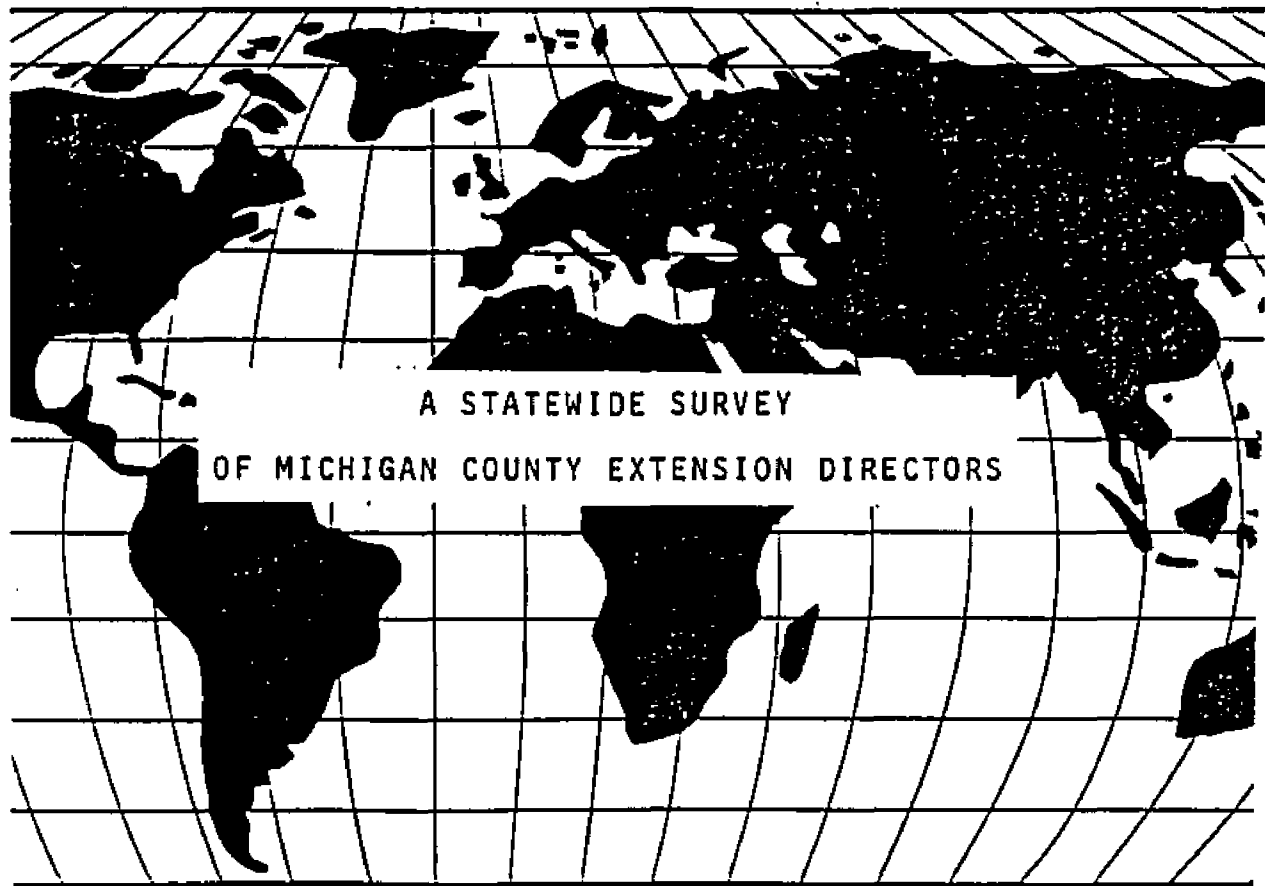
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Michigan State University
Agricultural & Extension Education
410 Agriculture Hall
East Lansing, MI 48824-1039

Attn: Steele



Practical Agricultural Training Experiences
In Michigan Communities
For Graduate Students
From Developing Countries



A STATEWIDE SURVEY
OF MICHIGAN COUNTY EXTENSION DIRECTORS

Department of Agricultural and Extension Education
Michigan State University
410 Agriculture Hall
East Lansing, MI 48824

**Practical Agricultural Training Experiences For Graduate
Students From Developing Countries**

are defined as

Planned off-campus agricultural activities complementing the international student's campus experience and jointly agreed to by the international graduate student, the faculty advisor, and the representative from the farm, agribusiness, or organization/agency in the local agricultural community that hosts the practical training experience.

ANSWER EACH QUESTION THOUGHTFULLY

PROVIDE ADDITIONAL WRITTEN COMMENTS IN BLANK SPACES WHERE NEEDED

PART I

Directions: Involvement in a practical agricultural training experience for international graduate students depends on several factors that affect such an activity. USING THE FOLLOWING CATEGORIES, CIRCLE THE ONE RESPONSE TO EACH STATEMENT THAT BEST MATCHES YOUR OPINION. GIVE CAREFUL THOUGHT ABOUT YOUR OWN EXPERIENCES AND CURRENT WORK OR STUDY ASSIGNMENT.

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

Involvement in a practical agricultural training experience for a graduate student from a developing country would...

Strongly Disagree
 Disagree
 Undecided
 Agree
 Strongly Agree

(circle only one)

1. ...PROVIDE A LOCAL AGRICULTURAL COMMUNITY IN THE U.S. WITH ACCESS TO VALUABLE CULTURAL INFORMATION ABOUT THE INTERNATIONAL STUDENT'S HOME COUNTRY..... SD D U A SA
2. ...STRENGTHEN TIES BETWEEN THE ACADEMIC DEPARTMENTS AT MICHIGAN STATE UNIVERSITY AND A LOCAL AGRICULTURAL COMMUNITY IN THE U.S..... SD D U A SA
3. ...INCREASE THE INTERNATIONAL STUDENT'S CHANCES FOR PROFESSIONAL ADVANCEMENT LATER IN HIS/HER HOME COUNTRY..... SD D U A SA

22

Involvement in a practical agricultural training experience for a graduate student from a developing country would...

Strongly Disagree
Disagree
(Indecisive)
Agree
Strongly Agree
(circle only one)

4. ...ATTRACT MORE INTERNATIONAL STUDENTS TO MICHIGAN STATE UNIVERSITY SEEKING SIMILAR PRACTICAL EXPERIENCES AS A PART OF THEIR ACADEMIC PROGRAM..... SD D U A SA
5. ...HELP A LOCAL AGRICULTURAL COMMUNITY IN THE U.S. TO EXPLORE INTERNATIONAL TRADE POSSIBILITIES..... SD D U A SA
6. ...BE UNRELATED TO AGRICULTURAL COMMUNITY SITUATIONS IN THE INTERNATIONAL STUDENT'S HOME COUNTRY..... SD D U A SA
7. ...REDUCE EMPLOYMENT OPPORTUNITIES FOR MEMBERS OF LOCAL AGRICULTURAL COMMUNITIES IN THE U.S..... SD D U A SA
8. ...NEGATIVELY REFLECT THE QUALITY OF MICHIGAN STATE UNIVERSITY GRADUATE STUDENTS..... SD D U A SA
9. ...GIVE THE INTERNATIONAL GRADUATE STUDENT A MORE REALISTIC UNDERSTANDING OF PEOPLE IN THE U.S..... SD D U A SA
10. ...PROVIDE TECHNICAL SKILLS FROM THE STUDENT'S HOME COUNTRY THAT ARE USEFUL TO A LOCAL AGRICULTURAL COMMUNITY IN THE U.S..... SD D U A SA
11. ...NOT BE A JUSTIFIABLE INVESTMENT OF AN INTERNATIONAL GRADUATE STUDENT'S TIME..... SD D U A SA
12. ...PERMIT APPLICATION OF THEORIES AND TECHNIQUES LEARNED BY THE INTERNATIONAL GRADUATE STUDENT AT MICHIGAN STATE UNIVERSITY..... SD D U A SA
13. ...ONLY BE ATTRACTIVE IF A LOCAL AGRICULTURAL COMMUNITY WANTED TO INCREASE FOREIGN SALES OR TRADE.. SD D U A SA
14. ...PRIMARILY BE A MEANS FOR THE INTERNATIONAL GRADUATE STUDENT TO REMAIN IN THE U.S. PERMANENTLY... SD D U A SA
15. ...MAKE IT EASIER FOR THE INTERNATIONAL GRADUATE STUDENT TO GET A JOB UPON RETURNING TO HIS/HER HOME COUNTRY..... SD D U A SA

TURN
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Involvement in a practical agricultural training experience for a graduate student from a developing country would...

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(circle only one)				
16. ...REQUIRE MORE SUPERVISION TIME THAN FOR A COMPARABLE AMERICAN GRADUATE STUDENT.....	SD	D	U	A	SA	
17. ...DETRACT FROM THE ACADEMIC CURRICULUM CURRENTLY REQUIRED BY THE GRADUATE STUDENT'S MAJOR DEPARTMENT..	SD	D	U	A	SA	
18. ...PERMIT WORK ON A PROJECT OR PROGRAM IN A LOCAL AGRICULTURAL COMMUNITY IN THE U.S. WHICH AN AMERICAN GRADUATE STUDENT COULD NOT DO.....	SD	D	U	A	SA	
19. ...ONLY BE FOR PUBLICITY AND PUBLIC RELATIONS PURPOSES FOR THE INDIVIDUALS AND ORGANIZATIONS COORDINATING THE PRACTICAL TRAINING EXPERIENCE.....	SD	D	U	A	SA	
20. ...GIVE THE FOREIGN STUDENT EXPOSURE TO USEFUL MANAGEMENT EXPERIENCE.....	SD	D	U	A	SA	
21. ...NOT BE A JUSTIFIABLE INVESTMENT OF A MICHIGAN STATE UNIVERSITY FACULTY MEMBER'S TIME.....	SD	D	U	A	SA	
22. ...GIVE LESS OVERALL BENEFIT TO A LOCAL AGRICULTURAL COMMUNITY IN THE U.S. THAN IF AN AMERICAN GRADUATE STUDENT WITH COMPARABLE EDUCATION WERE PARTICIPATING.	SD	D	U	A	SA	
23. ...UNNECESSARILY DELAY THE INTERNATIONAL GRADUATE STUDENT'S RETURN TO HIS/HER HOME COUNTRY.....	SD	D	U	A	SA	
24. ...PROVIDE A LOCAL AGRICULTURAL COMMUNITY IN THE U.S. WITH ACCESS TO VALUABLE TRADE INFORMATION ABOUT THE INTERNATIONAL GRADUATE STUDENT'S HOME COUNTRY.....	SD	D	U	A	SA	
25. ...SATISFY AN IMPORTANT NEED OF INTERNATIONAL GRADUATE STUDENTS STUDYING AGRICULTURE AT MSU.....	SD	D	U	A	SA	
26. ...HAVE TO BE IN THE INTERNATIONAL GRADUATE STUDENT'S ACADEMIC MAJOR AREA TO BE VALUABLE.....	SD	D	U	A	SA	

NEXT, Think
about some
areas of **??**
concern

PART II

A practical training experience could potentially cause some problems. Each of the following statements suggest a concern that could potentially be judged as a problem. USING THE FOLLOWING CATEGORIES, SELECT THE ONE RESPONSE TO EACH STATEMENT AFTER CAREFUL THOUGHT ABOUT YOUR OWN EXPERIENCES AND CURRENT WORK OR STUDY SITUATION

- Probably Would NOT be a Problem..... 1
 Probably be a SMALL Problem..... 2
 Probably Would be a MODERATE Problem..... 3
 Probably Would be a SERIOUS Problem..... 4
 No Opinion..... 5

	<div> <div>Probably NOT Problem</div> <div>Probably SMALL Problem</div> <div>Probably MODERATE Problem</div> <div>Probably SERIOUS Problem</div> <div>No Opinion</div> </div>				
	(circle only one)				
27. CULTURAL DIFFERENCES WITH MEMBERS OF THE LOCAL AGRICULTURAL COMMUNITY IN THE U.S.....	1	2	3	4	5
28. GENERAL UNFRIENDLINESS BY MEMBERS OF THE LOCAL AGRICULTURAL COMMUNITY IN THE U.S.....	1	2	3	4	5
29. ENGLISH ABILITY OF THE INTERNATIONAL STUDENT.....	1	2	3	4	5
30. PRACTICAL AGRICULTURAL KNOWLEDGE AND SKILLS OF THE INTERNATIONAL GRADUATE STUDENT.....	1	2	3	4	5
31. TRANSPORTATION FOR THE INTERNATIONAL STUDENT DURING THE PERIOD OF PRACTICAL TRAINING.....	1	2	3	4	5
32. HOUSING FOR THE INTERNATIONAL STUDENT DURING THE PERIOD OF PRACTICAL TRAINING.....	1	2	3	4	5
33. RELIGIOUS DIFFERENCES WITH MEMBERS OF THE LOCAL AGRICULTURAL COMMUNITY IN THE U.S.....	1	2	3	4	5
34. FINDING A BALANCE BETWEEN MEETING INTERNATIONAL STUDENT NEEDS AND AG COMMUNITY HOST NEEDS.....	1	2	3	4	5
35. TAX LIABILITY FOR HOST OF PRACTICAL TRAINING.....	1	2	3	4	5
36. WORKER'S COMPENSATION FOR HOST OF PRACTICAL TRAINING.....	1	2	3	4	5
37. GETTING APPROVAL FROM U.S. IMMIGRATION AND NATURALIZATION SERVICE (INS).....	1	2	3	4	5
38. GETTING APPROVAL FROM THE INTERNATIONAL STUDENT'S ACADEMIC ADVISOR IN HIS/HER MAJOR DEPARTMENT.....	1	2	3	4	5
39. GETTING APPROVAL FROM THE INTERNATIONAL STUDENT'S FINANCIAL SPONSOR.....	1	2	3	4	5

OTHER PROBLEMS, OR COMMENTS: (Please describe)

NEXT, Consider
Possible terms
& Conditions

✶ ✶

PART III

Directions: Assuming a practical agricultural training experience were to be planned, terms and conditions would need to be determined. You could potentially become involved in some aspect of the practical experience. Answer each of the following questions with your own opinion as if you were to be involved in planning, participation, or implementation. Circle the one response letter which best represents your opinion. Answer each question.

40. Do you feel the international student should be paid during the practical training experience? (circle one)

- A. NO
- B. YES....IF YES, HOW MUCH SHOULD THE COMPENSATION BE?
(circle one)
 - A. REIMBURSEMENT FOR EXPENSES ONLY
 - B. PAYMENT OF MINIMUM WAGE ONLY
 - C. FULL SALARY AS FOR NEW EMPLOYEE AT SAME LEVEL
 - D. OTHER...(Please specify):

....IF YES, WHAT SHOULD THE SOURCE OF COMPENSATION BE?
(circle one)

- A. FOREIGN STUDENT'S SPONSORING ORGANIZATION
- B. MICHIGAN STATE UNIVERSITY
- C. SOURCES IN THE LOCAL AGRICULTURAL COMMUNITY
- D. OTHER...(Please specify):

41. From your perspective, what do you believe are the most desirable lengths for the practical training experience? (circle one)

- A. LESS THAN 3 WEEKS
- B. 3 TO 10 WEEKS
- C. LONGER THAN 10 WEEKS...How Much Longer? (Please specify):
- D. OTHER...(Please specify):

42. From your perspective, what time of year would be most desirable for the practical experience? (circle one)

- A. WINTER
- B. SPRING
- C. SUMMER
- D. FALL
- E. OTHER...(Please specify):

43. From your perspective, what is the best schedule for the practical training? (circle one)

- A. PRIOR TO BEGINNING THE GRADUATE PROGRAM
- B. BETWEEN ACADEMIC TERMS
- C. PART-TIME DURING ONE OR MORE ACADEMIC TERMS
- D. FULL-TIME DURING ONE ACADEMIC TERM (Not taking other classes)
- E. FOLLOWING COMPLETION OF THE GRADUATE PROGRAM
- F. OTHER...(Please specify):

FINALLY, A few
Specifics

PART IV

Directions: You are in a unique position in your county to assess the potential for involvement by graduate students from developing countries in a practical agricultural training experience. What is your opinion, based on your current professional situation, of the following?

Please answer all questions by circling one choice

~~Strongly~~
~~Dislike~~
~~Undecided~~
~~Agree~~
~~Strongly~~
 (circle only one)

44. IT WOULD BE DIFFICULT TO FIND PRACTICAL AGRICULTURAL TRAINING PLACEMENTS FOR INTERNATIONAL GRADUATE STUDENTS IN MY COUNTY.....SD D U A SA
45. IT WOULD BE DIFFICULT TO FIND TEMPORARY HOUSING FOR INTERNATIONAL GRADUATE STUDENTS IN MY COUNTY.....SD D U A SA
46. IF I SUPERVISED OR ASSISTED IN INTERNATIONAL STUDENT PRACTICAL TRAINING PLACEMENTS IN MY COUNTY IT WOULD BE A JUSTIFIABLE INVESTMENT OF MY TIME.....SD D U A SA
47. INVOLVEMENT IN HOSTING OR ASSISTING INTERNATIONAL STUDENTS TO FIND PRACTICAL TRAINING PLACEMENTS WOULD BE OF PUBLIC RELATIONS BENEFIT TO EXTENSION PROGRAMS...SD D U A SA

Circle the one letter that best represents your situation

48. How would you describe your interest in participating in an in-service international training program for CES field personnel? (circle one)
- A. NO INTEREST
B. LOW INTEREST
C. MODERATE INTEREST
D. HIGH INTEREST
49. How would you describe your interest in participating in a short-term overseas international agricultural extension assignment? (circle one)
- A. NO INTEREST
B. LOW INTEREST
C. MODERATE INTEREST
D. HIGH INTEREST
50. How much time have you spent working outside the United States (excluding military assignments)? (circle one)
- A. NONE
B. LESS THAN ONE YEAR
C. 1 - 2 YEARS
D. MORE THAN 2 YEARS
51. How many years have you been a CES employee? (circle one)
- A. 0 - 4 YEARS
B. 5 - 9 YEARS
C. 10 - 19 YEARS
D. 20 YEARS OR MORE

THANK YOU! Please provide any additional written comments on back cover.

PART IV

Directions: You are in a unique position, as a faculty advisor, to assess the potential for involvement by international graduate students in a practical agricultural training experience. What is your opinion of the following?

Circle the one response letter which best describes your situation:

44. Academic credit for the practical agricultural training experience should...
(circle one)

- A. NOT BE GIVEN
- B. BE GIVEN BUT ONLY COUNT AS ADDITIONAL CREDITS TO THE NORMAL GRADUATION REQUIREMENTS FOR THE GRADUATE DEGREE
- C. BE GIVEN AND COUNT TOWARD THE STUDENT'S NORMAL GRADUATION REQUIREMENTS FOR THE DEGREE
- D. OTHER, PLEASE DESCRIBE...

45. Have any of your international graduate student advisees participated in an off-campus practical agricultural training program in the past?
(circle one)

- A. NO
- B. YES

46. Are any of your current international graduate student advisees participating in a practical off-campus agricultural training program during the 1985-86 year?
(circle one)

- A. NO
- B. YES....IF YES, WHAT PROGRAM AND WHERE PLACED? (Please Describe)

47. How much time have you spent working outside the United States (excluding military assignments)?
(circle one)

- A. NONE
- B. LESS THAN ONE YEAR
- C. 1 - 2 YEARS
- D. MORE THAN 2 YEARS

48. How many years have you been employed on the faculty at MSU?
(circle one)

- A. 0 - 4 YEARS
- B. 5 - 9 YEARS
- C. 10 - 19 YEARS
- D. 20 YEARS OR MORE

THANK YOU! Please provide any additional written comments on back cover.

PART IV

Directions: You are in a unique position to assess the potential for involvement by yourself and other graduate students from developing countries in a practical agricultural training experience. Circle the one response letter which best describes your opinions:

44. Academic credit for the practical agricultural training experience should... (circle one)

- A. NOT BE GIVEN
- B. BE GIVEN BUT ONLY COUNT AS ADDITIONAL CREDITS TO THE NORMAL GRADUATION REQUIREMENTS FOR THE GRADUATE DEGREE
- C. BE GIVEN AND COUNT TOWARD THE STUDENT'S NORMAL GRADUATION REQUIREMENTS FOR THE DEGREE
- D. OTHER, PLEASE DESCRIBE...

45. How many years of full-time employment experience have you had prior to entering Michigan State University? (circle one)

- A. LESS THAN ONE YEAR
- B. 1 TO 4 YEARS
- C. 5 TO 9 YEARS
- D. 10 YEARS OF MORE

46. Including your current stay, and any previous temporary residences or visits, how long have you spent in the United States? (circle one)

- A. LESS THAN 6 MONTHS
- B. 6 MONTHS TO 2 YEARS
- C. 2 YEARS TO 5 YEARS
- D. MORE THAN 5 YEARS

47. Which category best describes where you are in your current graduate program?

- A. EARLY STAGES
- B. NEAR MIDPOINT
- C. NEAR GRADUATION

48. Are you currently working as an MSU Graduate Assistant?

- A. NO
- B. YES

49. Do you have assurances that a job will be available for you when you return to your home country? (circle one)

- A. NO
- B. YES

50. How would you describe your interest in participating in a practical agricultural training assignment as part of your current graduate program?

- A. NO INTEREST
- B. LOW INTEREST
- C. MODERATE INTEREST
- D. HIGH INTEREST

51. Do you have a practical off-campus training experience as part of your current academic program at MSU (include any relevant experiences that have completed, are currently involved in, or are planning)? (circle one)

- A. NO
- B. YES...IF YES, WHAT PROGRAM AND WHERE PLACED? (Please Describe)

THANK YOU! Please provide any additional written comments on back cover.

PART IV

Directions: You are in a unique position in your county or counties to assess the potential for involvement by graduate students from developing countries in a practical agricultural training experience. What is your opinion, based on your current professional situation, of the following?

Please answer all questions
by circling one choice

Strongly
Dislike
Dislike
Uncertain
Like
Strongly
Like
(circle only one)

44. IT WOULD BE DIFFICULT TO FIND PRACTICAL AGRICULTURAL
TRAINING PLACEMENTS FOR INTERNATIONAL GRADUATE
STUDENTS IN MY COUNTY OR COUNTIES.....SD D U A SA
45. IT WOULD BE DIFFICULT TO FIND TEMPORARY HOUSING FOR
INTERNATIONAL GRADUATE STUDENTS IN MY COUNTY
OR COUNTIESSD D U A SA
46. IF I SUPERVISED OR ASSISTED IN INTERNATIONAL STUDENT
PRACTICAL TRAINING PLACEMENTS IN MY COUNTY OR COUNTIES
IT WOULD BE A JUSTIFIABLE INVESTMENT OF MY TIME.....SD D U A SA
47. INVOLVEMENT IN HOSTING OR ASSISTING INTERNATIONAL
STUDENTS TO FIND PRACTICAL TRAINING PLACEMENTS WOULD
BE OF PUBLIC RELATIONS BENEFIT TO EXTENSION PROGRAMS...SD D U A SA

Circle the one letter that best represents your situation

48. How would you describe your interest in participating in an in-service
international training program for CES field agents? (circle one)
- A. NO INTEREST
B. LOW INTEREST
C. MODERATE INTEREST
D. HIGH INTEREST
49. How would you describe your interest in participating in a short-term
overseas international agricultural extension assignment? (circle one)
- A. NO INTEREST
B. LOW INTEREST
C. MODERATE INTEREST
D. HIGH INTEREST
50. How much time have you spent working outside the United States
(excluding military assignments)? (circle one)
- A. NONE
B. LESS THAN ONE YEAR
C. 1 - 2 YEARS
D. MORE THAN 2 YEARS
51. How many years have you been a CES employee? (circle one)
- A. 0 - 4 YEARS
B. 5 - 9 YEARS
C. 10 - 19 YEARS
D. 20 YEARS OR MORE

THANK YOU! Please provide any additional written comments on back cover.

PART IV

Directions: You are in a unique position in your school's community to assess the potential for involvement by graduate students from developing countries in a practical agricultural training experience. What is your opinion, based on your current professional situation, of the following?

Please answer all questions by circling one choice

Strongly
Dislike
Dislike
Indifferent
Like
Strongly
Like

(circle only one)

44. IT WOULD BE DIFFICULT TO FIND PRACTICAL AGRICULTURAL TRAINING PLACEMENTS FOR INTERNATIONAL GRADUATE STUDENTS IN MY SCHOOL'S COMMUNITY.....SD D U A SA
45. IT WOULD BE DIFFICULT TO FIND TEMPORARY HOUSING FOR INTERNATIONAL GRADUATE STUDENTS IN MY SCHOOL'S COMMUNITY.....SD D U A SA
46. IF I SUPERVISED OR ASSISTED IN INTERNATIONAL STUDENT PRACTICAL TRAINING PLACEMENTS IN MY SCHOOL'S COMMUNITY IT WOULD BE A JUSTIFIABLE INVESTMENT OF MY TIME.....SD D U A SA
47. INVOLVEMENT IN HOSTING OR ASSISTING INTERNATIONAL STUDENTS TO FIND PRACTICAL TRAINING PLACEMENTS WOULD BE OF PUBLIC RELATIONS BENEFIT TO VOCATIONAL AGRICULTURE PROGRAMS...SD D U A SA

Circle the one letter that best represents your situation

48. How would you describe your interest in participating in an in-service international training program for Vocational Agriculture Teachers?

(circle one)

- A. NO INTEREST
B. LOW INTEREST
C. MODERATE INTEREST
D. HIGH INTEREST

49. How would you describe your interest in participating in a short-term overseas international agricultural education assignment? (circle one)

- A. NO INTEREST
B. LOW INTEREST
C. MODERATE INTEREST
D. HIGH INTEREST

50. How much time have you spent working outside the United States (excluding military assignments)? (circle one)

- A. NONE
B. LESS THAN ONE YEAR
C. 1 - 2 YEARS
D. MORE THAN 2 YEARS

51. How many years have you been a Vo-Ag teacher? (circle one)

- A. 0 - 4 YEARS
B. 5 - 9 YEARS
C. 10 - 19 YEARS
D. 20 YEARS OR MORE

THANK YOU! Please provide any additional written comments on back cover.

We appreciate your willingness to share your opinions about practical training programs for graduate students from developing countries at Michigan State University.

ARE THERE ANY FINAL COMMENTS OR SUGGESTIONS THAT YOU WOULD LIKE TO MAKE?
Please use the space below to make your comments.

If you are interested in receiving a summary of the results of this study after the data are tabulated, we would be pleased to include you on our reporting list. To facilitate this, and maintain confidentiality, write your name and address on the back of the return envelope before returning your questionnaire. Do not write your name on the questionnaire.

THANK YOU AGAIN!

APPENDIX C

UNDECIDED RESPONSE DATA FOR PART I

APPENDIX C. Undecided response data for Part I

Item	Faculty (n=77)	Student (n=108)	CES (n=63)	CED (n=73)	VOAG (n=105)	Total weighted mean
No.	% undec.	% undec.	% undec.	% undec.	% undec.	% undec.
1	15.6	7.5	16.1	8.3	11.5	11.4
2	19.5	17.6	29.0	20.5	16.3	19.8
3	32.5	8.3	17.7	30.1	20.2	20.8
4	26.0	13.9	16.1	12.3	21.9	18.1
5	31.2	31.8	37.1	37.5	18.1	30.0
6	22.1	14.8	21.0	23.3	27.9	21.7
7	3.9	11.1	9.7	12.3	8.6	9.2
8	10.5	3.7	17.7	11.0	15.2	11.1
9	2.6	4.6	0.0	2.7	0.0	2.1
10	28.6	28.3	42.6	41.1	30.5	33.2
11	19.5	3.8	11.3	12.5	8.6	10.4
12	13.0	5.6	16.21	17.8	6.7	10.8
13	6.6	19.4	6.5	8.2	8.6	10.6
14	11.7	7.4	24.2	21.9	18.1	15.8
15	33.8	25.0	30.6	42.5	21.0	29.4
16	3.9	19.4	9.5	17.8	10.5	12.7
17	18.4	22.6	17.5	16.4	22.9	20.1
18	10.4	20.8	27.0	21.9	20.0	19.8
19	13.2	11.1	11.1	5.6	12.4	10.8
20	9.1	5.6	3.2	5.5	3.8	5.4
21	24.7	5.6	19.0	20.5	14.3	15.7
22	19.5	16.8	25.4	26.4	18.1	20.5
23	22.1	8.3	25.4	12.3	10.5	14.6
24	30.7	29.0	31.7	24.7	28.2	28.7
25	19.7	8.4	9.5	17.8	10.5	12.7
26	9.1	6.6	11.1	19.2	9.5	10.6
Total						
Weighted						
Mean	17.6	13.7	18.7	18.8	15.2	16.4

APPENDIX D

NONRESPONSE DATA FOR PART II

APPENDIX D. Nonresponse data for Part II

Item	Faculty (n=77)	Student (n=108)	CES (n=63)	CED (n=73)	VOAG (n=105)	Total weighted
No.	%	%	%	%	%	%
27	1.3	2.8	3.2	0.0	1.9	1.9
28	0.0	4.6	3.2	1.4	3.8	3.1
29	0.0	1.9	1.6	0.0	2.9	1.2
30	3.9	2.8	4.8	2.6	6.7	4.2
31	2.6	7.4	3.2	4.1	9.5	5.9
32	2.6	4.6	0.0	1.4	3.8	3.1
33	2.6	6.5	0.0	1.4	8.6	4.5
34	5.2	4.6	0.0	1.4	4.8	3.5
35	32.5	44.4	21.6	20.5	27.6	31.8
36	29.9	38.9	14.3	19.2	18.1	25.4
37	32.5	21.2	36.5	38.4	41.0	23.1
38	0.0	4.6	17.5	26.0	22.9	13.8
39	24.3	6.5	26.4	32.9	34.3	22.1
Total						
Mean	10.6	11.6	10.2	11.5	14.3	11.0

APPENDIX E

WRITTEN COMMENTS FROM QUESTIONAIRES

**Selected Comments--Back of Questionnaire
International Student Faculty Advisors**

"Many students do have this experience in their undergrad programs in their home countries. I have tried to accomplish this by having the student travel with me on outstate farm trips."

"This approach is commendable. However, the same objectives could be achieved by involving an international student in a "meaningful extension experience" ranging from on farm field research to communication skills development."

"A viable approach to exposing graduate students from developing countries to American agriculture is to have them accompany our extension faculty on farm visits and to participate in off campus extension programs for producers. This can be handled in each department, without setting up a complex program with all the ensuing red tape. We are currently encouraging this approach to our foreign students. It is important that the student have the opportunity to experience American agriculture, but the exposure can be obtained over a short period of time, without detracting from the necessary curriculum."

"If the college or any college are going to permit this activity, adequate financial support is critical. Please note that most units at MSU are under funded...The need is certainly prevalent for international students and could benefit local communities with carefully selected local people to supervise this activity. The greatest import at the local level would probably be with the schools and various civic groups."

"Foreign grad students come to MSU to obtain a formal advanced degree. If they wanted practical work experience they should go to a technical college. An advanced degree for research should include the practical experience of that research in the experimental design. Thus, the training is part of the degree, and directly related to the accumulation of data."

"The most useful time of year to participate would be the summer months in agr fields. This would be a direct conflict with the field research of students enrolled in thesis programs."

"I think the value of the proposed program depends so much on the expertise they want to gain. Some want and need solid training in the sciences to function in technological advancing world. In this situation, a community program would detract from the time they need to gain this solid foundation. Others may have a different purpose and goal where this program might be more acceptable. Nonetheless, it shouldn't get in the way of a solid training in the basics since those demands of knowledge never change but need to be applied in many different situations and over time."

"I can see many problems for the student and for the 'community'. This program is idealistic but I seriously question its practicality. Too many problems, most from the 'community'. With current retrenchment in so many areas, Gram-Rudman, etc., I would be reluctant to see MSU, etc. embark on this program. We have more important priorities! Where can MSU point to significant improvements in life for people as a result of millions of \$\$ expended on international programs. The bottom line is that it all gets down to POLITICS. Sorry, your project would be great in the 'ideal' world, but it won't work, it won't help, etc. in the 'real' world. The local 'communities' don't have the idealistic flavors that MSU 'do-gooders' have. I don't think you can 'sell' this program at the local level unless you can show them a potential for economic gain, so far it has all been a loss for USA. We export our technology and 'they' take our export markets!!"

"The students I have had contact with have limited funds from their governments which is a problem and how long they can stay. I have no research scholarships to offer them, so they must come on outside funds of some sort. I usually have to nickel and dime it on selected American students."

"I think the experience would benefit the international student more than the local agricultural community, in that he/she would learn more about the American culture. If the student were from a European country the differences would be slight. If the student were from Africa or Asia, the differences could be considerable. In our area, this type of program could delay the completion of the graduate program and consequently this might be troublesome to the sponsoring organization."

"Very few foreign graduate students in my experience have any experience in handling machinery or farm equipment. If an accident were to occur, who is responsible for injury and/or death? And what about needs for health care? Many foreign student have visas that do not permit working for pay. This could create problems. There must be some selection of host employers and an understanding of the kind of experience provided. I would not want a student of mine to spend much time hoeing sugar beets, for example."

"Overall, I feel it could benefit student, benefit to local agric group largely minimal except in rare circumstances (Of course, there could be benefit in terms of social--i.e. dealing with different religions, etc.)"

"I think that (practical) experience is very hard to obtain. In particular, it is very unlikely that an international student will return to a similar agricultural economy as here in the US. This makes the experience of questionable validity since it will probably not relate to the student's home country. I

think such a program would be a very poor use of the limited resources of MSU."

"I generally support the idea of getting foreign students off campus to learn more of American life and culture--also some practical training in different fields of endeavor related to academic pursuits is very valuable. In some cases it could be good to live and work on a farm with a host family that was compatible. In this case some compensation could be given."

"Such a program would not be for all foreign graduate students, but would be highly beneficial and educational to some."

Selected Comments - Back of Questionnaire MSU Graduate Students from Developing Countries

"The practical training experience could be done without credit but that might necessitate extension of the student's stay in US and sponsors may not readily buy the idea because of gross shortage of manpower at home. As an alternative if MSU will compensate the student while on such training, it may be easier to convince the sponsor. If credit is given, there will be no problem with either the student or the sponsor. The sponsor will not find any problem in making compensation in the form of reimbursing additional expenses the student may incur during such training. To make it more meaningful to all parties, the student should be able to choose the type of farm operation and family he/she would work with.

"I strongly think that the students should not get paid (maybe just living expenses) in order to maintain or to keep working with those students that worth the program for what it is, not for what they'll get from \$\$.

"Practical agricultural training must (can) involve not only state or university farms, but also private farms."

"Program should, as much as possible, not present any extra financial problems to students since many f.s. in Ag are on limited funds and have to work. On the other hand, if program provides some financial gain in addition to the experience, it would be certainly attractive to students. Participants should be required to write a report at the end of the prog. For sponsored students, there usually is a definite period for completion of programs/studies--2 yrs for MS and 3 yrs for PhD. Since they have commitments to organizations, post grad training may require permission from sponsors. In their case, the p.t. will best be made part of the regular training time."

"Practical agric programs will interest and benefit many if not given as a tuition carrying activity with some measure of stipend paid for meeting personal expenses. Equally important in

the program is the need for a cross-cultural element to help ensure a level of environmental adjustment for foreign participant."

"There is a big growing gap between US technical know how in ag and 3rd world countries such that it would be difficult to find what is "appropriate" for foreign students. e.g. While MSU and farm communities are planning to head for computer managed farms the average 3rd world country is considering animal traction."

"I believe very strongly that all foreign students need to participate in a training program to gain practical knowledge. MSU was designed for the advancement of education. Therefore, I believe that the education of black and white, foreign and American, poor and rich is equal, thus it is not fair to discriminate foreign students from Americans by keeping them away from training programs."

"I think practical training programs should be done after graduation for three reasons:

1. To overcome any language difficulties.
2. To have better academic background in the training area.
3. To strengthen the relationship between the University and the graduate when he returns home.

... most people prefer to stay for practical training if they have some source of income no matter where it comes from to support their living condition, otherwise they like to participate, but they cannot especially at the end of the program."

"...cultural problems on some issues prevented me to respond in any other way except saying U- I am not sure."

"I appreciate if MSU could provide some practical agricultural training experiences for international graduate students, because those experiences would be very useful in helping international grad students help their governments develop their countries."

"To produce graduates of excellent quality and highly respected in their respective professions, graduate students should also be exposed to practical experiences besides the theoretical course work. There should not be any difference whether they are American citizens or foreign students. The University and the host country should consider every student as the same, once they have been admitted. They will then promote the good name of MSU, and in the whole, the US when they are back serving their own countries."

"In my opinion the subjects to be trained should be of general interest in a way that interdepartmental students could get advantages of those subjects...the training period could be divided into subperiods of about 2 weeks to practice in each area."

"In many cases the practical training and employment has a greater impact and value for the foreign students as compared with their academic achievements."

"I had some practical training experience when I was an undergraduate student. It was required or a part of the undergraduate program. I did it after I had finished the core (required) courses of my program. I do feel it is very beneficial for the student..."

"I am forced to say how I value practical training for grad students. Perhaps it is more so with us students from the developing countries that feel at a loss after returning back home and finding out not only are we ill equipped to grapple with our new responsibilities, but also finding out that there is no way to turn to somebody nearby to help out!! We can be trained academically to a degree of PhD, but that is no comfort to us when it comes with the practical aspects of the job we ought to do. I would equate the situation as learning the parts of an engine (car, plane, etc) and becoming good at that, but be at a loss when it comes to trying the machine!"

"(A) practical training program is very important to foreign students who are interested (in) more practical area(s) of agriculture. Even we have different cultural background in terms of agricultural system, it is still very helpful. It will provide us a chance to apply our knowledge learned in the classroom and labs to the real situation and to solve real problems."

"Any training program meant for international students should be of an academically acceptable standard and based on a standard evaluation procedure. Academic advisors or major professors to be involved in designing a training program for their students. I strongly feel that what international students need is an exposure to the American system (from a practical aspect rather than from a book reading approach); maybe not practical work (milking a cow, driving a tractor). Often these students are not acquainted with the system in which their education takes place. I therefore advocate for an orientation program that takes the student practically to the agencies dealing with the local community i.e. local govt., extension services, school boards, marketing agencies, farming communities. Build this into the requirement for international students registration at MSU. This is the only way financial sponsors would pay. To be done during the student's first summer term or spring. This way it will appeal to students with practical training experience from their countries. Picking eggs or milking cows is the same all over the world."

"A practical training is basically to the advantage of a student. It allows for transfer of classroom knowledge into the real world. For foreign students it exposes one to a new set of

cultural and institutional system where one can evaluate the classroom knowledge in the system's perspective and then sort out how relevant the two dimensions are to one's cultural and institutional system in LDCs. If payment can be made, it would be a good incentive for the graduate student. The whole arrangement should be optional."

"I think there is a mutual benefit between USA programs for foreign students and the foreign students and their countries from the other side. From the USA side 1. political benefit 2. trainers help to fulfill the US projects and research. From foreign countries and their students they improve their skills and professions and sometimes they get financial benefits."

"A practical training for an international student may not be very useful except the student is adequately placed. He/she had to be placed in the right place for the right experiences. Administrators and others involved in this kind of project have to consider essential factors in placing students for maximum benefit for all participants. Many graduate international students know (or should have some idea) about some specific areas of interest where practical experience would be most valuable. These areas of interest for each student have to be identified on arrival, but not later than the first two terms. Many course contents do not meet the real needs of students in this category (i.e. graduate students from dev. countries) so these students' input in some aspects of the content of the practical training package would be useful."

"I think that most of the graduate students from developing countries have worked for a certain period prior to their enrollment at MSU. They do have an idea of what the agricultural system is in their country; the technology and the management used. The graduate program here at MSU should provide them first some analytical tools for a scientific understanding of the agricultural system. A practical training would not hurt if it helps the student to relate what he learns in the classroom to how it is used in the real world."

"I think the present education system in MSU is only a method oriented system which is insufficient to fulfill the needs of practical skills of the international students. The proposed practical agriculture training should be an essential part of the graduate study program, which will help in producing not a method oriented graduate but a problem oriented student who would be more useful for his country's need."

"I have been studying at MSU for more than 4 years and never feel being treated as "student from developing country". There is no program especially designed for international students at all. We take the same courses as US students and do research with a topic much more related to the interest of advisor than to the needs of our home country. However, I

believe that practical training is beneficial to graduate students, both US and international."

"I consider the practical training a great opportunity for international students to gain practical experience in their fields of interest. It is a fact that most international students did not have any practical experience during their education in their home countries largely due to lack of facilities and funds, practical training here should be of great value and paramount importance in their future careers."

"It might be best if students go to institutions that do research or work in developing countries i.e. CIMMIT, FAO, IRRI, etc. where personnel have developing world experience other than the over industrialized USA (for developing countries that is)."

"I think agricultural training experience would be very good program. That will be helpful not only to get the practical experience for agriculture but also to exchange and learn the different cultures. The student who just studies on the campus cannot have a chance to learn the American culture and people more specially. If the funds, time and counting as credit are solved, this program will be welcomed by foreign students. I would like to suggest this program include living and working on the farm as a host family."

"I think it will help the graduate student to get experience in addition to knowledge and research. He can really understand the community and the practical training skills. I would like to get practical training relevant to my field of research."

"I would like to point out that a number of questions (statements, etc) made in this questionnaire/brochure seem to suggest or imply that the foreign student is necessarily a "sponsored" student, whereas in reality many are not. There are also several students in agriculture who are from "developing" countries which are not tropical in location (e.g. Chile, Argentina, parts of Southern Africa, Iran, Turkey, China, N. Taiwan, Afghanistan, Iraq, Greece, etc.) Their experiences at MSU and in a practical training program in such a temperate location as Michigan would probably be a little more relevant to their situations "back home". The value of the training might very well hinge on this aspect alone, particularly in the actual production fields."

"One important consideration is providing an international trainee the opportunity to discuss with the farmers or local agricultural community agricultural practices in his home country to promote better understanding of the developing countries' cultural practices."

Selected Comments--Back of Questionnaire
CES Field Agents

"Local CES personnel should be involved in developing a practical training program in their county or counties based on the students' needs and educational background. Students should also spend part of this training and experience working with local CES agents."

"If we are going to continue to train people from other countries, focus on those who cannot feed themselves now and are not a threat to current US markets."

"With the current economical situation there are farmers and some ext agents who would oppose the program. They do not understand the situation in the lesser developed countries and presently not willing to change their attitude."

"I think it's a great idea to develop stronger international ties in agriculture, we must face the facts that we are dealing in a world market place. As an aside, I see some real benefit in requiring domestic grad student do the same."

"Farmers don't like giving information to foreign countries so that they can compete in world trade anytime."

"No doubt education is very important, but many growers in our community find it very difficult to support a program that teaches international students how to produce soybeans, corn and wheat then go home and compete with the American farmer on the world market."

"I see the following problems: (1) Lack of knowledge and training with American machinery. This may be dangerous; (2) Lack of skills such as using milking machines; (3) American farms do not need much unskilled labor, would student be willing to do manual labor?; and (4) The farms that usually hire labor are large mechanized farms. Small family farms don't hire many people and do not have living facilities. I would try to arrange for a small farm to take person."

"Practical agricultural training experiences should be available for US citizens as well as developing countries in agriculture."

"This program sounds interesting. Several farmers in the thumb area have had foreign exchange students live with them so this probably is or would not be 'new' to them. This program would also benefit the majority of graduate students from the US as well."

"The foreign students do need practical experience but so do many of the US students. Why are the large majority of foreign student from Africa? I find it extremely difficult to understand what they say. It would be even more difficult to try to supervise them."

"This idea has a great deal of merit in terms of providing a better understanding to foreign developing countries concerning US agriculture. Specifically, it should help them understand the current problems we are facing as we enter the world markets and the adjustments we are being forced to make."

"In trying to find placements for IFYE exchanges it was difficult as well as LABO exchanges. The Rotary has run successful exchange programs in our area. I think the program could work with some effort. High unemployment is a problem in our area."

"I believe a program of this nature benefits both cultures. Convincing others is often the hard part."

"We will have a person from Plan Sierra of the Dominican Republic living in our home and working in our CES offices learning to use dBaseIII and setting up a microcomputer program for Plan Sierra. We are looking forward to this. This is forcing me to learn Spanish."

"I think that assigning an international student to work in a local community has to be a cooperative effort, which can result in positive linkages between the University, the community, and the student, if managed and supervised properly."

"Efforts should include a profile of the grad students interest and background. Give agents and others an opportunity to put together possible experiences and let the grad student and advisors choose the best opportunity. I have had the best experience in the placing of exchange grad students where adequate time has been provided and where some common link etc. church, major training or strong common interest provides a bond between the student and family or group of families."

"The developing country students I have met at MSU and in the field are usually on a specific government mandated track. In contrast to a few from wealthy families or business supported who have more flexibility. The only students I have met with a desire to get a practical experience have been from the developed nations. The most common desire of grad students from other countries seems to be to have time to tour the US and Canada and see as much of it as possible, or to get a technical training that might qualify them for a permanent work visa or eventual citizenship. Of course, government sponsored students have commitments to their home countries."

**Selected Comments--Back of Questionnaire
County Extension Directors**

"Small family farms in Northern Michigan are less versatile in providing accommodations and or supervision for trainees!"

"We would very much like to participate in a program provided the student speak fluent English."

"The selected graduate student should be sent to an area where he will not clash with the locals, i.e. Muslim student--swine producing area, or be sent into area where strong European ethnic ties are strong and non resilient to change or outsiders, compatibility is the key."

"In general, farmers in this county do not have a very positive attitude about foreigners. I have received some feedback from time to time, indicating that some citizens feel there are too many foreign students on the MSU campus. Some farmers here feel that in some regards, our country (USA) had done too much in helping other nations develop agriculture technology and this has reduced our ability to export ag products."

"Personalities of both guests and hosts are a major key to success. We can learn from them as well as them learning from us. Communications must be kept open."

"Should be a tremendous growth opportunity and mutually beneficial for both the graduate student and the agricultural community. The pluses certainly outweigh the minuses in favor of such a proposed experience."

"I believe on farm training is a good idea, but each student would have to be evaluated and placement made according to the needs of the student-- time in the field, subject matter, etc. should be flexible."

"I think the extension staff in a county wanting to work close with international students should function as a team with perhaps the 4-H agent or home economist chairing the county involvement. Extension administration and program leaders would have to visibly/verbally show endorsement for such an effort."

"I'm supportive of international programs; and with some timing of work commitments I would be interested in participating in some program."

"The keys are interest in a commodity area by a student, i.e. apple, wheat, or whatever and program flexibility."

"As a non-ag CED, I see real need to have our Ag Agent provide leadership in helping work up placements. I could help on the various aspects of monitoring and counseling."

"Internships are important in education. Successful internships are beneficial when the following occur: the interns' objectives are met; the graduate departments' objectives are met; and the hosts' objectives are met."

"More exchange opportunities by whatever means possible would be good."

"I think it would be great to provide a local community work experiences but it has to be with someone that will take the time and enjoys having them around. Most are too busy, some are indifferent. I doubt if foreign trade would be significantly affected in 99% of the cases."

"This program has a lot of potential. I'd be interested in helping."

"The key to the success of such a program as is described, is, in my opinion, setting and clarifying in writing the expectations of the experience for both the receiver and the provider. Also a key to success is the coordination of the experience from MSU. Local staff cannot assume daily responsibilities for overseeing such a project!"

Selected Comments--Back of Questionnaire Vocational Agriculture Instructors

"Local communities are the best area for training. Local Vo-Ag Dept may be helpful in securing work station and housing, but the coordination of the grad students should be done primarily by the University. A program might be followed up with the Voag teacher making a return visit to the grad students home country. If both exchange there is a better chance for something permanent to develop like a trade agreement."

"...I question, where, when we have trouble finding money to get staff to MATVA activities, FFA events, etc., is the financing coming from to adequately sponsor this type of program, with proper supervision?"

"It would take way too much time. I feel our community would have some very strong biases on some countries that are anti American."

"Right now I cannot place all of my Ag students in a job in Agriculture. Have a foreign student or students to place would complicate matters."

"Students from some Middle East countries would not be received with open arms in the community."

"With all the items of concern for Vocational Agriculture teachers, I wonder where we would find the time...I think they need to see agriculture in the true small town atmosphere, but an international student would have to (have) teaching ability so he could be a speaker to our ag students and community leaders."

"I believe that unless placement were during the summer--supervision by Voag teacher might be somewhat minimal because of all other activities and responsibilities."

"I feel that one should plan a lot of lead time in order to place students for housing and work experience. If I were to help place, I should be looking at 6 mo--1 year in advance. I could not and would not want to help place someone with just 30 days notice for example."

"I would think this experience would be treated just like those students out on student teaching."

"Concerns: (1) Selling local administrators (2) Liability laws for experience (3) Visitation/coordination by MSU staff. Suggestions: (1) Pre-experience at KBS or similar facility; (2) Match language/skill competency and interest to student; (3) Schedule periodic group discussion/sharing experiences."

"We host WEA workers and the time commitment is too great!"

"The more 'hands-on' experiences you could provide these students, the more meaningful their education will be. However, it needs to be for a period of time that they get true exposure to an area/subject, not just a quick look to see that it exists and not really understand the how and why."

"It sounds as if you are very concerned about quality learning for foreign students and are willing to give it to them. Do the same for American students! Too often, American students are given advanced theories in the academic program, and are expected to get practical experience on their own. There is at least as great a need for American students to have practical experience as part of the program as there is for foreign students."

"I wish those with leadership at MSU would consider practical training programs for US students. Today's student lack is this area and it would add common sense and appreciation to their interpersonal skills. It is a big project but if MSU want to be great this is needed badly."

"It would be of more value to the grad student than the local community. Such exchange programs are more for the benefit of the participant than the sponsors."

"Both of the host families from our county were very pleased with their experience with the (international) students that they hosted. They both would be interested in participating as hosts again in the future if needed. I only request that more ground work be laid out, prior to making commitments with foreign agencies and students..."

"I believe making contact with people in the Agri-business for a profit should be surveyed. This would give the leads you would need. Likewise the foreign students agri-business import and export source will need to be involved."

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