PERCEPTIONS OF BENEFITS OF SELECTED EDUCATIONAL EXPERIENCES BY DEVELOPING COUNTRY AGRICULTURAL ALUMNI OF OKLAHOMA STATE UNIVERSITY

By

GLADE CHARLES PRESNAL

Bachelor of Arts
Kansas State University
Manhattan, Kansas
1966

Master of Science
Kansas State University
Manhattan, Kansas
1980

Submitted to the Faculty of the Graduate College
of the Oklahoma State University
in partial fulfillment of the requirements
for the Degree of
DOCTOR OF EDUCATION
July, 1985

PERCEPTIONS OF BENEFITS OF SELECTED EDUCATIONAL EXPERIENCES BY DEVELOPING COUNTRY AGRICULTURAL ALUMNI OF OKLAHOMA STATE UNIVERSITY

Thesis Approved:

Thesis Adviser

Dean of the Graduate College

ACKNOWLEDGMENTS

The researcher is indebted to many who have supported and encouraged him in the completion of this study. Thanks go to those international alumni of Oklahoma State University that took the time and effort to provide the data on which the study is based. The writer gratefully acknowledges the financial support for postage and materials provided by the Office of International Programs at Oklahoma State University and special thanks to William Abbott, Hugh Rouk, and Conrad Evans for their experienced guidance and support.

Sincere appreciation is expressed to the members of the author's committee: Drs. Eddy Finley, Robert Reisbeck, and Deke Johnson, with a special debt of gratitude owed to Dr. H. Robert Terry, Committee Chairman and Major Adviser. The completion of this study would not have been possible without the continuous support, guidance, and encouragement of Dr. Robert Price. The writer owes him a debt of gratitude that can never be adequately repaid. Many of the favorable comments made by the subjects of this study could be credited to the work of "The Old Camel" during more than four decades at Oklahoma State University.

For the researcher's parents, Ross and Madeline Presnal, a special debt of gratitude is expressed for the sacrifices made by them during the lean years. Finally, the writer expresses love and appreciation for his wife, Faye Ann, daughter Melissa, and sons, Michael and Patrick,

for their love, support, and sacrifices made during the course of this study.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The role of the American university in providing education and training for international students has become increasingly important. The scope of efforts in educating foreign students has increased ten-fold during the last 30 years. The ability of nations comprising the lower economic strata of the so called "Third World" to feed an apparently ever increasing population is, in the judgment of most demographers, decidedly suspect. Clearly associated with this phenomenon is the fact that in these same nations there continues an appalling shortage of indigenous educated researchers, teachers, and change agents. These shortages can be met, at least in part, by quality training programs both in American universities and in institutions within the community of developing nations.

In 1952 there were 34,232 international students studying in the United States' post-secondary institutions (Boyan, 1981). By 1982 the number had increased to 326,000 of which 75 percent, or 244,500, were from the developing nations (Hood and Schieffer, 1983). Since the earliest recorded times, scholars and students have migrated to the countries that were recognized as having something of value to offer.

Thomas Jefferson is quoted by York (1984) as saying in 1820:

> In an infant country such as ours, we must depend for improvement on the science of other countries, long-established, possessing better means and more advanced than we are. To prohibit us from the benefit of foreign light is to confine us to long darkness (p. 8).

York went on to say, "Such a statement could well be echoed by developing countries around the world today" (p. 8). It appears that international students are gaining something from their learning experience in the United States. One important question arises, however; do the students gain mainly from acquired prestige of an American degree or is such learning truely of value to the student and consequently to the welfare of people of their homeland?

Students selected for study in the United States are often the social and intellectual elite of their countries and they return home to eventually reach high levels in government, business, and education. The value of their experiences in the United States will have an impact on their personal success in their homeland but will also influence how they view the United States for years to come. Hull (1978) tells of his conversations with President Nkrumah of Ghana who studied at a university in Pennsylvania prior to the civil rights movement of the 1950's:

> . . . There were no arguments to be offered that could alter the emotional reactions which President Nkrumah carried deep within him. He had felt the pain of loneliness and the fear of rejection, sometimes hatred, as a black foreign student in the United States. The exchange of students has long term implications that are not easily understood. We will probably never know how his student experiences in the United States influenced the ideological development of Kwame Nkrumah or of Ghana (p. 7).

It would seem imperative, then, that the nature, extent and quality of educational and social experiences of the international student in the

United States be such as to prove of maximum value when they return home and particularly that memories of learning experiences will be positive and reinforcive in nature.

Oklahoma State University has been providing post-secondary education to foreign students in appreciable numbers for more than four decades. In the 1983-84 school year a total of 1,933 foreign students were in attendance with 200 pursuing studies in the College of Agriculture. Of these 200, 43 were pursuing Masters degrees and 76 were working on doctorates (Student Profile, 1983). This large proportion of graduate students at Oklahoma State University is reflective of the national situation. In the 1980-81 academic year 3.2 percent of all foreign students in the United States were in agriculture-related fields of study. At the graduate level, however, 28 percent of the agriculture graduate students were foreign (Hood and Schieffer, 1983). The scope of the effort to train international students, both nationally and at Oklahoma State University, is extensive and consumes large amounts of educational resources. These limited resources should be used wisely in training efforts that are relevant to the needs of the student when they return to their homeland.

Statement of the Problem

The central problem with which the study was concerned was the extent of relevancy to career preparation of selected educational experiences received by international students in the College of Agriculture during their sojourn at Oklahoma State University. Were they learning subject matter and methods that could be readily applied when they returned home? Were skills learned appropriate not only for

higher-level positions in the home country but also for entry-level positions? Answers to these questions, it was felt, must be available to the faculty and administrators of the College of Agriculture if relevant curriculum planning and implementation of optimally effective teaching methods and strategies were to take place.

Purpose of the Study

The major purpose of this study was to assess the appropriateness and the effectiveness of selected educational experiences in terms of preparation for careers in developing countries as perceived by international agricultural alumni of Oklahoma State University. A concomitant purpose was to analyze secured data to provide a basis for recommendations directed toward enhancing learning experiences in agriculture provided to international students at Oklahoma State University.

Objectives of the Study

Specific objectives established for attaining the above purpose were:

1. After location of as many Oklahoma State University Agriculture College alumni from developing countries as possible to determine the following:

    a. Initial job after completion of schooling,

    b. Present occupation,

    c. Initial and present demographic data (socio-economic, geographic), and

    d. College of Agriculture department and degree level of graduates.

2. Secure and analyze perceptions and judgments as to the extent to which selected learning experiences at Oklahoma State University were found to relate to the career of each student. In particular, to obtain self-perceptions as to the nature and extent of benefits accruing from such learning experiences.

3. From an analysis of the data gathered, develop recommendations directed towards attainment of possible improvements in learning experiences as these relate to job success in future careers of international agricultural alumni.

Assumptions

For the purpose of the study, the following assumptions were accepted:

1. It was assumed that the characteristics of past graduates would, in general, be similar to the characteristics of future graduates.

2. It was assumed that the respondents could accurately recall their experiences and make accurate judgments as to their relevancy and value.

3. It was assumed that alumni completing the response schedule were committed to doing so with relative honesty and accuracy.

4. It was assumed that judgments of former students concerning relevancy of educational experiences to career preparation is a reliable source for evaluation.

Scope

1. Questionnaires could only be sent to those members of the population for whom complete and correct addresses were obtainable.

2. Data gathered were limited to perceived relevancy of educational experiences, although some socioeconomic data was included in order to compare results between and among selected subgroups.

3. The population was limited to those who had successfully completed a degree program.

4. Political turmoil in countries such as Iran, Iraq, Lebenon, and Afghanistan precluded reliable postal service and impacted negatively on the return rate of questionnaires from those countries.

5. The scope of the study was limited to agricultural alumni of the Oklahoma State University who came from, and returned to, a career in a developing country. Since the likelihood of an address being current and correct was greater for those more recent graduates, it was recognized that this could have had undue influence on the results therefore generalizations to the population should not be inferred. Certain findings would possibly suggest, however, implications for curricula revisions and implementation of optimally effective teaching methods and/or strategies.

Definition of Terms

Unless otherwise indicated the definitions provided were formulated by the researcher for this study.

Career Preparation - Those activities which the international student has experienced that were intended to prepare him for (a) the job he planned to have upon returning home; (b) the job he actually had; and (c) all jobs he has served in to the present time.

Combined Group Mean - The mean arrived at by averaging the scores of all respondents within the group. The combined group mean is a true mean and not a mean of means.

English Language Institute - That section of the Office of International Programs at OSU that teaches English as a second language to international students. Attendance is required for those students who did not attain the minimum score on the TOEFL.

International Student - Those students attending OSU from countries other than the United States of America. Foreign student is a synonymous term.

International Agricultural Alumni - Those graduates of Oklahoma State University who came from a country in the developing world and satisfactorily completed at least one degree in any of the nine academic departments of the College of Agriculture at OSU.

Learning Experiences - All experiences, causative or closely associated with, a change in knowledge, attitudes, skills or behavior of the international students; whether planned or unplanned; whether beneficial or detrimental; whether positive or negative in nature.

Developing Countries and Less Developed Countries (LDC) - Those countries characterized by Griffen and Enos (1970) as having:

1. Dual economies
2. Underutilization of resources
3. Absences of corrective institutions
4. Difficulties in communications
5. Unwillingness to trust individuals outside the family
6. Aversion to risk
7. High preference of some classes for leisure
8. Cultural inconsistencies
9. Citizens having little access to the political administration

10. Not everyone treated equally under the law

11. No means by which political control is transferred effectively (pp. 3-7).

For purposes of this study the terms Third World Countries, developing countries, and low-income countries can be considered as somewhat synonymous terms.

Office of International Programs (OIP) - A programming advisory and administrative unit at Oklahoma State University tasked with the responsibility for coordinating international education efforts at OSU.

OSU - Oklahoma State University, Stillwater, Oklahoma, a land-grant institution.

Purposive Sample - A "useful" or "functional" portion of a population. For this study the purposive sample consisted of those alumni for which a reasonably accurate and current address could be obtained. The total in the purposive sample was 412.

Test of English as a Foreign Language (TOEFL) - The test designed by the Educational Testing Service of Princeton, New Jersey, which is an admission requirements for all foreign students whose native language is not English. A minimum score of 500 is required for undergraduate admission at OSU and 550 for graduate admission.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The purpose of this chapter was to provide a review of the writings and research that have been done related to the subject of this study. The chapter was divided into four major subject areas with a final summary section provided. The four subject areas include: (1) History and Philosophy of International Education, (2) Role of the University in International Education, (3) Issues and Implications, and (4) Related Studies.

It should be noted that the subject of experiences, needs, and resource allocation for the foreign student on American campuses has been studied extensively. Spaulding and Flack (1976) reported on a total of 160 empirical and 44 nonempirical studies concerning what most often happens to foreign students while in the United States. Many of these studies focus on adaptation, assimilation, and other adjustment problems the foreign student faces during his educational sojourn. It has only been in recent years that the emphasis has shifted to the academic and professional needs of the foreign students and the relevance of the curriculum to adequacy of career performance in his home country (Jenkins, 1980; Lee, Abd-ella, Burke, 1981; Hood, and Schieffer, 1983). Although this review of literature was designed to provide a broad overview of the general field of international

education, the more specific concern is to provide a representative sample of the studies concerning the relevance of U.S. education to students from developing countries.

History and Philosophy of International Education

Since the earliest times, students have been drawn to study in those countries they perceive as offering them opportunity to advance academic skills and obtain degrees that may be more prestigious than those available at home. It was not until the end of World War II that rapid increases in foreign student enrollment was seen in American universities. In 1954 a total of 34,232 foreign students were studying at institutions of higher education in the U.S. By 1982 the number had reached 326,000 (Hood and Schieffer, 1983). Of that figure 75 percent, or 244,500, were from developing countries.

Several studies have indicated the advantage of educating foreign students on U.S. campuses. They can contribute to good relations between the U.S. and the rest of the world, expose American students to new cultures and provide economic support to many institutions (Pruitt, 1978). Goodwin and Nacht (1983) found that some viewed the foreign student's presence as an opportunity to strengthen the United State's capacity to compete effectively in world markets. Although they agree that many believe in the "humanist presumption" that the foreign student is an enriching educational and social presence on the U.S. campus, they felt that stronger evidence is needed to support this theory. At the Michigan State International Year Conference, Edgerton (1982) listed six goals for educational exchanges which could serve as a philosophical base for international education. These

included promotion of greater understanding among nations, continuing development of human resources to improve the social and economic life of less-affluent nations, developing America's language competence and world area knowledge, demonstrating the values of an open society, and personal and professional growth by both students and faculty through the cross-cultural experience.

Hood and Schieffer (1983) pointed out that among the large number of international students studying in the U.S. today are the future business, government and educational leaders of the developing world. Goodwin and Nacht (1984) conducted extensive interviews of Brazilian graduates of American universities and among other things, heard from those interviewed:

> . . . It is valuable to Brazil that I studied abroad. I know English, I know many top people in my field, I know advanced techniques of analysis. With many others like me, Brazil is bound to benefit. It is a form of technology transfer for which we are most grateful (p. 24).

> . . . One woman told us of entering her master's program with a strong 'negative bias' toward the United States but of emerging with 'an even stronger positive one', based on what she thought of as 'a sophisticated understanding of U.S. pluses and minuses.' She found that her two years of concentration on U.S. and global policy problems had not so much changed her own perceptions of her homeland as it had made her more impatient and frustrated with conditions there (p. 25).

> . . . 'You can't imagine how important it is to see and feel a free market system and democracy. You start believing in the principles only after you have learned about the problems--see the good and bad.' He thought that U.S.-Brazilian relations were tangibly improved by experiences such as his own, and that it would be tragic if foreign study did not continue to grow. Not only in commercial relations, such as the coffee trade in which he was a participant, but in intergovernmental contacts as well, a 'common experience' made things go smoothly. He told us proudly how during a recent U.S. cabinet level visit to Brazil he had been able to brief former law school classmates who were members of the American mission on conditions in Brazil (p. 25).

Similar comments can be found throughout the literature. Problems do exist, of course, but the positive nature of many comments show some degree of success for American post-secondary education of foreign students.

The choice of the U.S. as the location for study reflects credit on the U.S. post-secondary educational system and is an indicator of the esteem in which U.S. educational institutions are held overseas. A concurrent challenge for U.S. educators is to meet the needs and expectations of these individuals and their countries and thereby assist in their development efforts.

Many developing nations today are questioning the suitability of western technology, education and culture for their countries (Lee, 1981). Many U.S. universities continue to neglect the special needs of international education and few have taken the opportunity to educate American students to live in an increasingly interdependent world. A national level survey of college students in 1980 revealed an appalling lack of knowledge of key world issues. College seniors scored only eight points higher than did freshman on a test dealing with such issues (York, 1984). The advantages to foreign students, American students, faculty and universities themselves are many and those institutions that succeed in the future will be those with an appreciation for the value of an international curriculum and a solid philosophical base upon which it operates.

Role of the University in International Education

The university of the 1980's, if it is to be considered a participant in an ever-shrinking world, must internationalize its curriculum.

What obstacles does the university face as it attempts to fulfill its role as a force for change in the global social order and an institution for education of future leaders, both U.S. and foreign? An appreciation of the problems a university faces as it attempts to internationalize is seen in the following excerpt of a speech by Miles as quoted by Leinwand (1983):

> A college president had a dream in which the Archangel Michael appeared with a young woman of 17. The archangel said, 'Mr. President, this young women is going to be President of the United States in 2020 A.D. and we are looking for a college that would prepare her for that awesome task. We would like to know, if we entered her at your university, what type of education you would give her so that she could be an intelligent and humane and international world leader?' The college president was speechless, dumbfounded! Nobody, particularly an angel, had ever asked him such a question before. The Archangel, receiving no response, looked the president straight in the eye, took the young woman by the hand and walked away in disgust.
>
> This so embarrassed the president that be began to think of all the types of courses he would offer if he really knew that on his campus he was educating a future President of the United States. He would offer an international core curriculum that would consist of team-taught courses with professors from many disciplines. There would be problem-oriented courses and issue-based courses. There would be cross-cultural courses in religion, ethics, history, anthropology, literature, sociopolitical and economic systems, philosophy, and law. The future president would be introduced to the emergence of nation states, the concepts of nationalism and revolution, to the pros and cons of technology, to notions of progress, to differences between developing and developed nations, to evolution and race prejudice. The future president would be introduced to the historical roots of modern problems and what direction these problems might take in the future. The future president would be taught how to be a leader, a person who could cross ideological boundaries gracefully, who could communicate across national boundaries, who could maintain a humanistic scale of values while at the same time respect sensitively the values of others. The future president would, above all, be taught how to use power for peaceful purposes (p. 3).

The president had certainly formulated a comprehensive international curriculum for his university. Such a curriculum would benefit not only

the American students but those from other countries as well. Would it be possible for the president to simply implement his international core curriculum? Miles (1983) continues his story which further defines the reality of the situation for most American universities:

> Then a marvelous thing happened, the Archangel Michael came back with the young woman who was to be the future president. 'Mr. President,' the Archangel said, 'I've taken this young woman everywhere and every university president was as dumbfounded as you. So I thought I'd come back and give you a second chance.' This time the president said, 'Let me tell you something Mike (getting a bit more familiar), I've got an international core curriculum that will knock your wings off.' The president then described all that he had planned and the Archangel began to glow, then to glow all over, since the more he heard the more he liked. 'By God, (with apologies, of course) that is exactly what we are looking for. We will send this young woman to your university.'
>
> The young woman who had been silent all this time then spoke up. 'Mr. President,' she asked, 'what you say sounds fine, but what makes you think the faculty will approve, the board will support, and the legislature will fund such a curriculum?' Once again, the president was dumbfounded. Once again, he was speechless. Once again he stared at the Archangel Michael and the angel stared at him. And, once again, the angel took the young woman by the hand and slowly vanished (pp. 3-5).

The point Miles makes is valid whether one is considering the next President of the United States or the next President of Ghana. If the international dimension of an educational institution is to be meaningful and effective, it requires long-range planning, assessment and reassessment of the institution's goals and objectives. It also requires time, decisions and money (College and World Affairs, 1965).

A recent study by Goodwin and Nacht (1983) attempted to ascertain how different elements in society viewed the role of the university in international education. They interviewed, among others, faculty, Board of Regents and members of the state legislatures. The title of their resulting book, Absence of Decision, implies that in many cases

decisions concerning the university involvement in international education have never been made. They found that policies in U.S. universities and colleges concerning the admission, education and social accommodation of foreign students "vary from the comprehensive to the nonexistent, and programs, from the carefully designed and administered to the ad hoc and expedient" (Goodwin and Nacht, 1983, p. iii). Jenkins (1980) pointed out that in time of decreasing financial resources and increasing inflation, priorities and programs of U.S. institutions will be planned to benefit primarily the U.S. student. Funds for research will likely be used to address U.S. needs. There is a sense of urgency for optimal use of available funds. Special attention needs to be given to create opportunities for overseas field work and research in the home country.

The enrollment of foreign students has continued to increase since World War II. Even those countries that disagree politically with the U.S. government continue to send their sons and daughters for study in the U.S. As the role of the university remains vague in the eyes of some, continually increasing enrollments may soon reach rather startling dimensions. Oliver (1983) predicted that the number of international students in the U.S. may reach 500,000 by the late 1980's and as many as a million by the end of the century. Numbers such as these indicate a large expenditure of resources on the part of U.S. institutions, sponsoring agencies and by foreign students. If these resources are to be used wisely the entire university must have a clearly recognized goal and the commitment of the administration, faculty, boards and legislatures to providing relevant education at a fair cost.

Michigan State University, under President John Hannah, has had a long and successful experience in international education. Upon the occasion of their 25th year of formal involvement in international programs and development, a conference was held at which it was noted that the first priority of U.S. universities in overseas development work was the generation and diffusion of knowledge. Another proper goal was to provide high quality and more relevant education at the graduate and professional levels to American and developing country personnel who intend to participate in overseas development activities (Edgerton, 1982). Johnson (1974) has stressed also that the objectives of higher education should not be those of providing graduates with answers to specific questions. Rather, it should be to provide them with the principles and tools that will permit them to answer the important questions that will arise in the years ahead.

Issues and Implications

As U.S. universities become increasingly involved in international education some issues have come to the forefront concerning the applicability and relevance of that education for students from developing countries. Several authors (Chandler, 1974; Jenkins, 1980; Goodwin and Nacht, 1983; Hood and Schieffer, 1983) have noted the need for more flexible academic programs providing for more practical experiences, research oriented on home country problems and periodic updating of knowledge and skills.

Relevance in a foreign student's academic work concerns learning skills and addressing problems that will be of use when he returns to his home country. The importance of this issue has been noted

increasingly in recent years. Students will work for the rest of their lives on problems and under conditions peculiar to their home country. When their academic preparation was relevant to conditions in the U.S. they have not been well-served by the U.S. institutions. Edgerton (1975) suggests that universities consider the possibility of additions to or modifications of its curricula by strengthening the practical training component in the curriculum of a technical field, as an example.

A study by Lee (1981) found that foreign students listed the opportunities for practical experience as their least met need during their sojourn. The study strongly recommended that practical experiences, such as internships, be incorporated into degree programs. Gabriel (1973) found in a study at Purdue University that nearly all students surveyed were planning to go home and find work in an educational institution. Practical experience for these students could well be as teaching or research assistants which Lee (1981) suggests be funded by the sponsoring agency or home government. A final finding of the Lee study was that all students expressed a need for relevant education and for training to apply knowledge. This need was voiced most strongly by the students in agriculture.

The Goodwin and Nacht (1983) study found that a common lament heard at several schools of agriculture was that training provided foreign students, especially at the doctoral level, was found to be inappropriate. Graduates were equipped for careers of sophisticated research and teaching yet when they returned home they were expected to perform administrative chores or provide extension services.

The international student in a field such as agriculture often becomes well acquainted with science and technology, aware of the importance of pure research and convinced of the rightness of the

American way. When he returns home he finds himself lost because he does not have the means to apply all the science and technology he has spent years in learning in the U.S. university. He has become tied to his knowledge, however, and insists on trying to apply it in his home environment which is relatively primative and not capable of providing him with the required facilities. As his frustrations mount he becomes increasingly isolated and fails to address local problems. Other times the returned scholar realizes the importance of local and national needs and becomes determined to address real problems. He often finds, however, that he will have little understanding from colleagues, there will be an absence of adequate physical and financial means and lack of governmental or institutional organization and stability. The final result often is that the scholar (1) returns to pure research of scientific interest to be published in foreign journals but is of little use and application to local media, (2) he gets involved in administration, or (3) he looks for new opportunities out of his institution or abroad (Caballero, 1977). Although most reputable institutions frown on special programs for special groups it is becoming increasingly accepted that resources are being wasted if developing country environment, facilities and needs are not addressed in the curriculum for foreign students studying in U.S. universities.

An excellent way to provide stimulus to relevant research in developing countries is to have the student return to do all or part of the research in their own country (Conrad, 1977). Excellent results accrue to both the country and the student in such an effort. It does require, however, a good student, adequate conditions for doing research and the availability of adequate supervision. The best arrangement is

for the student to complete most of the coursework, complete the qualifying exam and learn appropriate research techniques before returning home to conduct the research. Two additional options exist that could be considered by U.S. universities as they address the implications of human resources to the developing world. The major adviser at the U.S. university could travel to the student's country to provide guidance, assessment and supervision. Although expensive, this option can be accomplished, in many cases, in conjunction with trips for consultative or other purposes. A second option would be for the research effort to be under the supervision of a professor in the developing country. The quality of academic programs in some developing countries has increased dramatically in the last 15 years. Over 90 percent of the foreign students coming to study agriculture in the U.S. do so at the graduate level (Rigney, 1974). This indication of quality undergraduate preparation bodes well for international cooperation in providing relevant education to students from developing countries.

A final issue to be addressed in the literature concerns the need for periodic updating after completion of the formal degree program. Numerous authors have noted the importance of return visits to reestablish contacts and update knowledge (Edgerton, 1975; Spaulding and Flack, 1976; Lee, 1981; Goodwin and Nacht, 1983). Alumni networking and the benefits to both the U.S. university and former student is mentioned by Hood and Schieffer (1983). These benefits include receiving current research information and news of the university on the part of the student. It is also to the university's advantage to have active and involved alumni in the developing countries. Both Jenkins (1980) and Hood and Schieffer (1983) recommend strongly that

development of alumni groups of students trained in the U.S. would lead to home country professional associations. These professional associations could assist the returned student in adjusting his science and technology training to the needs, facilities and situation in his home country. Jenkin's (1980) final recommendation was that research of long-range effects of U.S. education of foreign students from developing countries should be encouraged. This study was an attempt to partially fill that need.

Related Studies

A comprehensive review of the literature concerning international education was conducted by Spaulding and Flack (1976). That review covered post-1967 publications and included 433 items in five major categories: (1) informational, (2) books and monographs, (3) reports, (4) articles or chapters, and (5) research papers and dissertations. Among their findings that pertain to the subject of this study was the need for relevance of academic curricula. They suggested universities consider the feasibility of recruiting and admitting a "critical mass" of students from particular substantive or geographic regions so that they may develop special programs for these students. They also recommended a cooperative approach utilizing both home and U.S. personnel as an opportune device for continuously evaluating the relevance of educational programs and for gathering information on the changing needs of the home societies.

A national survey of students from developing countries was conducted by Lee (1981) in the fall of 1979. A questionnaire was sent to foreign students at 30 selected universities across the U.S. that had 300 or more foreign students enrolled. OSU was one of those

universities. Nearly 1,900 students responded and from that response several recommendations were postulated that pertain to this study. Practical experience before returning home was the least met need of students from LDC. Those students that were not assured of a job and adequate facilities upon return home did less well in their academic programs while at the U.S. university. Students in agriculture were the most concerned that their needs for relevant education and training to apply knowledge were not being met. Regions of the world from which students came made significant differences on how they viewed their needs being met. Students from Africa were most concerned that relevance and practical application was lacking.

A workshop was jointly cosponsored by NAFSA and AID in 1980 concerning the relevance of U.S. education to students from developing countries (Jenkins, 1980). Several recommendations were made of interest to the present study. Among them were the following:

1. Accommodate reasonable demands for relevance, especially at the graduate level.

2. Encourage academic departments to experiment with complementary and innovative curricula, both formal and informal.

3. Encourage enrollment in existing courses within curriculum that are most appropriate for student's needs.

4. Require a first term orientation course for foreign students for which credit could be earned.

5. Urge experimentation with new academic programs that stress the value of internationalization of curricula for both U.S. and foreign students (and involve both students and faculty in planning).

6. Encourage involvement of foreign students in extra-curricular experiences during their study in the U.S.

7. Provide training for the leadership role students will assume upon return to their home country.

8. Develop inter-disciplinary seminars to address special needs and interests.

9. Provide management training programs.

10. Encourage foreign students to bring to the U.S. projects that they may be working on in their home country.

11. Develop 'practical' courses which would enable students to analyze and solve problems more effectively.

12. Stress the practical aspects of a student's academic curriculum and program, particularly encouraging students to take full advantage of courses which involve applied field experience, practical training and relevant research projects and theses.

13. Engage foreign students as resources for each other; encourage the sharing of ideas and solutions in questions of national development.

14. Identify faculty who have international expertise, experience in other countries, and who would be willing to assist in:
    - advising and planning curricula
    - assisting students in identifying needs and goals
    - communicating needs and goals to academic departments
    - increasing total awareness, in faculty and administration, of special needs of foreign students.

15. Involve senior U.S. and foreign students in advising and assisting new foreign students and in planning curriculum (Jenkins, 1980, pp. 46-49).

Hood and Schieffer (1983) addressed the topic of the professional integration of the students returning to the developing world. They noted that Spaulding and Flack (1976) listed only 19 items out of hundreds of studies that related to "returnees." There has been a dearth of research regarding the reentry or transition of students to developing countries. Often the returned professional desires continued contact with their U.S. institutions and assistance in developing networks of professionals in their own country. Hood and Schieffer (1983) recommends that faculty, advisers, and administrators:

1. Help the student focus on the problems of his own country during his academic sojourn.

2. Pay more attention to foreign alumni.

3. Make every effort to maintain contact with returned students.

4. Make the effort to seek out former students and offer their services when on foreign assignments (p. 138).

Jenkins (1980) quoted the results of an unpublished study concerning the relevance of Agricultural Economics education to students from developing countries. It was noted that of some 9,600 graduate students entering MS and PhD programs in 50 U.S. departments of Agricultural Economics between 1969 and 1978, 30 percent came from the developing countries. The objectives of the study included an evaluation by alumni of their U.S. coursework and theses research. A total of 653 agricultural economists from 79 developing countries were contacted. Eighty percent were found to be living in their regions of origin and most were working in jobs for which they had been trained. The major findings of the report included:

1. Respondents found most valuable courses in economic theory and quantitative methods, and least useful courses in agricultural policy, trade and trade policy, land and resource economics, agribusiness, history of economic thought and comparative economic systems--courses which tend to be highly oriented to U.S. and developed country institutions and situations.

2. Of those who wrote master's theses, the majority (90 percent) felt that it had been more useful, or just as useful, as course work in their training programs. Experience in the application of theory and quantitative techniques in problem analysis was considered extremely valuable.

3. It was noted that a weakness in the training program derived from lack of faculty perception of and application to LDC problems, and the need to 'bridge the gap' between theory and application. Thus training programs could be improved if more

> professors had real knowledge of and experience in LDCs, especially for student advising. Noting that the demand for agricultural economists continues to exceed LDC training capabilities some ways were suggested to strengthen the profession in these countries:
> - by joint degree offerings between universities in the LDC's and the United States,
> - by shared thesis advising from professors in U.S. and LDC universities,
> - by joint research projects,
> - by sabbatical-type opportunities for LDC professionals to upgrade professional skills, and
> - by both short-term and long-term assignments of professionals from developed countries in LDC universities (pp. 11-12).

A study of the "Adequacy of Animal Science Education in the United States in Meeting the Needs of Animal Agriculture in Venezuela" was done by Guevara (1982). The population for his study consisted of Venezuelan students trained in U.S. universities during the period 1970 through 1980. He attempted to find out the nature and extent of their educational experience and how effective they considered it to work under conditions in Venezuela. He found that most respondents with graduate work secured jobs in universities and research stations while those with the B.S. degree were mostly in agricultural production. Instructional methods were considered appropriate and current. He did find a desire for more courses in the international aspects of animal production. Overall, the nonacademic activities provided by the U.S. universities were adequate and relevant to the particular needs of animal science students. It was found that the relationship between American and international students could be improved and more assistance in understanding the American culture was needed. Guevara recommended that advisers and instructors become better acquainted with the educational needs of international students. Courses and reference materials should be subjected to periodic review to maintain the quality

of educational services. He also recommended that more and better courses should be offered relating to business administration and, "a more realistic animal husbandry type of business" (Guevara, 1982, p. 87).

Mibey (1984) found that international students and instructors at OSU found classroom instruction, laboratory and field experiences to be largely effective. Both groups felt that learning experiences directed toward understanding of research design and application were effective in preparing international students to achieve career objectives. Neither instructors nor students were satisfied that instruction was adequately preparing them for conditions unique to developing nations. Over 70 percent of the international students did not agree that it would be beneficial for them to provide their instructors a brief statement of career objectives. Mibey recommended that formulation of career objectives should be stressed early in the student's initial enrollment. The possible uses of these objectives should be explained to both student and instructor.

A study entitled, "An Evaluation of the Agricultural Education Program at Oklahoma State University by International Students Graduating During the Period 1960 to 1976" was done by Angasith (1976). His conclusions concerning departmental administration, advisement, counseling, faculty, staff, courses and reference material, instructional methods and nonacademic activities were all favorable. He did recommend that a committee of international students be formed to give advice to the department head and that the program of advanced studies in the field of Cooperative Extension be expanded. He also recommended that periodic review of course and reference materials be conducted to

insure relevancy for application and use by international students after they returned to their home countries.

Summary

In summary, the review of literature showed a scarcity of research into the relevancy of educational experiences for students from the developing countries until the late 1970's. The importance of research into this area becomes increasingly clear as the number of foreign students studying in U.S. universities continues to increase at a rapid rate, utilizing scarce resources of both the developing country and the university. Every element of society from the international student, instructors, university administrators, Boards of Regents, legislators, the tax-paying citizens and the population and government of the student's home country should be concerned that educational experiences are relevant and can be used to allow the returning student to improve the well-being of his homeland. This study was an attempt to assess how valuable the experience at OSU was for developing country alumni as they have returned to careers which hopefully have been a positive influence for their countrymen.

CHAPTER III

DESIGN AND METHODOLOGY

This chapter discusses the population to be studied, design of the survey instrument, the procedures of data collection, and how data were collated and analyzed. Basically the research effort was designed as a follow-up study utilizing a questionnaire as a survey instrument with an intent to determine the perceived relevance of past learning experiences to careers of international students from developing countries.

Population of the Study

The population of the study consisted of developing country alumni of the OSU College of Agriculture. Identification and location of the entire population was not possible due to a lack of complete records and current addresses. Numerous sources of names and addresses were checked including the OSU Alumni Association files as well as departmental records in the College of Agriculture. A search by staff of the Office of International Programs (OIP) had been conducted during 1983 to establish more complete records with a mailing to over 4,000 foreign student alumni made in January, 1984. Responses received from agricultural graduates of that mailing constituted a gainful source for establishing the potential respondent group.

Development of the Instrument

A survey-type instrument was chosen and developed with a major aim of securing respondents' perceptions of value of selected educational experiences as they might have constituted effective career preparation for their first and present jobs. Guidelines used in developing the questionnaire were those provided by Key (1974). The questionnaire was designed to incorporate the following characteristics:

1. Easily readable with some "white space" on each side.
2. Dealt with a significant topic which the respondents would see as important to them and to their country.
3. Limited to one page, front and back.
4. Questions of a related nature were grouped together.
5. The order of questions would lead from those requiring less thought or judgment to those requiring more intensive judgmental decisions.

The use of a Likert type scale to discern perceptions as to degree of value was incorporated into the body of the instrument, this preceded by questions designed to secure certain demographic data deemed of value for interpretation and analysis. Assistance in identifying and establishing a listing of germane educational experiences for selection, perfection and final incorporation into the data gathering instrument was secured from several sources, foremost of which was selected faculty. This initial assistance was received not only from faculty in the researcher's major department, Agricultural Education, but also from faculty in other related departments including Agricultural Economics, Agronomy, Educational Administration and Sociology, as well as staff from the Office of International Programs.

A large proportion of this "jury" group not only had enjoyed a close working relationship with international students at Oklahoma State University but also had spent at least one assignment in one or more developing countries. (See Appendix F for listing of "jury" members.)

Also rendering invaluable service in furthering the task of instrument formation and perfection was a small cadre of international students who provided guidance from the foreign student standpoint. The initial draft of the questionnaire was given to eight foreign students in residence at OSU. They were asked to fill it out as if they had returned home to jobs they expected to have. A primary purpose was to solicit advice on areas of vagueness, complex terminology and major factors of importance that might be missing. The researcher also asked each student if there were any areas of a personally sensitive nature. In particular, Questions 3 and 15 of Part One were of some concern. No student objected to those questions and their suggestions on simpler wording were incorporated in the final form. After a third draft of the instrument had been completed, testing was made with the two groups: (1) the 18 member "jury" faculty and staff and (2) 10 international students from ten different countries. Suggestions made by members of these two groups were weighed and where it was deemed necessary, were incorporated into a final draft of the survey instrument.

Procedures for Data Gathering

The final step was that of final establishment of the respondent group. The task of locating identified agricultural alumni and securing correct addresses proved to be somewhat difficult. Reference

was made earlier in this chapter to the Oklahoma State University Office of International Program's attempt to locate university alumni and a consequent mailing to over 4,000 foreign student alumni which was completed in January, 1984. Responses from agricultural graduates of that mailing provided a limited base for establishing the respondent group.

Additional sources for securing names and addresses were also used including a check of the OSU Alumni Association's current mailing list. A major effort was made to survey faculty of the College of Agriculture for names and addresses of their past students. To accomplish this, a letter to each of the nine department heads was developed and cosigned by the author and the Head of the Agricultural Education department (see Appendix A). Enclosed with that letter was a form (Appendix B) to each faculty member of the department. The author visited each department head personally to deliver the letter and discuss the purpose of this effort. Arrangements were made for the forms to be collected by one person and the author was introduced to that person to whom the department head had delegated that responsibility. Additionally, each department was asked to provide a copy of any departmental list of foreign student alumni. Five departments did have such lists. This effort proved to be a rich source of names and is recommended for any future studies. The author's offer to update departmental lists or to provide the results of the survey to those departments without lists was probably a key point in obtaining the administrator's support.

Another source for securing names and addresses was foreign students attending Oklahoma State University. Several were able to

provide names and addresses of persons in their homeland whom they knew to be OSU alumni. One graduate student from Korea called home at 2:00 a.m. to make sure the address she provided was correct. This type of support was gratifying to the researcher.

It was felt by several reviewing faculty and international students that responses from the population would be increased and additional names obtained by soliciting support from influential or supportive alumni in each of several countries. A letter with return form was developed (see Appendixes C and D) and sent to 16 alumni in 15 countries on March 28, 1984. Seven were returned with additional names and addresses listed and all seven respondents indicated a willingness to assist with several expressing enthusiasm for the project. It was likely the remaining nine letters never reached the addressees. It was recognized that the percentage of out-of-date or invalid addresses in dealing with alumni overseas is normally quite high. The mailing by the OIP staff in January 1984 was to more than 4,000 alumni of the university. By the end of June 1984 four percent had responded and seven percent of the mailing had been returned as undeliverable.

Another source of names and addresses was the staff and files of the Office of International Programs. When these were added, a total of 412 names and addresses for members of the original population were identified as having sufficient validity to be included in an established list of potential respondents.

Initial mailing of the questionnaire was made in June 1984, with a second mailing taking place in July 1984. For some countries names of alumni were found for which, although previous correspondence had

taken place, no relatively recent address was available. Those names and sufficient copies of the questionnaire were mailed to supportive and/or influential alumni in each country with a request that the named persons be contacted and that monitoring of completed questionnaires be tendered.

Each envelope contained a cover letter (see Appendix E), a copy of the survey instrument (see Appendix F), a "Pistol Pete" sticker (see Appendix G), and a Postal Reply Coupon (see Appendix G). The Postal Reply Coupon was obtained from the local U.S. Post Office and could be redeemed anywhere in the world for one unit of surface mail (up to one ounce) except in South Africa.

Analysis of the Data

The following is a description of how these data obtained in this study were analyzed. There were three types of questions included in the survey instrument (see Appendix F). Part one contained questions meant to obtain demographic data on the respondents. These questions related to country of residence, age, degrees from OSU, year of graduation, parents economic category, population density of area of residence, involvement in farming, jobs before and after study at OSU and major source of funds for studies at OSU. The data obtained were collated and displayed in tables and figures utilizing frequencies and percentages to describe the respondent group. Crosstabulations were also used to show relationships between certain data obtained.

A Likert-type scale was used in Part Two of the questionnaire for valuing extent of helpfulness in first and present job of 13 selected educational experiences. The categories ranged from "Not

Helpful for Job," which received a value of 0; "Slightly Helpful" received a value of 1; "Moderately Helpful" received a 2; "Very Helpful" received a 3, and "Essential" received a 4. These scale numerical values for response categories and the assigned numerical limits for the categories as displayed in Table I.

TABLE I

VALUES AND ABSOLUTE NUMERICAL LIMITS FOR RESPONSE CATEGORIES

Response Categories	Scale Numerical Value	Range of Numerical Limits for Categories
Not Helpful for Job	0	0.00 - 0.49
Slightly Helpful	1	0.50 - 1.49
Moderately Helpful	2	1.50 - 2.49
Very Helpful	3	2.50 - 3.49
Essential	4	3.50 - 4.00

The third type of question utilized in the survey instrument was the open-ended type allowing the respondents to list specific recommendations for improving the educational process at OSU for career preparation purposes. Responses were grouped by the researcher into six categories based on apparent commonalities. These six categories included: (1) More Relevancy, (2) All Positive (no changes recommended), (3) Curriculum Changes, (4) More Practical Experiences, (5) Better Advising, and (6) Miscellaneous. Frequencies and percentages were then obtained for each of the categories.

Data resulting from the study was tabulated and analysis was refined through a total of three computer runs. Although the major analysis of the demographic data and open-ended question involved frequencies and percentages and the results from the Likert-type items were shown in means, other descriptive analysis techniques were also available as the process was refined through the three successive computer runs. Crosstabulation matrix was used to more clearly show relationships between and among certain items. For example, it was possible to compare the major source of funding for studies at OSU by parent's economic category. Another comparison of interest was the population density of residence before and after studies at OSU. This technique was not limited to the demographic data as it was also possible to show such relationships as recommended improvements by world area of origin. Finally, all combined group means were true means and not the mean of means.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this chapter was to describe the perceptions of respondents concerning the value to careers of selected learning experiences at Oklahoma State University by alumni from developing countries. Additionally, demographic information concerning the respondents was reported. The demographic data served two purposes: (1) to describe the respondents in some detail, and (2) to categorize the respondent alumni by such criteria as world area of residence and academic department for comparative purposes. Finally, this chapter reports the recommendations of responding alumni for improving the curriculum and/or adoption of certain instructional strategies or practices in order to enhance the learning experience provided by the College of Agriculture at Oklahoma State University.

General Characteristics of Respondents

A total of 412 survey instruments (see Appendix F) were mailed overseas in June-July 1984. Table II shows the extent of returns as of December 31, 1984. The 139 completed responses included nine that were deleted from the study because it was evident that the respondents did not fit within population parameters. The most common reason for exclusion was the failure to return to work in a developing country

which was applicable to six of the unused returned instruments. Although all surveys were sent air mail, returns for invalid addresses were still arriving well into 1985. A total of 182 (44.1%) surveys were accounted for by (1) valid responses, (2) invalid responses, and (3) returns for incorrect address by the deadline for the conclusion of this study. Valid responses were received from 130 (31.5%) of the 412 mailed.

TABLE II

PERCENT DISTRIBUTION OF SURVEY RESULTS

	N	Percent
Questionnaires Mailed	412	100.0
Valid Responses	130	31.5
Invalid Responses	9	2.2
Returned-Invalid Responses	43	10.4
Total	182	44.1

The 130 responses came from 42 countries in the developing world as shown in Table III. Three countries were represented with 12 or more respondents: Thailand (24, 9.2%), Philippines (12, 9.2%), and Nigeria (12, 9.2%). Eighteen of the 42 countries had one respondent each.

The developing world was categorized by four World Areas for purposes of comparison: (1) Asia, (2) Latin America, (3) Subsaharan Africa, and (4) North Africa/Middle East. The number of respondents for each world area is seen in Figure 1 with 52 (40.0%) from Asia,

TABLE III

PERCENT DISTRIBUTION OF RESPONSES BY COUNTRY

	Country	Number of Respondents	Percent of Total
North Africa/ Middle East	1. Tunesia	2	1.5
	2. Ethiopia	5	3.8
	3. Jordan	3	2.3
	4. Saudi Arabia	1	.8
	5. Syria	2	1.5
	6. Iran	3	2.3
	7. Kuwait	1	.8
	8. Sudan	2	1.5
Subsaharan Africa	9. Nigeria	12	9.2
	10. Zaire	1	.8
	11. Zambia	1	.8
	12. Kenya	2	1.5
	13. Swaziland	1	.8
	14. Cameroon	1	.8
	15. Mali	1	.8
	16. Upper Volta	1	.8
	17. Tanzania	1	.8
Latin America	18. Nicaragua	1	.8
	19. Argentina	2	1.5
	20. Jamaica	4	3.1
	21. Venezuela	3	2.3
	22. Chile	2	1.5
	23. Colombia	7	5.4
	24. Mexico	4	3.1
	25. Guyana	2	1.5
	26. Uruguay	3	2.3
	27. Ecuador	1	.8
	28. Puerto Rico	1	.8
	29. Peru	2	1.5
	30. Panama	1	.8
	31. Guatemala	1	.8
	32. Haiti	1	.8
	33. Barbados	1	.8
	34. Brazil	2	1.5
Asia	35. Philippines	12	9.2
	36. Thailand	24	18.5
	37. Malaysia	5	3.8
	38. Taiwan	5	3.8
	39. Pakistan	2	1.5
	40. Micronesia	1	.8
	41. Bangledash	2	1.5
	42. Korea	1	.8
	Total	130	100.0

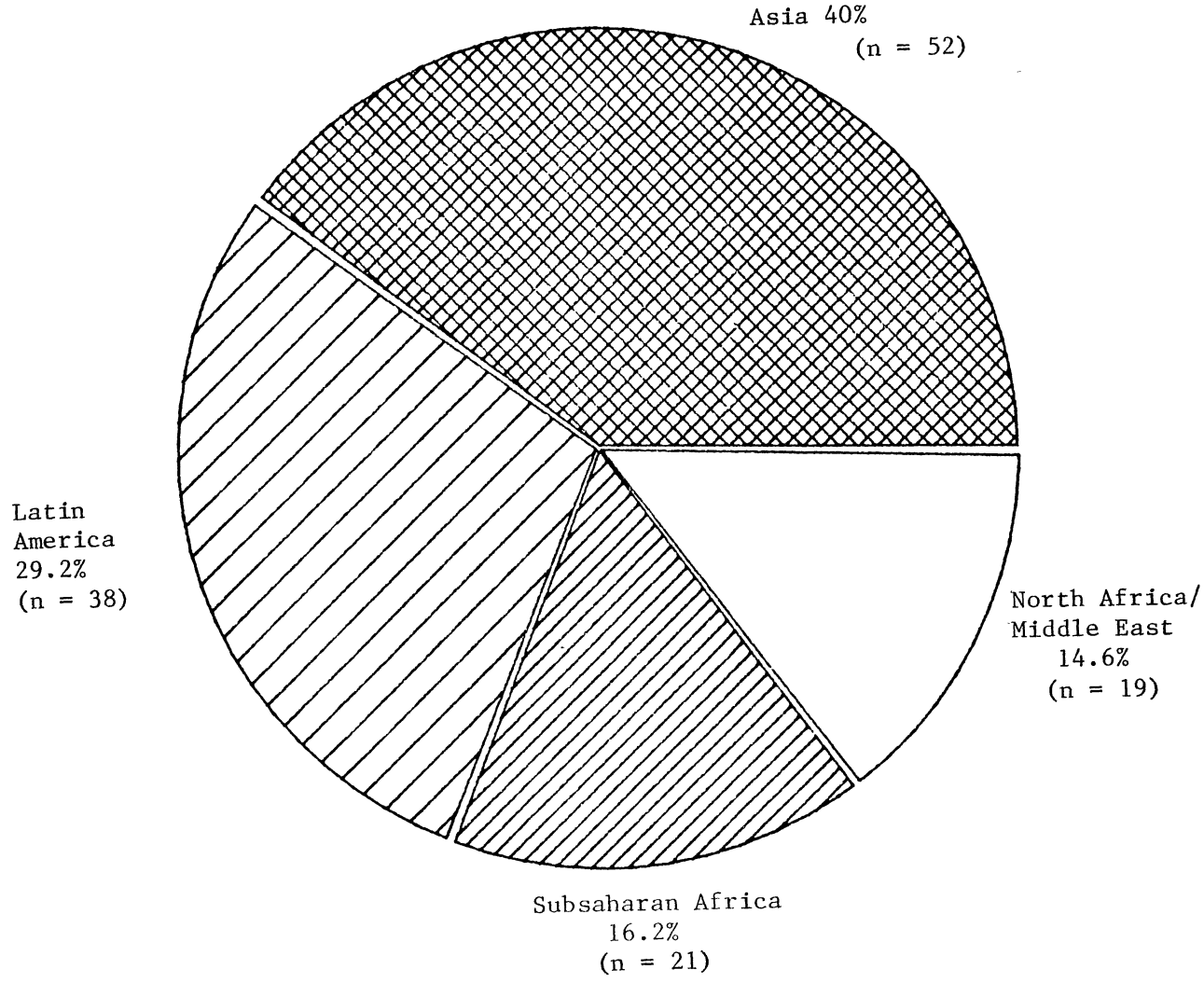


Figure 1. Percentage Distribution of Responses by World Area

38 (29.2%) from Latin America, 21 (16.2%) from Subsaharan Africa and 19 (14.6%) from North Africa/Middle East.

The distribution of the respondents by age is seen in Figure 2. Two respondents (1.5%) did not list their age. One (.8%) was in the range of 20-25 years. The most common age range was 36-45 with 60 (46.2%) of the respondents in this category. A total of 39 (30.0%) listed themselves as 46 and older while 28 (21.5%) were in the age range of 26-35 years.

Table IV reports both the year the respondent graduated from OSU and the degree (BS, MS, PhD) earned. There was at least one respondent with a degree from OSU in each year during the period 1957 through 1984. The year with most respondents graduating was 1980 with 17 followed by 1983 with 12 and 1981 with 10. The years with least graduates represented were 1957 and 1960 with one each. Six years (1958, 1959, 1963, 1964, 1973, and 1984) had two graduates each and all other years had three or more graduates. Twenty-five respondents earned the BS degree, 82 the MS while 43 received the doctorate. The total of 150 degrees earned by 130 respondents indicated that 20 received more than one degree from OSU.

Presented in Table V are the degrees earned by academic department. It should be noted that this total is 148 because two respondents did not indicate their academic department. Agricultural Education had the most graduates with 44 (29.7%) followed by Agricultural Economics with 33 (22.3%) and Agronomy with 27 (18.3%). Sixteen (10.8%) had degrees in Plant Pathology, 15 (10.1%) in Animal Science and 10 (6.7%) in Agricultural Engineering. The departments of Entomology, Forestry, and Horticulture were represented with only one (.7%) graduate each.

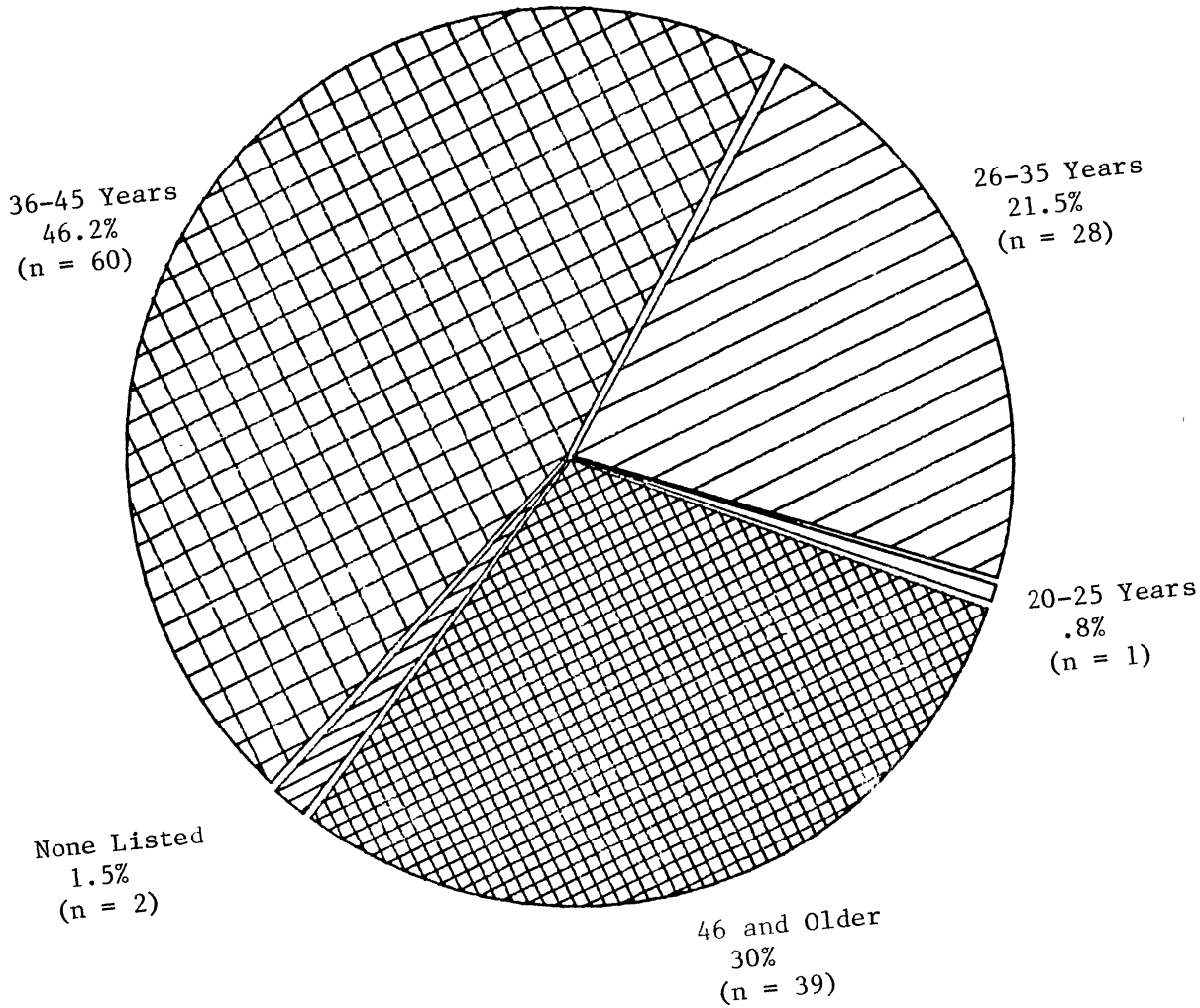


Figure 2. Distribution of Respondents by Age

TABLE IV

RESPONDENTS BY YEAR GRADUATED FROM OSU AND BY DEGREE LEVEL

Year	Degree Level			Column Total
	BS	MS	PhD/EdD	
1957	1	-	-	1
1958	2	-	-	2
1959	1	1	-	2
1960	-	1	-	1
1961	-	5	-	5
1962	2	2	-	4
1963	1	1	-	2
1964	-	2	-	2
1965	1	5	-	6
1966	2	4	-	6
1967	-	6	-	6
1968	1	2	2	5
1969	-	5	2	7
1970	2	3	1	6
1971	-	2	3	5
1972	-	4	1	5
1973	-	1	1	2
1974	-	2	2	4
1975	1	4	4	9
1976	1	2	-	3
1977	1	2	3	6
1978	-	6	2	8
1979	-	2	2	4
1980	4	3	10	17
1981	2	6	2	10
1982	-	6	2	8
1983	3	4	5	12
1984	-	1	1	2
Total	25	82	43	150*

*Total more than 130 because some respondents received more than one degree from OSU.

TABLE V

PERCENTAGE DISTRIBUTION OF RESPONSES BY ACADEMIC DEPARTMENT AND DEGREE LEVEL

Department	BS		MS		PhD		Total	
	Frequency	Percent of Respondents	Frequency	Percent of Respondents	Frequency	Percent of Respondents	Frequency	Percent of Respondents
AG ECON	4	3.1	20	15.4	9	6.9	33	22.3
AG ED	6	4.6	28	21.5	10	7.7	44	29.7
AG EN	5	3.8	3	2.3	2	1.5	10	6.7
AGRON	5	3.8	10	7.7	12	9.2	27	18.3
AN SCI	4	3.1	8	6.2	3	2.3	15	10.1
ENTO	-	-	-	-	1	.8	1	.7
FOREST	1	.8	-	-	-	-	1	.7
HORT	-	-	1	.8	-	-	1	.7
PLT PATH	-	-	11	8.5	5	3.8	16	10.8
Total							148*	100.0

*Totals more than 130 because some respondents received more than one degree from OSU. Two respondents did not indicate academic department.

In response to the question concerning the economic category of the parents of the respondents, the largest portion of those surveyed (82, 63.1%) indicated parents with an economic status falling in the middle one-third as seen in Figure 3. Twenty-nine (22.3%) respondents indicated they had come from a background in the lower one-third and 19 (14.6%) came from what they perceived as the upper one-third of the economic category in their country. A related item concerning the demographics of the group of respondents was the question of population density of the place of residence both before and after studies at OSU. Figure 4 shows that more came from (37.7%) or returned to (46.9%) cities of 150,000 or more. The next most common area of population were those from towns between 500 and 5,000 in population with 28 (21.5%) respondents indicating this category while 20 (15.4%) returned to live in towns of a similar size. The fewest respondents came from open country (2.3%) and only two (1.5%) returned to a village of 500 or less. It should be noted that of the seven categories of population size, more graduates returned to open country, cities of 5,000 to 7,500, and cities over 150,000 than came from areas of similar size. Fewer graduates returned to villages and towns of less than 500 to 5,000 and cities of 75,000 to 150,000 than the number of graduates from these areas. Table VI more clearly shows the relationship for individual respondents. Forty-three, for example, came from and returned to a city of 150,000 or larger while only one from a city of that size returned to the open country, and one other returned to a town of less than 5,000. The only other category where more than 10 returned to the same size area they had lived before OSU studies was in towns from 500 to 5,000 in which case 12 respondents placed themselves.

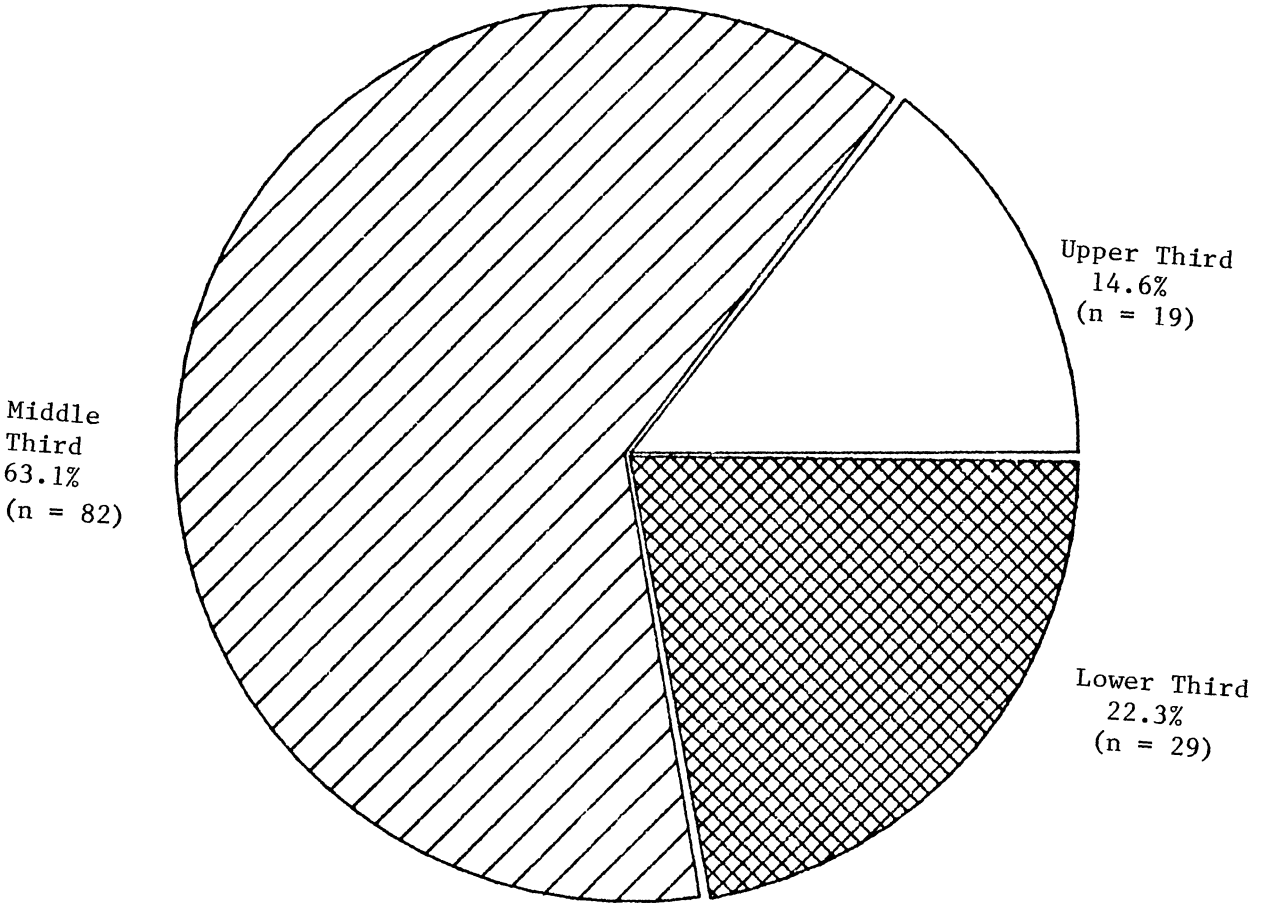


Figure 3. Economic Category of Respondents' Parents

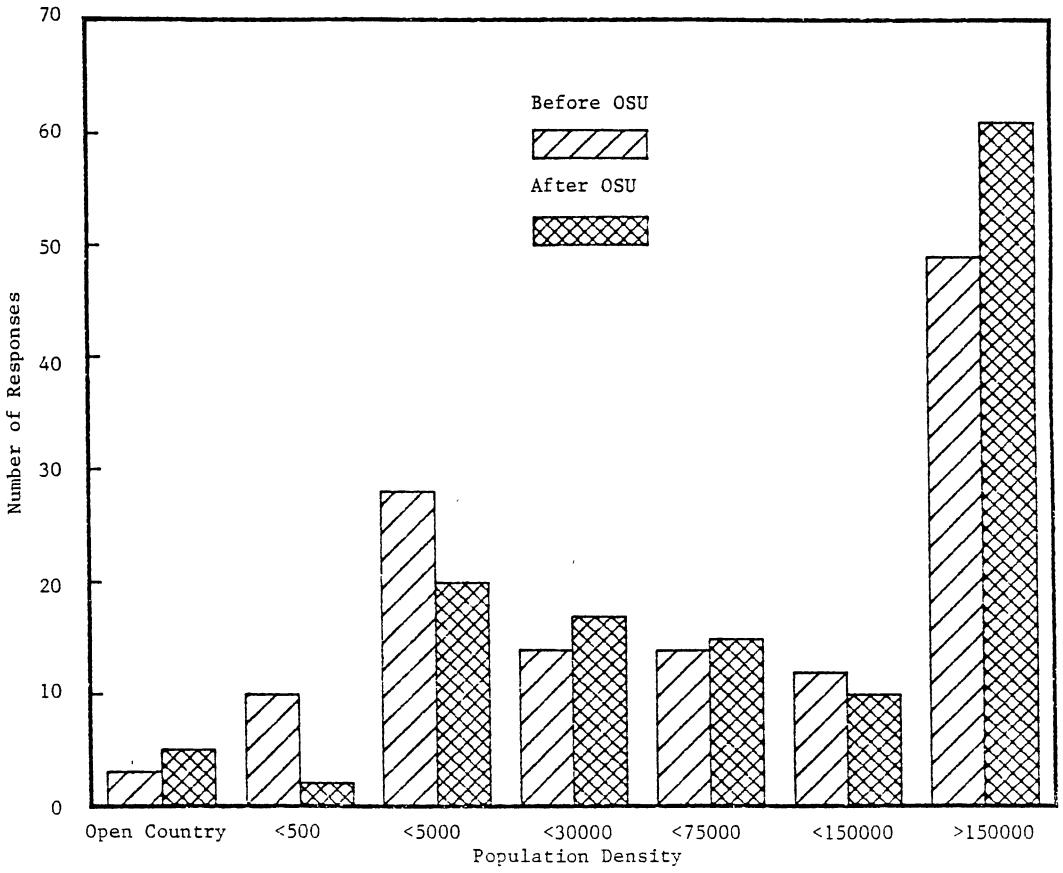


Figure 4. Respondents' Residence by Population Density Before and After Study at OSU

TABLE VI

CROSSTABULATION OF RESPONDENT'S RESIDENCE BEFORE AND AFTER OSU

Lived Before OSU	Lived After OSU							Row Total/ Percent
	Open Country	Town < 500	Town < 5,000	City < 30,000	City < 75,000	City < 150,000	City > 150,000	
Open Country	3							3 2.3%
Town < 500		1	3	2	3		1	10 7.7%
Town < 5,000	1	1	12	6	2	1	5	28 21.5%
City < 30,000			4	7	1		2	14 10.8%
City < 75,000				1	8	2	3	14 10.8%
City < 150,000						5	7	12 9.2%
City > 150,000	1		1	1	1	2	43	49 37.7%
Column Total/ Percent	5 3.8%	2 1.5%	20 15.4%	17 13.1%	15 11.5%	10 7.7%	61 46.9%	130 100.0%

Three questions on the survey instrument related to whether or not the respondents or their parents had even been involved in farming or production agriculture. Eighty-eight (67.7%) indicated that their parents had been involved in farming while 41 (31.5%) responded that their parents had not been in farming. Eighty-three (63.8%) answered that at some time in their lives they had been in farming while 47 (36.2%) indicated they had never been involved in farming. This compares with a total of 63 (48.5%) who said they had been engaged in farming after their studies at OSU while 65 (50.0%) answered that they had not been involved in farming or production agriculture since leaving OSU.

The survey instrument asked each respondent to check which of eight categories would best describe their (1) last job before studies at OSU, (2) first job after OSU, and (3) their present job. The words "best describe" were underlined in each question in an attempt to limit multiple checks. Multiple checks were made anyway in some cases and the researcher tabulated those responses in two additional categories of "Teaching/Research/Administration" and "Other Combinations" as seen in Table VII. "Student" was not a category in the questionnaire but 14 (10.8%) wrote it in under "Other" in last job before OSU so it was listed as a separate category in the table.

Twenty-nine (22.3%) indicated that teaching would best describe their last job before OSU and 33 (25.4%) returned to teaching positions. Twenty-one (16.2%) felt that teaching would best describe their present job. Research would best describe the job of 19 (14.6%) of the respondents before OSU studies while 20 (15.4%) returned to, and 11 (8.5%) are now in, research. Thirteen (10.0%) came from extension work, 11 (8.5%) returned to extension work and 10 (7.7%) are presently

TABLE VII

TYPE EMPLOYMENT OF RESPONDENTS AT THREE CAREER POINTS

Type Employment	Last Before OSU		First After OSU		Present Job	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Teaching	29	22.3	33	25.4	21	16.2
Research	19	14.6	20	15.4	11	8.5
Extension	13	10.0	11	8.5	10	7.7
Administration	8	6.2	5	3.8	11	8.5
Government	15	11.5	18	13.8	13	10.0
Business (Agriculture related)	8	6.2	4	3.1	13	10.0
Business (Non-Agriculture related)	0	0.0	4	3.1	2	1.5
Student	14	10.8	0	0.0	2	1.5
Other	4	3.1	1	.8	4	3.1
Teaching/Research/Administration	18	13.8	29	22.3	29	22.3
Other Combinations	1	.8	4	3.1	4	3.1
None Listed	1	.8	1	.8	10	7.7
Totals	130	100.0	130	100.0	130	100.0

employed in extension jobs. Government jobs would best describe the work of 15 (11.5%) of the respondents before OSU, 18 (13.8%) for the first job after OSU studies and 13 (10.0%) for present positions. It should be noted here that, as seen in Figure 5, 33 (25.4%) of the respondents indicated that their government was the major source of funds for their studies at OSU. The combination of Teaching/Research/Administration was chosen by 18 (13.8%) of the respondents to describe their last job before OSU, while 29 (22.3%) selected this category for first job after OSU and an equal number indicated it would best describe their present job. All categories had at least one respondent except Business (non-Agriculture-related) for last job before OSU and student for first job after OSU.

Figure 5 shows the major source of funding for studies at OSU by the 130 respondents of this study. The largest number (44, 33.8%) were funded by international development agencies. Their government was chosen as the major source of funds by 33 (25.4%) respondents while 30 (23.1%) listed personal and family funds. Twenty-one (16.2%) indicated that part-time jobs while at OSU covered the major portion of their expenses. One (.8%) respondent indicated his studies were paid for by private business sponsorship and one (.8%) respondent checked the "other" category but did not specify the source of his funds. Table VIII shows a cross-tabulation of the economic category of the respondent's parents by the major source of funding for studies at OSU. For those indicating that they were funded by international agencies five (3.8%) considered themselves to be from the upper one-third of the economic category, 30 (23.1%) were from the middle one-third, and nine (6.9%) were from the lower one-third. The student's

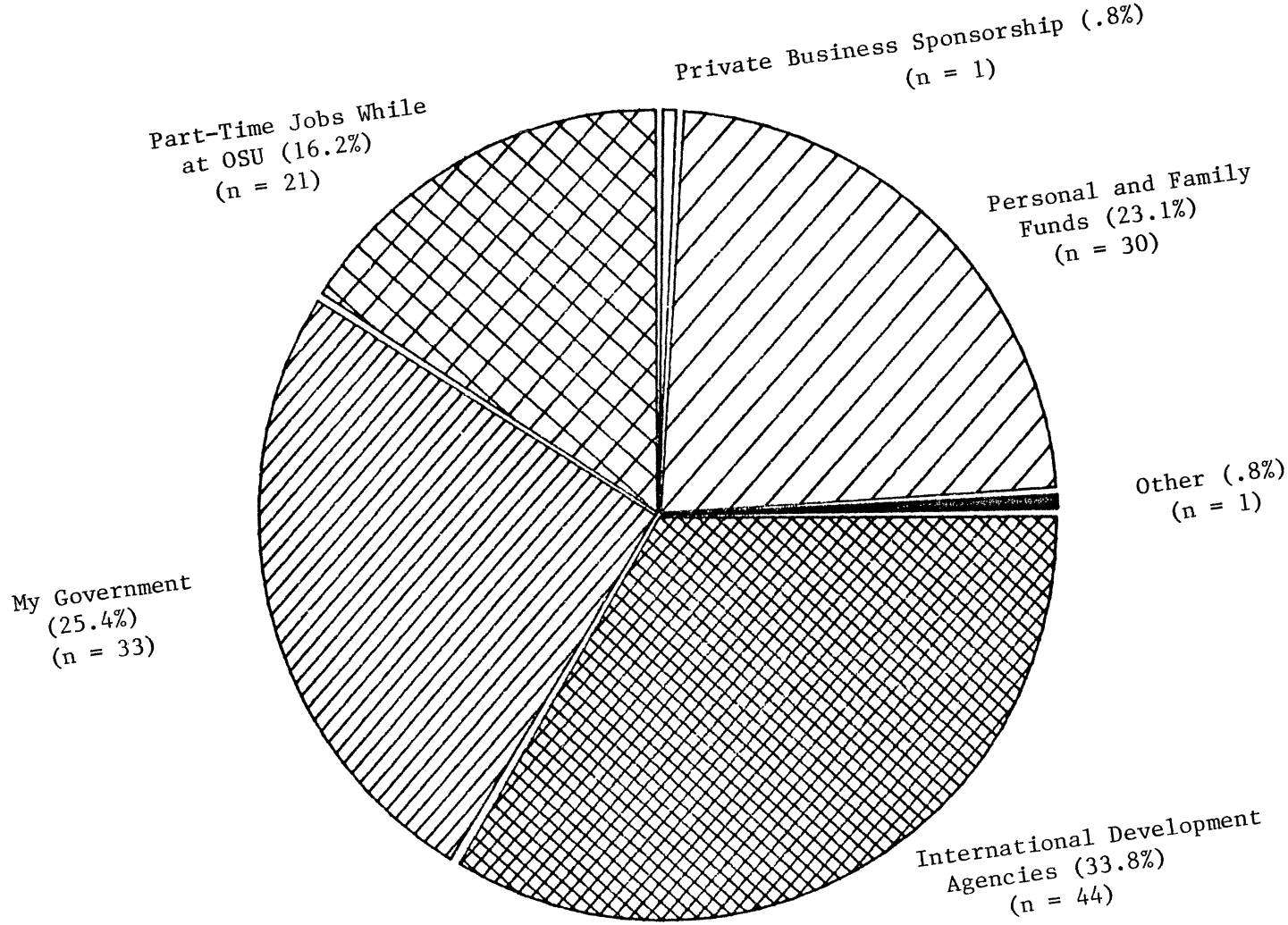


Figure 5. Source of Funding for Studies at OSU

TABLE VIII

CROSSTABULATION OF ECONOMIC CATEGORY BY MAJOR SOURCE OF FUNDING FOR OSU STUDIES

Parents' Economic Category	Sources of Funding						Row Total/ Percent
	Personal/ Family	Part-time Job	My Government	International Agencies	Private Business	Other	
Upper 1/3	9	2	3	5			19 14.6%
Middle 1/3	20	12	18	30	1	1	82 63.1%
Lower 1/3	1	7	12	9			29 22.3%
Column Total/ Percent	30 23.1%	21 16.2%	33 25.4%	44 33.8%	1 .8%	1 .8%	130 100%

government funded three (2.3%) from the upper one-third, 18 (13.8%) from the middle one-third and 12 (9.2%) from the lower one-third. Part-time jobs by the student while in residence at OSU was the major source of funds for two (1.5%) from the upper one-third, 12 (9.2%) from the middle one-third and seven (5.4%) from the lower one-third. Nine (6.9%) from the upper one-third had their expenses paid by personal and family funds while 20 (15.4%) from the middle one-third indicated this source of funding. One (.8%) respondent claimed to be from the lower one-third of the economic category in his country yet his studies were funded for the most part by personal and family funds.

Perceptions of the Value of Educational Experiences at OSU by First and Present Job, World Area, Academic Department and Degree Level

The purpose of this section was to address the perceived value to careers in the developing world of specific educational experiences at OSU. The 13 items were enumerated on the back side of the questionnaire and can be reviewed in Appendix F. These learning experiences were considered important enough to be addressed separately after consultation with and input from several sources. Among those sources were the staff and faculty of the researcher's major department, Agricultural Education and other departments including Agronomy, Agricultural Economics, Educational Administration and Sociology as well as staff of the Office of International Programs and international students in residence at OSU

at the time the questionnaire was being designed. A large proportion of this "jury" group had had close working relationships with international students at OSU and in one or more developing countries. The response to each question is reported by academic department and degree level of the respondents for both their first job after study at OSU and for their present job.

The responses were grouped for purposes of analysis into four world areas: (1) Asia, (2) Latin America, (3) Subsaharan Africa, and (4) North Africa/Middle East. They were also grouped by the three levels of degree (BS, MS, PhD) and the nine academic departments in the College of Agriculture at OSU: (1) Agricultural Economics, (2) Agricultural Education, (3) Agricultural Engineering, (4) Agronomy, (5) Animal Science, (6) Entomology, (7) Forestry, (8) Horticulture, and (9) Plant Pathology. The value of the selected educational experiences at OSU to the first job and present job as perceived by the alumni was measured on a five-point Likert scale. If the respondent checked the column "Not Helpful for Job" a score of zero (0) was assigned; "Slightly Helpful" received a one (1); "Moderately Helpful" a two (2); "Very Helpful" a three (3); and "Essential" received a score of four (4). The number (n) of respondents, the mean scores ($\bar{X}$) of perceived value and the Standard Deviation (SD) are listed in each of the following tables. The combined group means found at the bottom of each table are the true means and not the mean of means.

The value, as perceived by respondents, for achievement of success in their first and in their present jobs of "classwork in the major subject areas" as compared by academic department and level of study is seen in Table IX. All means reported, which were based on

TABLE IX

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF CLASSWORK IN MAJOR SUBJECT AREAS AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	4	3.25	.96	1	2.00	.00	20	3.40	.50	9	2.89	.78	9	3.33	.50	5	3.20	.84
AG ED	6	2.83	.98	4	3.50	.58	27	3.00	.83	16	3.31	.70	10	2.60	1.07	5	3.20	.84
AG EN	5	3.20	.84	3	2.67	1.53	3	3.33	.58	2	2.50	.71	2	3.50	.71	-	-	-
AGRON	5	2.40	1.14	3	3.00	1.00	10	3.30	.67	2	2.50	.71	12	3.33	.89	6	2.67	1.37
AN SCI	3	3.33	.58	2	3.50	.71	7	2.86	.69	5	2.40	1.14	3	2.67	.58	2	2.50	.71
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	3.00	.00	1	3.00	.00
FOREST	1	4.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	1	4.00	.00	1	3.00	.00	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	10	3.40	.97	6	3.00	1.26	5	3.60	.89	3	3.33	1.15
Combined Group*	24	3.00	.93	13	3.08	.95	78	3.20	.74	41	2.97	.88	42	3.14	.87	22	3.00	.97

*Total more than 130 due to some students earning more than one degree from OSU.

two or more respondents, fell into the "Very Helpful" category except Plant Pathology PhD's in the first position (3.60), Agronomists with a BS in their first job (2.40), and Animal Scientists with MS degrees in their present position (2.40). These scores fell into the "Essential" and "Moderately Helpful" category respectively. Agricultural Economists ranked their experiences with relative consistency throughout the degree levels for the first position (BS, $\bar{X}$ = 3.25; MS, $\bar{X}$ = 3.40; PhD, $\bar{X}$ = 3.33) but the values for present position showed greater variability (BS, $\bar{X}$ = 2.00; MS, $\bar{X}$ = 2.89; PhD, $\bar{X}$ = 3.20). The perception of the value of coursework in the major subject areas for Agricultural Economists seemed to be noticeably higher for the first position than for the present position. It could be assumed that, possibly at least for this question, the economists felt that they were being better prepared for entry level jobs than for jobs later in their careers.

The mean values for Agricultural Education majors showed just the opposite result with the perceived value of coursework in the major subject area receiving noticeably higher ratings for the present position than for the first position across all three degree levels (BS, $\bar{X}_1$ = 2.83, $\bar{X}_2$ = 3.50; MS, $\bar{X}_1$ = 3.00, $\bar{X}_2$ = 3.31; PhD, $\bar{X}_1$ = 2.60, $\bar{X}_2$ = 3.20). Agricultural Engineers had the same trend between first and present positions as did the Economists with lower ratings in the present position than in the first position (BS, $\bar{X}_1$ = 3.20, $\bar{X}_2$ = 2.67; MS, $\bar{X}_1$ = 3.33, $\bar{X}_2$ = 2.50; PhD, $\bar{X}_1$ = 3.50, $\bar{X}_2$ = none). In no other academic department was the relative consistency of higher or lower scores between positions noticeable. The highest overall mean for any single department with five or more graduates responding was Plant Pathology in which none averaged below 3.00 and the high score for all

categories occurred for the PhDs is their first position (3.60). When the mean responses were combined they showed relative consistency across degree levels for the first position (BS = 3.00, MS = 3.20, PhD = 3.14) and the present position (BS = 3.08, MS = 2.97, PhD = 3.00).

Data presented in Table X show the perceived value for achievement of success in first and present employment of "elective courses outside major subject areas" (Question 2) and allows comparison both by respondents' academic department and level of study. The mean values here are noticeably lower across all categories as compared to the previous table. The combined group means reflected this across all degree levels and jobs (BS $\bar{X}_1$ = 2.33, $\bar{X}_2$ = 2.54; MS $\bar{X}_1$ = 2.51, $\bar{X}_2$ = 2.59; PhD $\bar{X}_1$ = 2.36, $\bar{X}_2$ = 2.60). The Agricultural Economists again ranked the value of their experience less for their present position as compared to their first job while the Agricultural Educators again reverse that and ranked the present position higher across all degree levels. No similar trend was noticed for the Agricultural Engineers on this question. The Plant Pathologists showed appreciably higher results for the present position ($\bar{X}$ = 2.50 and 2.67) compared to the first position ($\bar{X}$ = 2.09 and 2.00) for those with MS and PhD degrees.

The perceived value for achievement of success in the first and in present employment of "interactions with faculty" (Question 3) as compared by the respondents' academic department and level of study can be observed through data presented in Table XI. The range of means for this question was noticeably greater than for most. For example, graduates of Agricultural Education with a BS had a mean of 2.00 for their first job and a mean of 3.50 for their present position. For those with an MS, the mean value for first position was

TABLE X

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF ELECTIVES OUTSIDE MAJOR SUBJECT AREAS AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
Respondent's	First Position			Present Position			First Position			Present Position			First Position			Present Position		
Department	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	4	2.50	.58	1	2.00	.00	20	2.50	1.05	9	2.11	1.27	9	2.78	.83	5	2.80	.84
AG ED	6	2.50	1.22	4	2.75	.50	25	2.60	.82	15	3.07	.80	10	2.20	.92	5	2.60	.89
AG EN	5	2.00	1.22	3	3.00	.00	3	3.33	.58	2	3.00	.00	2	2.50	.71	-	-	-
AGRON	5	2.20	1.09	3	1.67	1.15	9	2,56	.73	2	2.00	1.41	12	2.42	.99	6	2.33	1.03
AC SCI	3	2.67	.58	2	3.00	.00	6	2.33	.82	4	2.00	.82	3	2.33	.58	2	3.00	.00
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	1.00	.00	1	2.00	.00
FOREST	1	2.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	1	3.00	.00	1	3.00	.00	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	11	2.09	1.30	6	2.50	1.05	5	2.00	1.00	3	2.67	.58
Combined Group*	24	2.33	.96	13	2.54	.78	75	2.51	.95	39	2.59	1.02	42	2.36	.91	22	2.60	.80

*Total more than 130 due to some students earning more than one degree from OSU.

TABLE XI

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF INTERACTIONS WITH FACULTY AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	4	2.75	1.26	1	3.00	.00	19	2.37	.95	8	2.00	1.31	9	2.56	1.13	5	2.60	1.14
AG ED	6	2.00	1.41	4	3.50	.58	25	2.60	.87	16	3.00	.73	10	3.30	.82	5	3.20	.84
AG EN	5	1.20	1.30	2	1.00	1.41	3	2.00	1.73	2	1.00	1.41	2	2.50	.71	-	-	-
AGRON	3	2.00	1.00	1	2.00	.00	9	3.11	1.36	2	3.00	.00	12	2.75	.87	6	1.83	1.17
AN SCI	3	3.00	1.00	2	3.50	.71	8	2.12	1.13	5	2.00	1.22	3	3.33	.58	2	3.00	.00
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	2.00	.00	1	1.00	.00
FOREST	1	4.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	1	3.00	.00	1	2.00	.00	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	10	3.00	.82	5	3.60	.55	5	3.00	.00	3	2.33	1.15
Combined Group*	22	2.18	1.33	10	2.80	1.23	75	2.59	1.03	39	2.61	1.11	42	2.88	.86	22	2.45	1.10

*Total more than 130 due to some students earning more than one degree from OSU.

2.60 and for present position it was 3.00. Agricultural Educators with doctorates had a mean of 3.30 for the first position and a mean of 3.20 for the present position. Agricultural Engineers with BS degrees in their first job had an average perceived value of 1.20 for interactions with faculty and a mean of 1.00 for present position. For engineers with the MS the mean was 2.00 for first position and 1.00 for present position. The Agricultural Engineers, then, rated interactions with faculty as "Slightly Helpful" except for those with MS degrees in the first position which was "Moderately Helpful."

For two academic departments it was noted that one degree level scored inconsistently in comparison to the other two degree levels. Agronomists with MS degrees had a mean of 3.11 for their first job and 3.00 for their present job while the other four means for agronomists were noticeably lower (2.00, 2.00, 2.75, 1.83). By contrast, Animal Scientists with the MS degree scored lower than the other two degree levels for that department. The mean for first position was 2.12 and for present position, 2.00 while the other four means for Animal Scientists were 3.00, 3.50, 3.33, and 3.00. It should be noted that graduate students would normally be expected to have a closer and more valuable relationship with faculty than would undergraduates but there appears to be no discernible pattern of undergraduates rating this question lower than did graduate students. Although the combined group means for Question 3 were quite consistent with a high of 2.88 and a low of 2.18, the standard deviations, with one exception, were all more than one, indicating a high degree of variability in the responses to this question.

The perceived value for achievement of success in first and in present employment of research (Question 4) as compared by respondents' academic department and level of study is shown in Table XII. The value of research to career success had consistently higher ratings than any other question on the survey except classwork in major subject area. Means for some departments ranged well above 3.0. Agronomists with MS degrees had a mean of 3.44 for first position and 3.00 for present position. Agronomists with the PhD had a mean of 3.33 for both the first position and for the present position. For those with a degree in Agricultural Economics all categories had means of 3.0 or higher except those with BS degrees for their first position which was 2.33. Economists with the PhD rated the value of research in their first position with a mean of 3.78 which placed them in the "Essential" category. Animal Scientists with BS and MS degrees did not seem to place as high a value on research as did those from other departments with all four means (2.25, 2.00, 2.88, 2.40) less than the combined group mean for their respective study level categories.

The combined group means show that those with doctorates valued research to a greater extent than did other degree levels. The mean for PhD's in the first position was 3.31 while the mean for present position was 3.41. This compared with means for the BS degree of 2.53 and 3.10 and for the MS degree of 2.91 and 2.95. The one Horticultural graduate responded to this question on the value of research with a 4.0 for the first position and a 1.0 for the present position. Since these scores equate to "Essential" and "Slightly Helpful" it was clear that, at least for this person, some thought was put into his response as to how important training in research was to two of his jobs.

TABLE XII

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF RESEARCH AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	3	2.33	2.08	1	3.00	.00	18	3.17	1.15	9	3.22	.83	9	3.78	.44	5	3.60	.55
AG ED	6	2.50	1.22	4	3.25	.96	28	2.43	1.10	15	2.87	1.12	10	2.60	1.26	5	3.20	.84
AG EN	2	3.00	.00	2	3.50	.71	2	2.00	1.41	1	2.00	.00	2	3.50	.71	-	-	-
AGRON	3	2.33	2.08	1	4.00	.00	9	3.44	.53	2	3.00	1.41	12	3.33	.89	6	3.33	1.21
AN SCI	4	2.25	.96	2	2.00	1.41	8	2.88	1.25	5	2.40	1.34	3	3.33	.58	2	3.00	.00
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	3.00	.00	1	3.00	.00
FOREST	1	4.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	1	4.00	.00	1	1.00	.00	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	10	3.40	.70	6	3.67	.52	5	3.80	.45	3	4.00	.00
Combined Group*	19	2.53	1.31	10	3.10	.99	76	2.91	1.10	39	2.95	1.07	42	3.31	.92	22	3.41	.80

*Total more than 130 due to some students earning more than one degree from OSU.

Table XIII shows the perceived value for achievement of success in first and in present employment of how higher education works in the United States (Question 5) as compared by the respondents' academic department and level of study. As would have been expected, the Agricultural Educators valued this experience higher than did other academic areas. For those with the BS degree the mean for first position was 3.17 and for present position the mean was 3.25. A mean of 2.75 was reported for those with an MS for their first position and a mean of 3.06 for their present position. Those with the EdD degree in Agricultural Education had a mean of 3.00 for their first job and a mean of 3.40 for their present job. The academic department with the lowest means on this question was Animal Science in which the means ranged from a low of 1.50 to a high of 2.67. The combined group means were consistent across degree level and jobs with a high of 2.83 (N = 32, SD = 1.03) for those with BS degrees in first positions to a low of 2.54 (N = 76, SD = .89) for those with MS degrees in the first job category.

The perceived value for achievement of success in first and in present employment of the item pertaining to courses and experiences for adopting USA education in the respondent's home country (Question 6) as compared by the respondent's academic department and level of study is shown by the data in Table XIV. Since the question concerned educational practices the means for Agricultural Education majors was perhaps again one of particular interest. For those with a BS degree the mean for first job was 2.00 and for present job the mean was 2.50. The MS degree, first job, had a mean of 2.54 and for present job it was 3.13. Agricultural Educators with the EdD degree

TABLE XIII

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF HOW HIGHER EDUCATION WORKS IN THE USA AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
Respondent's	First Position			Present Position			First Position			Present Position			First Position			Present Position		
Department	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	4	2.75	1.25	1	3.00	.00	16	2.31	1.14	8	2.25	1.16	9	2.67	1.32	5	2.00	1.58
AG ED	6	3.17	.75	4	3.25	.50	28	2.75	.75	16	3.06	.77	10	3.00	.82	5	3.40	.55
AG EN	4	3.25	.96	3	2.33	1.15	3	2.00	1.00	2	0.50	.71	2	2.00	1.41	-	-	-
AGRON	4	2.50	.58	2	2.50	.71	9	2.78	.67	2	3.00	.00	12	2.67	1.15	6	2.50	1.64
AN SCI	4	2.00	1.41	2	1.50	2.12	8	2.00	.93	5	2.00	1.22	3	2.67	.58	2	2.50	.71
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	1.00	.00	1	2.00	.00
FOREST	1	4.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	1	3.00	.00	1	1.00	.00	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	11	2.64	.81	6	3.17	.75	5	2.20	1.30	3	2.67	.58
Combined Group*	23	2.83	1.03	12	2.58	1.08	76	2.54	.89	40	2.60	1.10	42	2.62	1.10	22	2.59	1.22

*Total more than 130 due to some students earning more than one degree from OSU.

TABLE XIV

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF COURSES AND EXPERIENCES OF ADAPTING USA EDUCATION IN HOME COUNTRY AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	3	2.33	1.15	1	0.00	.00	14	2.14	1.23	7	1.71	1.25	7	1.71	1.25	4	1.50	1.29
AG ED	6	2.00	1.09	4	2.50	.58	28	2.54	.96	15	3.13	.74	9	2.33	1.12	5	3.20	.45
AG EN	4	1.75	.50	3	2.00	1.00	2	2.50	.71	2	0.50	.71	2	3.00	.00	-	-	-
AGRON	2	2.50	.71	1	3.00	.00	8	2.25	1.03	2	2.50	.71	10	2.00	1.05	5	2.40	1.82
AN SCI	3	2.33	1.15	1	3.00	.00	7	2.28	.49	5	2.20	1.30	3	2.33	.58	2	2.50	.71
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	2.00	.00	1	3.00	.00
FOREST	1	4.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	9	2.67	1.00	4	3.50	.58	4	2.25	1.26	2	1.00	1.41
Combined Group*	19	2.21	.98	10	2.20	1.03	68	2.41	.98	35	2.57	1.19	36	2.14	1.05	19	2.32	1.33

*Total more than 130 due to some students earning more than one degree from OSU.

had a mean of 2.33 for the first job and 3.20 for the present job. It was of interest to note that across this element of findings for first position and present position for all academic departments a total of 11 means increased and six means decreased. This possibly indicated that as the respondent advanced in his career the importance of courses and experiences relating to adopting USA educational practices became of greater concern. The combined group means showed a high of 2.57 (N = 35, SD = 1.19) for MS degrees in present position and a low of 2.14 (N = 36, SD = 1.05) for PhD's in their first position.

Data presented in Table XV show the perceived value for achievement of success in first and present employment of courses and experiences in Agricultural Extension (Question 7) as compared by the respondents' academic department and level of study. The Agricultural Engineers rated this question consistently lower than respondents from most other departments with means of first and present position respectively of 2.33, 2.00 (BS); 1.00, .50 (MS); and 1.00 (PhD, first position) as they moved from BS to PhD degree. The number of respondents in each case were few, ranging from one to three, but the consistency of their ratings is notable. Again, the Agricultural Educators scored among the highest as was expected particularly when considering the importance of extension work to that field of endeavor. For example, among the higher means were for MS in present position at 3.25, for EdD in first position it was 2.90, and for EdD in present position it was 3.60 indicating for the latter that knowledge of Agricultural Extension was "Essential" for Agricultural Educators with doctorates. However, Agricultural Educators with BS degrees in their first position the mean of 1.67 was surprisingly low considering the importance of

TABLE XV

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF COURSES AND EXPERIENCE IN AGRICULTURAL EXTENSION AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	2	2.50	2.12	1	2.00	.00	11	2.09	1.30	6	2.33	1.03	5	2.60	1.51	4	2.25	1.50
AG ED	6	1.67	1.21	4	2.75	.96	27	2.67	1.07	16	3.25	.68	10	2.90	.99	5	3.60	.55
AG EN	3	2.33	1.15	2	2.00	1.41	1	1.00	.00	2	0.50	.71	2	1.00	.00	-	-	-
AGRON	2	2.50	.71	1	2.00	.00	7	2.28	1.11	2	2.50	.71	8	2.37	1.18	5	2.20	1.64
ANSCI	3	2.00	1.00	1	3.00	.00	8	2.00	.76	5	1.40	.89	2	2.00	1.41	2	2.00	1.41
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	3.00	.00	1	3.00	.00
FOREST	1	4.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	7	2.57	.98	4	2.50	1.29	4	2.25	1.26	3	2.67	.58
Combined Group*	17	2.18	1.18	9	2.44	.88	61	2.39	1.08	35	2.54	1.15	32	2.47	1.16	20	2.65	1.23

*Total more than 130 due to some students earning more than one degree from OSU.

extension to the developing world. The rankings of the Agronomists and Plant Pathologists were of particular interest since the requirement to get research results from their disciplines out to the farmer should be of great concern to them. The ratings for these two academic departments showed relative consistency throughout with each of the 10 reported means over 2.00 and four at 2.50 or more. Combined group means also showed relative consistency with a clear observable trend toward higher rankings in the present position than for the achievement of success in the first position. The means for those with BS degrees were 2.18 and 2.44, for the MS degree it was 2.39 and 2.54, and for the PhD it was 2.47 and 2.65.

Findings reported in Table XVI shows the perceived value for achievement of success in first and present employment of courses and experiences in administration in education, government, and business (Question 8) as compared by the respondents' academic department and level of study. The range of means for this question was greater than for respondents from most other departments. The high for study level categories with two or more respondents was 3.56 in the case of Agricultural Education majors with MS degrees for their present jobs. Animal Science majors with the MS degree had a mean of 1.57 for their first employment. Several categories in the departments of Agricultural Engineering and Plant Pathology had a mean of 1.50 but these were based on only one or two respondents. Nevertheless, the frequency of occurrance across categories of means in this range indicate a lack of value for courses and experiences in administration for these academic areas. The Agricultural Educators had the highest overall means with a high of 2.56 as indicated above and a low of 2.67 for

TABLE XVI

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF COURSES AND EXPERIENCES IN ADMINISTRATION IN EDUCATION, GOVERNMENT AND BUSINESS AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	4	2.00	1.41	1	3.00	.00	19	2.53	1.22	9	2.78	1.20	5	3.00	.71	4	2.75	.50
AG ED	6	2.67	1.75	4	3.00	1.41	27	2.78	.93	16	3.56	.51	10	3.10	.99	5	3.40	.55
AG EN	4	2.00	.82	3	2.67	1.15	2	1.50	.71	2	2.00	.00	2	1.50	.71	-	-	-
AGRON	3	2.67	.58	1	3.00	.00	5	2.60	1.14	1	2.00	.00	6	2.67	.52	3	2.00	1.00
AN SCI	4	2.25	.96	2	3.00	.00	7	1.57	.79	4	2.00	.00	2	3.00	.00	2	3.00	.00
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	3.00	.00	1	3.00	.00
FOREST	1	4.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	6	2.50	1.05	4	2.50	1.29	2	1.50	.71	1	2.00	.00
Combined Group*	22	2.41	1.22	11	2.91	.94	66	2.50	1.07	36	2.94	.98	28	2.75	.89	16	2.81	.75

*Total more than 130 due to some students earning more than one degree from OSU.

the first position for those with BS degrees. Combined group means again showed consistency across all categories with a high of 2.94 (N = 36, SD = .98) for MS degrees in present job to a low of 2.41 (N = 22, SD = 1.22) for BS degrees in first position.

The perceived value for achievement of success in first and present employment of visits to agricultural activities (Question 9) as compared by respondents' academic department and level of study had means as reported in Table XVII. The academic department showing the greatest consistency of means across degree level and jobs was Agricultural Economics. The highest mean in this case was 3.0 for those with BS degrees in both first and present job and a low of 2.14 for the PhD persons in their first job. Agricultural Education majors again scored this question relatively high with a mean of 3.27 for those with MS degrees in their present position and the lowest mean was 2.33 for those with BS degrees for their first job. The respondent's overall means show a high of 2.86 (N = 36, SD = .96) for those with MS degrees in their current position and a low of 2.48 (N = 35, SD = 1.12) for PhD degres for their first job.

Data presented in Table XVIII shows the perceived value for achievement of success in first and present employment of internships (Question 10) as compared by the respondents' academic department and level of study. Since undergraduates are seldom given internships or assistantships it would have been expected that not many would respond to this question or rate it very highly if they did. This proved to be the case with only 13 persons with BS degrees responding to this question for their first job and 10 for their present job. The overall mean for those with BS degrees for the first job was 1.85

TABLE XVII

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF VISITS TO AGRICULTURAL ACTIVITIES AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	3	3.00	1.00	1	3.00	.00	16	2.50	1.18	7	2.86	1.07	7	2.14	1.22	4	2.25	1.50
AG ED	6	2.33	1.03	4	2.50	1.29	23	2.74	1.05	15	3.27	.88	10	2.90	1.37	5	3.00	1.22
AG EN	4	2.25	.96	3	2.67	.58	3	2.00	1.00	2	2.00	.00	2	2.50	.71	-	-	-
AGRON	2	2.50	.70	2	1.50	.71	8	2.75	1.04	2	2.50	.71	9	2.44	1.13	5	2.40	1.52
AN SCI	4	2.75	1.26	2	3.50	.71	7	2.14	1.07	4	2.25	.96	3	2.67	.58	2	2.50	.71
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	3.00	.00	1	3.00	.00
FOREST	1	2.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	8	2.62	.92	6	2.67	1.03	3	1.67	.58	2	2.50	.71
Combined Group*	20	2.50	.95	12	2.58	.99	65	2.51	1.06	36	2.86	.96	35	2.48	1.12	19	2.58	1.17

*Total more than 130 due to some students earning more than one degree from OSU.

TABLE XVIII

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF INTERNSHIPS AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	1	3.00	.00	1	2.00	.00	8	2.00	1.19	5	1.60	1.14	7	2.71	.95	5	2.80	1.09
AG ED	4	2.25	1.50	3	2.00	1.00	15	2.07	.88	11	2.18	.98	9	2.78	.97	5	2.60	.55
AG EN	2	1.00	1.41	2	1.00	1.41	1	.00	.00	2	.00	.00	2	2.50	.71	-	-	-
AGRON	3	2.33	1.15	2	1.50	2.12	7	2.57	1.27	2	2.00	1.41	7	2.14	1.34	5	2.20	1.30
AN SCI	3	1.00	1.00	2	2.50	.71	4	2.25	1.71	2	3.00	1.41	3	3.33	.58	2	3.00	.00
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2.00	.00
FOREST	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	9	3.22	.67	6	3.50	.55	5	3.20	.84	3	3.33	.58
Combined Group*	13	1.85	1.28	10	1.80	1.14	44	2.34	1.16	28	2.25	1.26	33	2.73	1.01	21	2.67	.91

*Total more than 130 due to some students earning more than one degree from OSU.

and 1.80. For the MS degree it was 2.34 and 2.25, and for those with PhD degrees the combined group means were 2.73 (N = 33, SD = 1.01) and 2.67 (N = 21, SD = .91). Those with PhD's felt that internships were "Very Helpful" in preparation for their careers. All others fell into the "Moderately Helpful" category.

The perceived value for achievement of success in first and present employment of attendance at professional conferences (Question 11) as compared by respondent's academic department and level of study is shown by the data in Table XIX. A comparison of the means by area of study shows the Animal Scientists to have placed the greatest value to careers on this question. The PhD's from that department had a mean of 3.33 for their first position and a mean of 3.00 for their present job. Plant Pathologists also valued this type of educational experience highly with those with MS degrees having a mean of 3.17 for their present job and those with PhD's a mean of 3.00 for their present job. No particular means appeared exceptionally low for this question with most well over 2.00. The standard deviations, however, were noticeably greater than on other questions. All but two categories had standard deviations greater than 1.00 with four of the six equal to or more than 1.10.

The findings reported in Table XX reflects the perceived value for success in first and present employment of home stays with American farm families (Question 12) as compared by the respondents' academic department and level of study. The number of respondents that indicated they had not experienced stays with American farm families was of particular interest. With the exception of MS degrees for Agricultural Education, no study level category had more than six

TABLE XIX

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF ATTENDANCE AT PROFESSIONAL CONFERENCES AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	3	2.33	.58	1	2.00	.00	16	2.50	1.15	7	3.00	.82	7	2.71	1.38	4	2.50	1.73
AG ED	5	2.40	1.34	4	3.00	.82	22	2.59	.79	15	2.80	.77	9	2.89	1.05	5	2.20	.84
AG EN	4	1.75	1.50	3	2.33	2.08	3	2.00	2.00	2	1.00	1.41	2	3.00	1.41	-	-	-
AGRON	2	3.00	.00	2	2.00	1.41	8	2.87	.99	2	2.50	.71	9	2.33	1.32	5	2.20	1.30
AN SCI	3	2.33	1.15	2	3.00	.00	8	2.50	.53	4	2.50	.58	3	3.33	.58	2	3.00	.00
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	3.00	.00	1	3.00	.00
FOREST	1	4.00	.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	9	2.89	.78	6	3.17	.41	5	2.40	1.52	3	3.00	1.00
Combined Group*	18	2.39	1.14	12	2.58	1.16	66	2.61	.94	36	2.75	.84	36	2.69	1.19	20	2.50	1.10

*Total more than 130 due to some students earning more than one degree from OSU.

TABLE XX

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF HOME STAYS WITH AMERICAN FARM FAMILIES AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	2	3.00	.00	1	0.00	.00	8	1.00	1.14	4	0.25	.50	5	1.40	1.34	5	1.80	1.30
AG ED	4	1.50	1.29	2	1.00	1.00	20	2.10	1.12	14	2.43	1.22	6	2.00	1.09	3	2.33	.58
AG EN	1	3.00	.00	1	1.00	.00	-	-	-	1	0.00	.00	2	0.50	.71	-	-	-
AGRON	1	2.00	.00	1	3.00	.00	4	3.25	.50	1	2.00	.00	6	1.67	1.21	4	1.00	.82
AN SCI	4	1.50	1.00	2	2.00	.00	4	1.00	1.15	2	1.00	1.41	1	4.00	.00	1	4.00	.00
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	1	3.00	.00	-	-	-
FOREST	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	3	2.00	1.00	1	2.00	.00	1	1.00	.00	1	1.00	.00
Combined Group*	12	1.92	1.08	8	1.38	1.06	39	1.87	1.24	23	1.78	1.39	22	1.73	1.24	14	1.79	1.19

*Total more than 130 due to some students earning more than one degree from OSU.

respondents to Question 12. A total of 20 with an MS in Agricultural Education asnwered this question, however, and their mean was 2.10. For those that had experienced this opportunity the combined group means were the lowest of any of the 13 questions. All were less than 2.00 with a low of 1.38 (N = 8, SD = 1.06) and a high of 1.92 (N = 12, SD = 1.08). Again, the standard deviations reflected more than the average degree of variability among the responses.

The perceived value for achievement of success in first and present employment of learning English at the English Language Institute (Question 13) as compared by the respondents' academic department and level of study is shown by the data in Table XXI. Here again it was of particular interest to note the number of respondents by degree level that had not experienced this educational oppotunity. A total of only 20 with BS and PhD degrees responded to this question while 40 with the MS degree indicated they had studied at the English Language Institute. The combined group means showed relative consistency with one exception. Those with a PhD had a mean value of 3.33 for their present position. The other five overall means ranged from a high of 2.58 (N = 40, SD = 1.13) for MS degree, first position to a low of 2.20 (N = 20, SD = 1.48) for BS degree, first position. Those with PhD's evidently saw later in their careers that more formal English training would have been helpful.

The data in Table XXII reflects the respondents' perceived value of each selected educational experience by world area of residence during the first employment after studies at OSU. It was apparent that three graduates did not understand the first question since the total of 127 respondents indicates that the three remaining did not feel they had experienced classwork in their major subject area. It was possible

TABLE XXI

PERCEIVED VALUE FOR SUCCESS IN FIRST AND PRESENT EMPLOYMENT OF LEARNING ENGLISH AT THE ENGLISH LANGUAGE INSTITUTE AS COMPARED BY RESPONDENTS' ACADEMIC DEPARTMENT AND LEVEL OF STUDY

Respondent's Department	Response Analysis by Position and Level of Study																	
	BS Level						MS Level						PhD/EdD Level					
	First Position			Present Position			First Position			Present Position			First Position			Present Position		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
AG ECON	-	-	-	-	-	-	11	2.45	1.21	5	1.80	1.64	3	3.00	1.00	2	3.50	.71
AG ED	1	4.00	.00	-	-	-	11	2.82	.60	8	2.87	.64	4	2.75	.96	-	-	-
AG EN	1	0.00	.00	-	-	-	1	0.00	.00	1	0.00	.00	2	0.00	.00	-	-	-
AGRON	1	2.00	.00	1	2.00	.00	6	2.50	1.22	1	3.00	.00	4	2.75	1.26	3	3.00	1.00
AN SCI	2	2.50	.71	1	3.00	.00	5	2.00	1.41	2	1.00	1.41	-	-	-	-	-	-
ENTO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FOREST	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HORT	-	-	-	-	-	-	1	4.00	.00	1	4.00	.00	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-	5	3.20	.84	2	4.00	.00	2	3.50	.71	1	4.00	.00
Combined Group*	5	2.20	1.48	2	2.50	.71	40	2.58	1.13	20	2.45	1.39	15	2.53	1.36	6	3.33	.82

*Total more than 130 due to some students earning more than one degree from OSU.

TABLE XXII

RESPONDENTS' PERCEIVED VALUE OF EACH SELECTED EDUCATIONAL EXPERIENCE BY WORLD AREA, FIRST JOB

Educational Experience	Asia			Latin America			Subsaharan Africa			North Africa/ Middle East			Combined Group		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
1. Classwork in major subject area.	51	3.00	.92	36	3.14	.67	21	3.33	.58	19	3.32	.58	127	3.14	.78
2. Electives outside major subject area.	50	2.40	.88	36	2.47	.94	19	2.53	1.12	19	2.42	1.02	124	2.44	.95
3. Out-of-class interactions with adviser or other faculty.	48	2.67	.93	37	2.57	1.09	21	2.67	1.02	17	2.47	1.37	123	2.61	1.05
4. Research (How to conduct it, read and understand it, how to write results).	50	2.92	1.07	36	2.94	1.07	20	3.00	1.26	15	3.20	1.01	121	2.97	1.08
5. Experiences through which you gained an understanding of how higher (university level) education works in the USA in teaching, research and extension in the field of agriculture.	51	2.53	.97	36	2.42	.97	20	2.60	1.27	16	3.12	.72	123	2.58	1.01
6. Courses or experiences on how you might adapt elements of higher education in the USD to the situation in your country.	46	2.35	.99	29	2.07	.96	18	2.55	1.04	15	2.60	.74	108	2.34	.97
7. Courses or experiences in agricultural extension to include how adults learn, community development, information dissemination and the adoption process for new technology.	41	2.19	1.19	26	2.35	.80	16	2.69	1.30	14	2.57	1.28	97	2.37	1.13
8. Courses or experiences including principles and practices of administration, management, leadership and organizational procedures in education, government or business.	40	2.47	1.06	32	2.53	1.05	15	2.67	1.11	15	2.53	1.13	102	2.53	1.06
9. Visits to agricultural schools, agri-businesses, extension offices or operational farms.	42	2.45	1.06	32	2.44	1.04	18	2.83	1.04	13	2.61	1.04	105	2.53	1.05
10. Internships/assistantships related to major field of study.	36	2.39	1.18	23	2.52	1.08	9	2.89	.93	12	2.58	1.24	80	2.51	1.12
11. Attendance at professional conferences or meetings.	45	2.38	1.15	34	2.88	.64	16	3.00	1.09	13	2.46	1.13	108	2.64	1.03
12. Applications of agricultural principles learned through home stays with American families.	31	1.84	1.21	17	1.65	1.22	9	2.33	1.12	7	2.00	1.15	64	1.87	1.19
13. Learning the English language at the English Language Institute.	26	2.77	1.07	17	2.12	1.17	5	1.60	1.52	8	2.88	1.36	56	2.48	1.22

that the three that checked the "Did Not Experience" column for Question 1 felt that their coursework was not helpful in their first job and attempted to reflect that feeling by checking the first column. It is more likely, however, that the three simply did not understand the instructions.

With one exception, the question which consistently had the highest mean across all world areas was number four which concerned research; how to conduct it, read and understand it and write results. Asians had a mean of 2.92 (N = 50, SD = 1.07), Latin Americans a mean of 2.94 (N = 36, SD = 1.07), Subsaharan Africans averaged 3.00 (N = 20, SD = 1.26), and those from North Africa/Middle East had a mean of 3.20 (N = 15, SD = 1.01). The one exception was Question 1, classwork in the major subject area. Since it is not possible to get a degree from OSU without major subject classwork and it serves as the core of the curriculum, a high value on this educational experience could be expected. Asians had a mean on Question 1 of 3.00 (N = 51, SD = .92) Latin American's had 3.14 (N = 36, SD = .67), Subsaharan Africans 3.33 (N = 21, SD = .58), and those from North Africa/Middle East had an average of 3.32 (N = 19, SD = .58). The combined group mean for Question 1 concerning classwork was 3.14 (N = 127, SD = .78) while the overall mean for research was 2.97 (N = 121, SD = 1.08). Although the standard deviation was greater for those rating research than for classwork, it was clear that many graduates felt research was extremely valuable to them in their first jobs. It should be noted, however, that 105 of the 130 respondents received graduate degrees from OSU and that level of study involves research to a greater degree than do the other two.

Both the number of responding to each question and the mean value of the selected experience tended to go down as the respondents progressed through the 13 questions. This was expected since the survey instrument was formulated to progress from the general to the specific. Question 11 dealt with attendance at professional conferences or meetings and 108 (83.1%) of the respondents indicated they had experiences at OSU in this area with a mean value of 2.64 (SD = 1.03) which was in the "Very Helpful" category.

The Subsaharan Africans and those from North Africa/Middle East tended to value the experiences listed in Questions 5 through 9 higher than did those graduates from Asia or Latin America. These questions concerned how higher education works in America, how they could adopt US educational principles at home, extension courses, courses in administration and management and visits to agricultural activities. In every case the means from Asia and Latin America were as low or lower on each question than were those of Subsaharan Africa and North Africa/Middle East.

A final result of interest were the means of the four world areas for Question 13 concerning learning English at the English Language Institute. The combined group mean for the Subsaharan Africans was 1.60 (N = 5, SD = 1.52) as compared to the North Africans/Middle Easterners who had an average of 2.88 (N = 8, SD = 1.36). Although the standard deviations show a high degree of variability in the responses, it is clear that each group placed quite different values on learning English in the formal program offered at OSU.

The data in Table XXIII reflects the respondents' perceived value of each selected educational experience for their present job by world

TABLE XXIII

RESPONDENTS' PERCEIVED VALUE OF EACH SELECTED EDUCATIONAL EXPERIENCE BY WORLD AREA, PRESENT JOB

Educational Experience	Asia			Latin America			Subsaharan Africa			North Africa/ Middle East			Combined Group		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
1. Classwork in major subject area.	29	2.90	.98	19	3.21	.92	7	3.28	.49	12	2.58	.99	67	2.97	.94
2. Electives outside major subject area.	29	2.62	.94	18	2.67	.84	7	2.43	.79	11	2.36	1.21	65	2.57	.93
3. Out-of-class interactions with adviser or other faculty.	29	2.79	.86	18	2.50	1.20	7	2.86	1.21	8	2.00	1.51	62	2.61	1.11
4. Research (How to conduct it, read and understand it, how to write results).	28	2.93	1.12	19	3.26	.87	6	3.67	.52	10	3.20	.92	63	3.14	.98
5. Experiences through which you gained an understanding of how higher (university level) education works in the USA in teaching, research, and extension in the field of agriculture.	29	2.69	1.26	19	2.47	1.07	7	2.86	.69	10	2.50	1.18	65	2.61	1.13
6. Courses or experiences on how you might adapt elements of higher education in the USA to the situation in your country.	25	2.52	1.39	15	2.67	1.05	7	2.71	.76	9	1.78	.97	56	2.46	1.19
7. Courses or experiences in agricultural extension to include how adults learn, community development, information dissemination and the adoption process for new technologies.	27	2.59	1.28	14	2.57	.94	7	3.14	.90	8	1.87	1.13	56	2.55	1.16
8. Courses or experiences including principles of administration, management, leadership and organizational procedures in education, government or business.	24	2.96	.86	17	2.94	.75	6	2.83	.98	9	2.55	1.42	56	2.87	.93
9. Visits to agricultural schools, agri-businesses, extension offices or operational farms.	26	2.69	1.26	18	2.89	.83	7	2.57	.79	8	2.25	.89	59	2.68	1.04
10. Internships/assistantships related to major field of study.	23	2.35	1.26	14	2.28	.99	6	2.50	1.38	8	2.75	1.28	51	2.41	1.18
11. Attendance at professional conferences or meetings.	28	2.50	1.04	17	2.88	.60	7	2.86	1.07	8	2.87	1.25	60	2.70	.96
12. Applications of agricultural principles learned through home stays with American families.	19	1.84	1.38	10	1.60	1.26	4	2.25	.50	6	1.50	1.39	39	1.77	1.27
13. Learning the English language at the English Language Institute.	14	3.00	1.11	6	1.83	1.47	2	3.00	1.41	4	2.00	1.41	26	2.58	1.30

area. Fewer graduates responded in this area because it was not applicable to any that were in their first job after studies at OSU. Presumably, those in at least their second job were more advanced in their careers than were those still in their first position. The most striking result of this table is the exact reversal of perceived value of coursework in major subject area and research as compared to the combined group mean for the first job. Table XXII showed the overall mean for coursework in major subject area to be 3.14 and research was 2.97. For the present position the combined group mean for coursework in the major subject area was 2.97 and the overall average for research was 3.14. The increased importance on research for those in their present job perhaps implied that research is not as common an element in entry-level positions for those returning to the developing world.

A second comparison of interest when comparing mean values for world areas between first and present jobs were Questions 5 through 9. For those in their first jobs the Asians and Latin Americans rated the value of educational experiences addressed in these questions noticeably lower than did the Subsaharan Africans and those from North Africa/ Middle East. The range of means for Asians/Latin Americans was 2.07 to 2.53. For Subsaharan Africans and those from North Africa/Middle East the range of means was 2.53 to 3.12. The mean values on Questions 5 through 9 for the present job indicates Asians, Latin Americans and Subsaharan Africans placed similar values on these educational experiences. Asians and Latin Americans had mean values noticeably higher for their present position than for their first position on these questions. Those from North Africa/Middle East, on the other hand, had consistently lower overall means for these experiences

for their present job than they had for first employment after OSU. These rather consistent findings between world areas were of interest for curriculum planning purposes and possible implications from the data can be found in Chapter V.

A final note of interest in comparing mean values between the first and present position was the value of learning the English language at the English Language Institute. The mean values across the four world areas for the first position ranged from a low of 1.60 to a high of 2.88. The combined group means for the present position ranged from a low of 1.83 to a high of 3.00, the latter mean occurring in two of the four world areas. It seems clear that the perceived value of formal English training increases as the graduates progress in their careers in their home country.

Respondents' Perception of Value to Careers of Selected Educational Experiences Not Encountered at OSU

The data in Table XXIV shows the respondents' perception of value to careers of selected educational experiences not encountered at OSU. Those data were obtained for each of the 13 items in Part Two of the survey instrument (see Appendix F) by asking the respondents to check the "Did not experience at OSU" column. They were asked to use a "Y" of the experience would have been helpful in their jobs or an "N" if it would not have been helpful. Three respondents checked the first two questions which seemed to indicate that they had not understood the instructions since one could not receive a degree from OSU without taking coursework or electives. Many respondents used only a check

TABLE XXIV

RESPONDENTS' PERCEPTION OF VALUE TO CAREERS OF SELECTED EDUCATIONAL EXPERIENCES NOT ENCOUNTERED AT OSU

Educational Experience	Total N, "Did Not Experience"	Percent (N = 130)	"Would have been Helpful"	Percent of "Did Not Experience"	Would Not Have Been Helpful	Percent of "Did Not Experience"	Check Mark Only, No Value Indicated	Percent of "Did Not Experience"
1. Classwork in major subject area.	3	2.3	2	66.7	1	33.3	-	-
2. Electives outside major subject area.	3	2.3	2	66.7	1	33.3	-	-
3. Out-of-class interactions with adviser or other faculty.	6	4.6	5	83.3	1	16.7	-	-
4. Research (How to conduct it, read and understand it, how to write results).	5	3.8	3	60.0	2	40.0	-	-
5. Experiences through which you gained an understanding of how higher (university level) education works in the USA in teaching, research and extension in the field of agriculture.	6	4.6	5	83.3	1	16.7	-	-
6. Courses or experiences on how you might adapt elements of higher education in the USA to the situation in your country.	20	15.4	12	60.0	3	15.0	5	25.0
7. Courses or experiences in agricultural extension to include how adults learn, community development, information dissemination and the adoption process for new technologies.	29	22.3	22	75.9	1	3.4	6	20.7
8. Courses or experiences including principles and practices of administration, management, leadership, and organizational procedures in education, government or business.	26	20.0	21	80.8	1	3.8	4	15.4
9. Visits to agricultural schools, agri-businesses, extension offices or operational farms.	24	18.6	13	54.2	3	12.5	8	33.3
10. Internships/assistantships related to major field of study.	38	29.2	22	57.9	3	7.9	13	34.2
11. Attendance at professional conferences or meetings.	19	14.6	9	47.4	2	10.5	8	42.1
12. Applications of agricultural principles learned through home stays with American families.	60	46.2	30	50.0	11	18.3	19	31.7
13. Learning the English language at the English Language Institute.	63	48.5	14	22.2	21	33.3	28	44.5

mark rather than a "Y" or "N" indicating the respondent failed to understand the directions but probably meant to indicate "Did not experience at OSU."

The question concerning the English Language Institute had the most responses with a total of 63 (48.5%). Fourteen (22.2%) indicated it would have been helpful to them; 21 (33.3%) felt it would not have been helpful and 28 (44.5%) used only a check mark to indicate that they had not encountered this educational experience. One other question had close to one-half of the respondents indicating they had not encountered the learning experience at OSU and that was "Application of agricultural principles learned through home stays with American families" with 60 (46.2%) responses. Thirty (50.%, n = 60) indicated such an experience would have been helpful and only 11 (18.3%, n = 60) felt it would not have been helpful. Nineteen (31.7%, n = 60) used only a check mark and no perception of value was indicated. The selected educational experience with the next highest frequency was "Internships/Assistantships related to major field of study." Thirty-eight (29.2%, N = 130) respondents had not had such an experience at OSU and 22 (57.9%, n = 38) felt it would have been helpful. Three (7.9%, n = 38) indicated such an experience would not have been helpful and 13 (34.2%, n = 38) used a check mark only. The learning experience with least responses, with the exception of Questions 1 and 2 as noted above, concerned Research, how to conduct it, read and understand it, how to write results. Five (3.8%, N = 130) responded to this question with three indicating it would have been helpful and two felt it would not have been helpful in their jobs. This result could be compared with the data in Table XII in which the mean for research received one

of the highest perceived values of all selected educational experiences. The international students, for the most part, did encounter at OSU that learning experience that they would later perceive to be of great value to their careers.

Respondents' Perception of the Value of All Selected Educational Experiences at OSU by World Area, Degree Level and Academic Department

The purpose of this section was to address the respondents' perceived value to careers in the developing world for all the selected educational experiences at OSU. Each respondents' perception of the 13 selected educational experiences was averaged and the results were described by the world area of residence, the three levels of study and the academic department within the College of Agriculture in which the respondent received his degree.

The perceived value of all selected educational experiences, when combined, was expressed by respondents from each of four world areas with relation to their first job and their current job and the data is presented in Table XXV. Means of value scores given by respondents relating to their first job ranged from 2.76 for those from Subsaharan Africa to 2.53 for those from Asia. Using the scale of absolute limits for numerical values as set up in Chapter III (Table I), means for each of the four world areas fell within the "Very Helpful" category. Standard deviations ranged from .69 for the Asian group to .52 for the Latin American group. Moving to consideration of value for their present job, Subsaharan Africans as a group were again found to have

TABLE XXV

PERCEIVED VALUE OF ALL SELECTED EDUCATIONAL EXPERIENCES AT OSU IN FIRST AND PRESENT JOB BY WORLD AREA

World Area	First Job			Present Job		
	N	Mean	SD	N	Mean	SD
Asia	52	2.53	.69	29	2.67	.74
Latin America	38	2.54	.52	19	2.66	.51
Subsaharan Africa	21	2.76	.67	7	2.85	.46
North Africa/Middle East	19	2.74	.66	12	2.47	.75
Combined Group	130	2.60	.64	67	2.65	.65

the higher mean score of 2.85 while those from North Africa/Middle East valued combined selected educational experiences as 2.47. From all four world areas combined the overall mean of 2.65 was sufficient to place the response for present job in the "Very Helpful" category.

The perceived value of all selected educational experiences at OSU in the first job after OSU and the present job by the nine academic departments for the BS degree is seen in Table XXVI. It was interesting to note that only 25 of the respondents obtained a BS degree from the College of Agriculture at OSU. Those with a BS in Agricultural Economics had the highest overall ranking with a mean of 2.70 and the greatest standard deviation of .95. An exception was Forestry ($\bar{X}$ = 3.60) which had only one respondent in that category. The five graduates with a BS degree in Agricultural Engineering ranked the value of their selected educational experiences the lowest with a mean of 2.18. For the value of the BS degree in their current job the Agricultural Education majors ranked their experiences the highest with a mean of 2.82 while the Agricultural Economists ranked this category the lowest at 2.08. The combined group mean and standard deviation for the first job (N = 25, $\bar{X}$ = 2.43, SD = .64) and for the present job (N = 13, $\bar{X}$ = 2.54, SD = .49) showed relative consistency across all those respondents with BS degrees.

Alumni with MS degrees also rated the value of all selected educational experiences at OSU for both their first job after OSU and their current job. The results for each job by academic department are reported in Table XXVII. The departments of Entomology and Forestry had no graduates with MS degrees among the respondents. Horticulture had one graduate and the comparison of his ranking for

TABLE XXVI

PERCEIVED VALUE OF ALL SELECTED EDUCATIONAL EXPERIENCES AT OSU IN FIRST AND PRESENT JOB BY ACADEMIC DEPARTMENT FOR THE BS DEGREE

Academic Department	First Job			Present Job		
	N	Mean	SD	N	Mean	SD
AG ECON	4	2.70	.95	1	2.08	.00
AG ED	6	2.40	.64	4	2.82	.21
AG EN	5	2.18	.62	3	2.31	.89
AGRON	5	2.40	.38	3	2.40	.37
AN SCI	4	2.28	.54	2	2.75	.35
ENTO	-	-	-	-	-	-
FOREST	1	3.60	-	-	-	-
HORT	-	-	-	-	-	-
PLT PATH	-	-	-	-	-	-
Combined Group	25	2.43	.64	13	2.54	.49

TABLE XXVII

PERCEIVED VALUE OF ALL SELECTED EDUCATIONAL EXPERIENCES AT OSU IN FIRST AND PRESENT JOB BY ACADEMIC DEPARTMENT FOR THE MS DEGREE

Academic Department	First Job			Present Job		
	N	Mean	SD	N	Mean	SD
AG ECON	20	2.54	.68	9	2.31	.51
AG ED	28	2.60	.64	16	3.03	.51
AG EN	3	2.13	.70	2	1.23	.10
AGRON	10	2.83	.55	2	2.56	.72
AN SCI	8	2.21	.48	5	2.06	.69
ENTO	-	-	-	-	-	-
FOREST	-	-	-	-	-	-
FORT	1	3.50	.00	1	2.33	.00
PLT PATH	11	2.79	.64	6	3.08	.39
Combined Group	81	2.59	.64	41	2.64	.69

the value during his first job and present job is interesting. A mean of 3.50 for the first job places his educational experiences in the "Essential" category. The average of the same individual's responses to all selected educational experiences for value to his present job was 2.33, falling in the "Moderately Helpful" category. At least for this student it appeared that he felt his education at OSU prepared him well for his entry level job in his home country. This rather sizeable difference in means for one respondent can be compared to the combined group means for all respondents with MS degrees. The combined group mean for the first job was 2.59 while the combined group mean for the present job was 2.64. In both cases the respondents overall rankings placed in the "Very Helpful" category. This comparative similarity between combined group means for the first job and the present job did not hold true for individuals from specific academic departments. Eleven Plant Pathologists, for example, had a mean of 2.79 for their first job and 3.08 for their present job. Agricultural Engineers averaged 2.13 for their first job and 1.23 for their present job. Five of the departments had their graduates rank the value of their selected educational experiences lower for their present job than for their first job after OSU. Conversely, the graduates of two departments ranked the value higher in the first job than in the present job.

The data in Table XXVIII show the means of perceived value of all selected educational experiences at OSU in the first and current job by academic department for those alumni with the PhD degree. The only group with a mean above 3.0 were Agricultural Education majors who rated the value in their present job as 3.01. The lowest rating was

TABLE XXVIII

PERCEIVED VALUE OF ALL SELECTED EDUCATIONAL EXPERIENCES AT OSU IN FIRST AND PRESENT JOB BY ACADEMIC DEPARTMENT FOR THE PhD DEGREE

Academic Department	First Job			Present Job		
	N	Mean	SD	N	Mean	SD
AG ECON	9	2.76	.58	5	2.68	.84
AG ED	10	2.76	.72	5	3.01	.45
AG EN	2	2.15	.22	-	-	-
AGRON	12	2.69	.71	6	2.40	.88
AN SCI	3	2.89	.46	2	2.77	.44
ENTO	1	2.45	.00	1	2.54	.00
FOREST	-	-	-	-	-	-
HORT	-	-	-	-	-	-
PLT PATH	5	2.71	.81	3	2.80	.28
Combined Group	42	2.71	.64	22	2.70	.65

by the Agricultural Engineers with a mean of 2.15 for the value during their first job after OSU. With the exception of Entomologists in their first job (2.45) and Agronomists in their present job (2.40) all other group means fell in the "Very Helpful" category. The combined group means for first and present positions for those with PhD's were very similar with the mean for first job being 2.71 and the overall mean for the present job being 2.70.

In general, the perceived value of all selected educational experiences at OSU seemed to increase from the BS level to the PhD level. This can be seen when comparing the combined group means for first and present positions for those with the BS degree ($\bar{X}$ = 2.43 and 2.54); the MS degree ($\bar{X}$ = 2.59 and 2.64); and those with the PhD degree ($\bar{X}$ = 2.71 and 2.70). All would be categorized as "Very Helpful" except those with the BS degree for first position which would be in the "Moderately Helpful" category.

Respondents' Recommendations for Educational Improvements in the College of Agriculture at OSU by World Area and Academic Department

The survey instrument included two places where the respondents could provide their own input to valuing educational experiences at OSU. Question 14 asked them to list other learning experiences and score them in the same way as they had done for the first 13 items. Question 15 was an open-ended question and gave them an opportunity to make specific recommendations for changes to improve the career preparation value of the education process at OSU. Most respondents

treated both questions as one and simply started their open-ended responses on Question 14 or ignored it altogether. The researcher, therefore, combined the responses to the two questions and grouped them together in six categories. The data in Table XXIX shows the frequency of the respondent's comments concerning improved education at OSU. Seventy-five (57.7%) respondents had comments on Questions 14 and 15 and their recommendations totaled 94 when grouped within the six categories. Those six categories included More Relevancy (25 comments, 26.6%, N = 94); All Positive, No Changes Recommended (12 comments, 12.8%, N = 94); Curriculum changes (19 comments, 20.2%, N = 94); More Practical Experiences (19 comments, 20.2%, N = 94); Better Advising (8 comments, 8.5%, N = 94); and Miscellaneous (11 comments, 11.7%, N = 94). A total of 19.2 percent of the 130 respondents felt that more relevancy was needed, 14.6 percent recommended "Curriculum Changes", and 14.6 percent mentioned "More Practical Experiences." The concern for relevancy to their home country's particular situation and for more practical experiences was stated rather emphatically by many of the respondents commenting on those two areas. The Subsaharan Africans most often mentioned Relevancy (23.8%) and the Asians commented on it least often with only 15.4 percent of the Asian respondents recommending more relevancy. The Subsaharan Africans again had the highest concern for more Practical Experiences (28.6%) while the Latin Americans mentioned it least often (10.4%).

Table XXX shows a crosstabulation of recommended educational improvements by world area. Of the six categories, More Revelancy was most frequently mentioned with 25 respondents commenting on this need. Of particular interest were the 12 comments in which the

TABLE XXIX

FREQUENCY OF RESPONDENTS' COMMENTS CONCERNING IMPROVED EDUCATION AT OSU

Comment Category	Frequency	Percent of Comments	Percent of Respondents
More Relevancy	25	26.6	19.2
All Positive	12	12.8	9.2
Curriculum Changes	19	20.2	14.6
More Practical Experiences	19	20.2	14.6
Better Advising	8	8.5	6.2
Miscellaneous	11	11.7	8.7
Total	94*	100.0	72.3

*By 75 different respondents.

TABLE XXX

CROSSTABULATION OF RECOMMENDED EDUCATIONAL IMPROVEMENTS BY WORLD AREA

World Area	Relevancy	All Positive	Curriculum Changes	More Practical Experiences	Better Advising	Miscellaneous	Row Total/ Percent
Asia	8	7	4	7	3	5	34 36.2%
Latin America	8	3	8	4	2	1	26 27.7%
Subsaharan Africa	5	2	4	6		2	19 20.2%
North Africa/ Middle East	4		3	2	3	3	15 15.9%
Column Total/ Percent	25 26.6%	12 12.8%	19 20.2%	19 20.2%	8 8.5%	11 11.7%	94* 100%

*By 75 different respondents.

respondents had only favorable things to say. Although only recommendations for improvements were asked for, almost one in 10 of the total respondents took the opportunity to express complete satisfaction with their educational experience at OSU. The category of comments mentioned least was "Better Advising" with eight respondents recommending improvements be made in this area. Interestingly, Subsaharan Africans had no comments concerning a need for "Better Advising" even though they had the highest percentage of comments in other categories for the four world areas studied.

Table XXXI shows a crosstabulation of recommended educational improvements by academic department. Agronomists commented most frequently with a total of 21 responses while two departments, Entomology and Horticulture, had no comments by their graduates. It should be noted, however, that those two departments, together with Forestry, had only one graduate each among the 130 respondents. Table XXX shows a total of 94 comments and Table XXXI shows a total of 103 comments. The reason for this difference was that some respondents received more than one degree from OSU and if those two degrees were from two different academic departments, their comments were reflected in both departments. Only six of the Agronomists failed to respond to either Question 14 or 15. The department with the most graduates responding, Agricultural Education with 44 total respondents, had 31 comments on the open-ended question. Nine of the Agricultural Educators mentioned a need for curriculum changes while only one recommended a need for "Better Advising". Agricultural Engineering had 10 graduates respond in this study and a total of 12 comments recommending improvements, indicating at least one had multiple

TABLE XXXI

CROSSTABULATION OF RECOMMENDED EDUCATIONAL IMPROVEMENTS BY ACADEMIC DEPARTMENT

Comments	Department									Row Total/ Percent
	AG ECON	AG ED	AG EN	AGRON	AN SCI	ENTO	FOREST	HORT	PLT PATH	
More Relevancy	7	8	2	6	2				3	28 27.2%
All Positive	2	5		4	2				1	14 13.6%
Curriculum Changes	3	9	2	3	3		1		1	22 21.4%
More Practical Experiences	2	4	5	5	1		1		2	20 19.4%
Better Advising		1	3	3					2	9 8.7%
Miscellaneous	3	4			1				2	10 9.7%
Column Total/ Percent	17 16.5%	31 30.1%	12 11.7%	21 20.4%	9 8.7%		2 1.9%		11 10.7%	103* 100%

*Totals more than 94 because some respondents received degrees from more than one department.

comments. A final statistic of interest from Table XXXI was that the category with the least number of comments was "Better Advising" with a total of nine respondents suggesting improvements in this area. This statistic was particularly noteworthy when considering the fact that 105 of the respondents had graduate degrees which take far more of the faculty's time for advising individual students than does the undergraduate degree.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This chapter presents summaries of the following topics: rationale for the study, purpose of the study, objectives of the study, design of the study and the major findings of the study. Finally, after a thorough review and analysis of the above topics, appropriate conclusions and recommendations were presented.

Rationale for the Study

Post-secondary education of agricultural students from the developing world at U.S. universities is a process that is both expensive to all those involved as well as a key element in continued development of the students' nations. The central problem with which the study was concerned was the extent of relevancy to career preparation of selected educational experiences received by international students in the College of Agriculture during their sojourn at Oklahoma State University. It was seen as important that the career preparation value of the selected educational experiences would relate to the relevant needs of the developing world. This study was an attempt to provide answers which might be used for relevant curriculum planning and implementation of optimally effective teaching methods and strategies in the College of Agriculture at Oklahoma State University.

Purpose of the Study

The major purpose of this study was to assess the appropriateness and the effectiveness of selected educational experiences in terms of the career preparation in developing countries for international agricultural alumni of Oklahoma State University. A concomitant purpose was to analyze secured data to provide a basis for recommendations directed toward enhancing learning experiences in agriculture provided to international students at Oklahoma State University.

Objectives of the Study

Specific objectives established for attaining the above purpose were:

1. After location of as many Oklahoma State University Agriculture College alumni from developing countries as possible determine the following:
    a. Initial job after completion of schooling.
    b. Present occupation.
    c. Initial and present demographic data (socioeconomic, geographic).
    d. College of Agriculture department and degree level of graduates.
2. Secure and analyze perceptions and judgments as to the extent to which selected learning experiences at Oklahoma State University were found to relate to the career of each student. In particular, to obtain self-perceptions as to the nature and extent of benefits from learning experiences.

3. From an analysis of the data gathered, develop recommendations directed towards attainment of possible improvements in learning experiences as these relate to success in future careers.

Design of the Study

Following a review of literature, the study was designed to satisfy the purpose and objectives listed above. The population consisted of alumni of the College of Agriculture at OSU who came from, and returned to, the developing world. The purposive sample of 412 consisted of those alumni for which reasonably accurate and current addresses could be obtained. A total of 130 valid responses were received by the end of December, 1984 and data from these responses were used to satisfy the study objectives.

The data for the study was collected using a questionnaire. Part One of the survey instrument consisted of demographic information which was used to (1) describe the respondent group, (2) make comparisons between various subgroups, and (3) meet the first listed objective. Part Two included the respondents' perceptions of the extent of helpfulness in career preparation of selected educational experiences at OSU. The specific educational experiences selected for inclusion and the final form of the questionnaire was arrived at after repeated input from faculty and staff of several departments in various colleges of the University, all of whom had had close contacts with international students and experiences in the developing world. In addition to this "jury" the questionnaire was tested and retested with international students at OSU.

The survey was mailed overseas in June and July of 1984. Responses received through the end of December, 1984, were included in the study. From the data collected, descriptive statistics including means were computed to indicate the extent of helpfulness in career preparation of the selected educational experiences as perceived by the respondents. Obtaining and analyzing these means and frequency distributions fulfilled the second objective listed above.

Two main problems were encountered in the attempt to identify and contact the population involved in this study. (1) No records existed which would identify and locate the entire population and (2) the international mail seemed to be slow and unreliable at best. Because no complete records existed which could identify and locate the entire population, it was not possible to randomly sample and infer any results of this study to that population. A purposive sample of 412 alumni was selected based on reasonably current addresses being obtainable for that number. Concerning the problem of international mail, it was noted that a mailing of over 4,000 letters to alumni unrelated to this study was sent by surface mail in January, 1984. Six months later responses from only four percent had been received and seven percent of the mailing had been returned as undeliverable. The survey instruments for this study were mailed by air in June/July, 1984 and 130 (31.5 percent) valid responses had been received by the end of December, 1984. Forty-three (10.4 percent) had been returned as undeliverable by that date. In the case of both mailings, responses and returns for invalid addresses continued to be received through the middle of March, 1985.

Major Findings of the Study

The major findings of this study were divided into three sections. They were as follows:

1. Demograhpics of the Respondent Group.
2. Extent of Helpfulness of Selected Educational Experiences.
3. Recommendations for Educational Improvements.

Demographics of the Respondent Group

The respondents represented 42 countries in the developing world. Of the four world areas categorized for this study 52 respondents came from Asia, 38 from Latin America, 21 from Subsaharan Africa and 19 from North Africa/Middle East. The modal age of the respondents was 36-45 years with 46.2 percent of the group in that category. Thirty percent were 46 and older which meant that three out of four of the respondents were older than 35 years. Only 25 BS degrees were represented in the respondent group while 82 MS and 43 PhD degrees had been earned by the respondents. Twenty of the respondents had earned more than one degree in the College of Agriculture at OSU. Agricultural Education had the most graduates in the respondent group with 44 while Agricultural Economics had 33, Agronomy 27, Plant Pathology 16, Animal Science 15, Agricultural Engineering 10, and the departments of Entomology, Forestry and Horticulture had one each.

It was found that 49 respondents came from cities of 150,000 or larger and 61 returned to work in cities of that size. Forty-one came from towns of 5,000 persons or less and only 21 returned to work in areas of similar size. Concerning the economic category of the parents of the respondents, 82 indicated their parents had an economic

status in the middle one-third. Twenty-nine respondents indicated they had come from a background in the lower one-third while 19 reported coming from what they perceived as the upper one-third of the economic category in their country. International Development Agencies provided the major source of funds for 44 of the respondents' studies at OSU while the students' home government funded 33 and 30 paid for their studies with personal or family funds. Of particular interest was the number from each economic category which were funded by International Development Agencies. Thirty came from the middle one-third while five came from the upper one-third and nine from the lower one-third.

Teaching was the job of 29 respondents before coming to OSU. Thirty-three returned home to teaching positions and only 21 listed teaching for their present position. Research involved 19 respondents before OSU studies, 20 returned to research and 11 were currently doing research. Extension work was listed as the job before OSU studies for 13 respondents while 11 returned to Extension and 10 were presently working in Extension. A combination of Teaching/Research/Administration involved 18 respondents before OSU studies and 29 listed this combination for both their first job after OSU and their present job.

Extent of Helpfulness of Selected Educational Experiences

The second major objective of this study was to secure and analyze perceptions and judgments as to the extent to which selected learning experiences at OSU were found to relate to the career of each student. These perceptions were obtained for 13 selected educational experiences

in Part Two of the questionnaire. Numerical values of the Likert-type response categories and the range of numerical limits for these categories were provided in Table I which is repeated in this section for the convenience of the reader as Table XXXII.

TABLE XXXII

CATEGORIES DETERMINED BY MEAN SCORE VALUES

Response Categories	Scale Numerical Value	Range of Numerical Limits for Categories
Not Helpful for Job (NH)	0	0.00 - 0.49
Slightly Helpful (SH)	1	0.50 - 1.49
Moderately Helpful (MH)	2	1.50 - 2.49
Very Helpful (VH)	3	2.50 - 3.49
Essential (E)	4	3.50 - 4.00

Two summary tables and one figure were formulated for this section in an attempt to provide an aid to interpretation of the major findings. Table XXXIII provides the perceived value category of each selected educational experience as compared by academic department and degree level for the respondent's first job after OSU. The same information is provided in Table XXXIV for the present job. The overall mean for each of the 13 selected educational experiences for value to first job and present job is shown in Figure 6.

TABLE XXXIII

SUMMARY OF PERCEIVED VALUE OF EACH SELECTED EDUCATIONAL EXPERIENCE BY ACADEMIC DEPARTMENT AND DEGREE LEVEL FOR FIRST JOB

	Educational Experience	AG ECON			AG ED			AG EN			AGRON		
		BS	MS	PhD	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD
1.	Classwork in major subject area.	VH	VH	VH	VH	VH	VH	VH	VH	E*	MH	VH	VH
2.	Electives outside major subject area.	VH	VH	VH	VH	VH	MH	MH	VH	VH*	MH	VH	MH
3.	Out-of-class interactions with advisor or other faculty.	VH	MH	VH	MH	VH	VH	SH	MH	VH*	MH	VH	VH
4.	Research (how to conduct it, read and understand it, how to write results).	MH	VH	E	VH	MH	VH	VH*	MH*	E*	MH	VH	VH
5.	Experiences through which you gained an understanding of how higher (university level) education works in the USA in teaching, research and extension in the field of agriculture.	VH	MH	VH	VH	VH	VH	VH	MH	MH*	VH	VH	VH
6.	Courses or experiences on how you might adapt elements of higher education in the USA to the situation in your country.	MH	MH	MH	MH	VH	MH	MH	VH*	VH*	VH*	MH	MH
7.	Courses or experiences in agricultural extension to include how adults learn, community development, information dissemination and the adoption process for new technologies.	VH*	MH	VH	MH	VH	VH	MH	SH*	SH*	VH*	MH	MH
8.	Courses or experiences including principles and practices of administration, management, leadership and organizational procedures in education, government, or business.	MH	VH	VH	VH	VH	VH	MH	MH*	MH*	VH	VH	VH
9.	Visits to agricultural schools, agri-businesses, extension offices or operational farms.	VH	MH	MH	MH	VH	VH	MH	MH	VH*	VH*	VH	MH
10.	Internships/assistantships related to major field of study.	VH*	MH	VH	MH	MH	VH	SH*	NH*	VH*	MH	VH	MH
11.	Attendance at professional conferences or meetings.	MH	VH	VH	MH	VH	VH	MH	MH	VH*	VH*	VH	MH
12.	Applications of agricultural principles learned through home stays with American families.	VH*	SH	SH	MH	MH	MH	VH*	--	SH*	MH*	VH	MH
13.	Learning the English language at the English Language Institute.	--	MH	VH	E*	VH	VH	NH*	NH*	NH*	MH*	VH	VH

TABLE XXXIII (Continued)

	AN SCI			ENTO			FOREST			HORT			PLT PATH		
	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD
1.	VH	VH	VH	--	--	VH*	E*	--	--	--	E*	--	--	VH	E
2.	VH	MH	MH	--	--	SH*	MH*	--	--	--	VH*	--	--	MH	MH
3.	VH	MH	VH	--	--	MH*	E*	--	--	--	VH*	--	--	VH	VH
4.	MH	VH	VH	--	--	VH*	E*	--	--	--	E*	--	--	VH	E
5.	MH	MH	VH	--	--	SH*	E*	--	--	--	VH*	--	--	VH	MH
6.	MH	MH	MH	--	--	MH*	E*	--	--	--	--	--	--	VH	MH
7.	MH	MH	MH*	--	--	VH*	E*	--	--	--	--	--	--	VH	MH
8.	MH	MH	VH*	--	--	VH*	E*	--	--	--	--	--	--	VH	MH*
9.	VH	MH	VH	--	--	VH*	MH*	--	--	--	--	--	--	VH	MH
10.	SH	MH	VH	--	--	--	--	--	--	--	--	--	--	VH	VH
11.	MH	VH	VH	--	--	VH*	E*	--	--	--	--	--	--	VH	MH
12.	MH	SH	E*	--	--	VH*	--	--	--	--	--	--	--	MH	SH*
13.	VH*	MH	--	--	--	--	--	--	--	--	E*	--	--	VH	E*

Note: E = Essential; VH = Very Helpful; MH = Moderately Helpful; SH = Slightly Helpful; NH = Not Helpful; * = indication of less than three respondents in this category.

TABLE XXXIV

SUMMARY OF PERCEIVED VALUE OF EACH SELECTED EDUCATIONAL EXPERIENCE BY ACADEMIC DEPARTMENT AND DEGREE LEVEL FOR PRESENT JOB

Educational Experience	AG ECON			AG ED			AG EN			AGRON		
	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD
1. Classwork in major subject area.	MH*	VH	VH	E	VH	VH	VH	VH*	--	VH	VH*	VH
2. Electives outside major subject area.	MH*	MH	VH	VH	VH	VH	VH	VH*	--	MH	MH*	MH
3. Out-of-class interactions with advisor or other faculty.	VH*	MH	VH	E	VH	VH	SH*	SH*	--	MH*	VH*	MH
4. Research (how to conduct it, read and understand it, how to write results).	VH*	VH	E	VH	VH	VH	E*	MH*	--	E*	VH*	VH
5. Experiences through which you gained an understanding of how higher (university level) education works in the USA in teaching, research and extension in the field of agriculture.	VH*	MH	MH	VH	VH	VH	MH	SH*	--	VH*	VH*	VH
6. Courses or experiences on how you might adapt elements of higher education in the USA to the situation in your country.	NH*	MH	MH	VH	VH	VH	MH	SH*	--	VH*	VH*	MH
7. Courses or experience in agricultural extension to include how adults learn, community development, information dissemination and the adoption process for new technologies.	MH*	MH	MH	VH	VH	E	MH*	SH*	--	MH*	VH*	MH
8. Courses or experiences including principles and practices of administration, management, leadership and organizational procedures in education, government, or business.	VH*	VH	VH	VH	E	VH	VH	MH*	--	VH*	MH*	MH
9. Visits to agricultural schools, agribusiness, extension offices or operational farms.	VH*	VH	MH	VH	VH	VH	VH	MH*	--	MH*	VH*	MH
10. Internships/assistantships related to major field of study.	MH*	MH	VH	MH	MH	VH	SH*	NH*	--	MH*	MH*	MH
11. Attendance at professional conferences or meetings.	MH*	VH	VH	VH	VH	MH	MH	SH*	--	MH*	VH*	MH
12. Applications of agricultural principles learned through home stays with American families.	NH*	NH	MH	SH	MH	MH	SH*	NH*	--	VH*	MH*	SH
13. Learning the English language at the English Language Institute.	--	MH	E*	--	VH	--	--	NH*	--	MH*	VH*	VH

TABLE XXXIV (Continued)

	AN SCI			ENTO			FOREST			HORT			PLT PATH		
	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD	BS	MS	PhD
1.	E*	MH	VH*	--	--	VH*	--	--	--	--	VH*	--	--	VH	VH
2.	VH*	MH	VH*	--	--	MH*	--	--	--	--	VH*	--	--	VH	VH
3.	E*	MH	VH*	--	--	SH*	--	--	--	--	MH*	--	--	E	MH
4.	MH*	MH	VH*	--	--	VH*	--	--	--	--	SH*	--	--	E	E
5.	MH*	MH	VH*	--	--	MH*	--	--	--	--	SH*	--	--	VH	VH
6.	VH*	MH	VH*	--	--	VH*	--	--	--	--	--	--	--	E	SH*
7.	VH*	SH	MH*	--	--	VH*	--	--	--	--	--	--	--	VH	VH
8.	VH*	MH	VH*	--	--	VH*	--	--	--	--	--	--	--	VH	MH*
9.	E*	MH	VH*	--	--	VH*	--	--	--	--	--	--	--	VH	VH*
10.	VH*	VH*	VH*	--	--	MH*	--	--	--	--	--	--	--	E	VH
11.	VH*	VH	VH*	--	--	VH*	--	--	--	--	--	--	--	VH	VH
12.	MH*	SH*	E*	--	--	--	--	--	--	--	--	--	--	MH*	SH*
13.	VH*	SH*	--	--	--	--	--	--	--	--	E*	--	--	E*	E*

Note: E = Essential; VH = Very Helpful; MH = Moderately Helpful; SH = Slightly Helpful; NH = Not Helpful; * = indication of less than three respondents in this category.

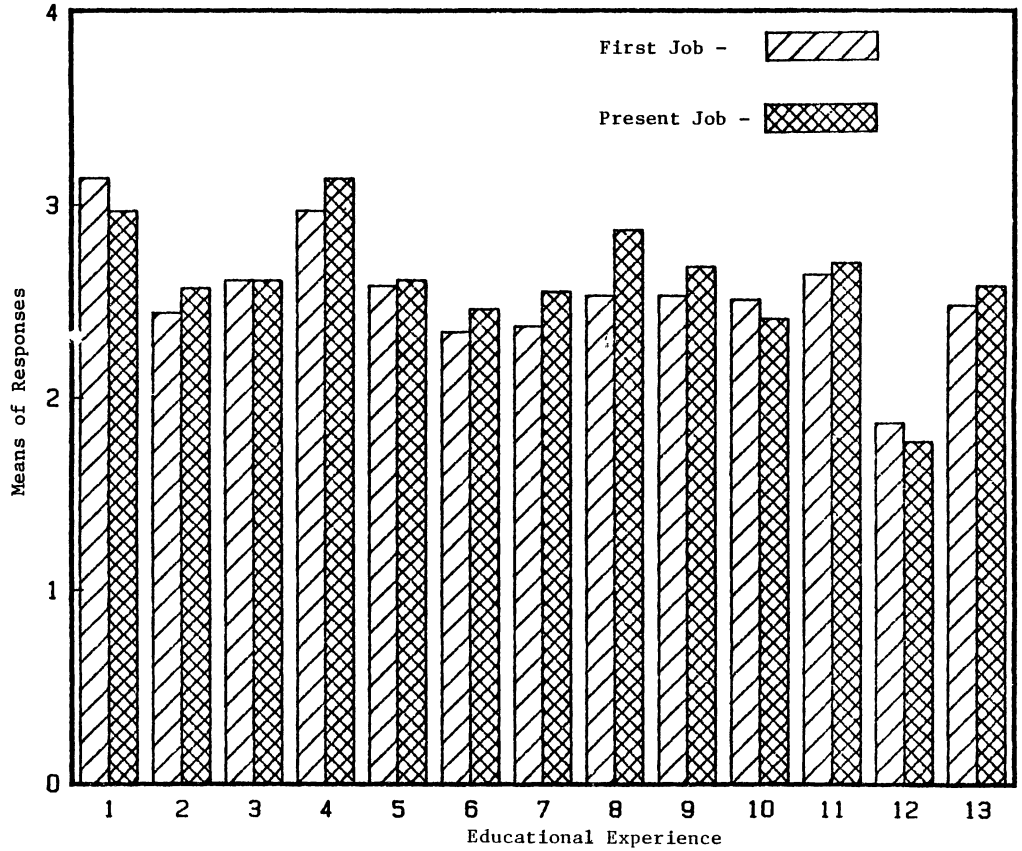


Figure 6. Respondents' Perceived Value of Each Selected Educational Experience for First and Present Job

The highest means across all degree levels and academic departments occurred for the two items concerning coursework in the major subject area and research. The range of combined group means for the two items were 2.53 and 3.41. All means fell into the category of "Very Helpful." Means for the Agricultural Economist's first job were consistently higher for coursework in their major subject area than were the means for their present job. This could be surmised from a comparison of Table XXXIII and XXXIV also, in that for present job the value categories included two "Essentials" and two "Moderately Helpful", whereas for the first job there were no means falling below the "Very Helpful" category and four "Essentials" were noted. It could be assumed that, at least for this question, the Agricultural Economists possibly felt that they were being better prepared for entry level jobs than for those jobs they held later in their career. It was of interest to note that the Agricultural Educators showed just the opposite result with the means appreciably higher for present job than for first. A comparison between means of jobs at the BS level showed 2.83 for first job and 3.50 for present, MS was 3.00 for first and 3.31 for present job and for PhDs the first job mean was 2.60 and present job was 3.20. In general, it was possible to continue across all degree levels and departments and observe similar, if sometimes less striking, examples which could possibly be of some interest to educational administrators.

Instances of a variance of means within certain academic departments by degree level were also noted. For example, on the item concerning interaction with faculty Agronomists with the MS degree had means of 3.11 and 3.00 for their first and present job compared to means of 2.00 and 2.00 for those with the BS and 2.75 and 1.83 for the

PhDs. The means for Animal Scientists, on the other hand, showed those with the MS to be 2.00 for both jobs while those with the BS had means of 3.00 and 3.50 and PhDs had means of 3.33 and 3.00.

A general review of the response categories for all selected educational experiences as shown in Tables XXXIII and XXXIV reveals two major findings of interest. Those items ranked "Essential" which were based on three or more respondents reflect some degree of consensus as to the high level of helpfulness for those particular respondents. For the first position, "Essential" response categories were noted for Agricultural Economists PhDs on Item 4 and Plant Pathologists PhDs on Items 1 and 4. It was noted that these response categories were limited to the PhD level and items concerning coursework and research. For the present job, "Essential" responses were noted for Agricultural Educators on Items 1, 3, 7, and 8, while Plant Pathologists had "Essential" on Items 3, 4, 6, and 10, and Agricultural Economists rated Item 4 as "Essential" in their present position. Only three "Essentials" resulted from the value of items to first position while nine came from their present position.

The respondents were grouped into four world areas and a comparison of mean values across the four groups was made. The Subsaharan Africans and those from North Africa/Middle East tended to value the experiences listed in Items 5 through 9 on Part Two of the questionnaire higher than did those graduates from Asia or Latin America. These items concerned how higher education works in the U.S., how they could adopt U.S. educational principles to their home country, extension courses, courses in administration/management and visits to agricultural activities. In every case the means from Asia and Latin America were

as low or lower on each item than were those from Subsaharan Africa and North Africa/Middle East.

A second finding of interest when comparing mean values across items involved, once again, 1 and 4, coursework and research. The combined group mean for all respondents on Item 1 for their first job was 3.14 and for Item 4 the mean was 2.97. An exact reversal of means occurred for the same two items on present job with a mean of 2.97 for coursework and 3.14 for research as seen in Figure 6. The increased importance of research for those considering their present job may imply that research is not as common an element in entry level positions for those returning to the developing world.

Item 13 related to the value of learning English at the English Language Institute. The mean values across the four world areas for the first position ranged from a low of 1.60 to a high of 2.88. The combined group means for the present position ranged from a low of 1.83 to a high of 3.00 which occurred in two of the four world areas. The perceived value of formal English training at OSU appears to increase as the graduates progress in their careers in their home country.

The respondents were given an opportunity to check a column titled "Did Not Experience at OSU" which applied to all 13 selected educational experiences. Two of the items (12 and 13) concerning home stays with American families and learning English at the English Language Institute, had 60 or more respondents indicate they had not encountered this educational experience at OSU. Fewer valid responses occurred for the item pertaining to research with five respondents indicating no experience in this endeavor. This finding must be considered pertinent to the fact that research was consistently rated one of the most valuable

experiences throughout the study. The international students, for the most part, did encounter at OSU that learning experience that they would later perceive to be of great value to their careers.

In general, the perceived value to respondents of all selected educational experiences at OSU seemed to increase from the BS level to the PhD level. This could be seen when comparing the mean responses for first and present job for the BS degree, 2.43 and 2.54; the MS degree, 2.59 and 2.64; and the PhD degree, 2.71 and 2.70. A final finding of interest concerned the means for first and present job by world area. In both cases the Subsaharan Africans had the highest mean of the four world areas studied. Although it appears that the Subsaharan Africans valued their experiences at OSU most highly, this finding should be contrasted with the finding in the next section in which respondents from this world area also had the greatest number of recommended improvements.

Recommendations for Educational Improvements

The respondents were given the opportunity to provide their own input for recommended educational improvements at OSU in Part Two of the questionnaire. Although frequencies and percentage distribution was made for six categories of comments, the most striking finding did not involve the numbers but the rather emphatic recommendations made for more relevancy and practical experiences. The Subsaharan Africans most often recommended items related to the need for more relevancy and they also had the highest percentage of comments concerning more practical experiences for respondents from the four world areas studied. Of particular interest were the 12 comments made in which the

respondents had only positive things to say. Although only recommendations for improvements were asked for, almost one in 10 of the total respondents took the opportunity to express complete satisfaction with their educational experience at OSU. A final finding of interest was that the category of recommended improvements which received the least number of comments concerned the need for better advising by the faculty with only nine respondents suggesting improvements in this area. Interestingly, the Subsaharan Africans had no comments about better advising even though they had the highest percentage of comments in other categories among the four world areas studied. Only one respondent from Agricultural Education commented on a need for better advising out of the 44 respondents with degrees from that department. This finding of rather low frequency of recommendations for better advising was particularly noteworthy considering the fact that 105 of the respondents had graduate degrees which take far more of the faculty's time for advising individual students than does the undergraduate degree.

Conclusions

After a thorough study and analysis of the data the following conclusions were made:

1. Overall, respondent graduates of the College of Agriculture at Oklahoma State University were very satisfied with the value of their education at OSU in preparing them for careers in the developing world.

2. Coursework in the major subject area and research were consistently perceived as having the most value to careers among the 13 selected educational experiences.

3. A large proportion of respondents came from, and even more return to, large cities over 150,000.

4. International Development Agencies are selecting students for study in the U.S. based on need in that 88.6 percent of the respondents receiving this type of funding came from the middle and lower one-third of the economic categories in their country.

5. Many respondents came from, and even more return to, teaching and research jobs. The combination of Teaching/Research/Administration jobs ultimately involve the largest number of graduates. Fewer graduates return to extension jobs than come from work involving service in extension.

6. There were discernible differences in the perceived extent of helpfulness to careers between several subgroups of the respondents. The more notable and consistent differences in means occurred between:

   a. Degree Level. When the mean responses were combined across the three degree levels those with MS degrees scored higher than those with the BS and those with the PhD/EdD scored highest of all.

   b. For the most part, the perceived value of all selected educational experiences was rated more highly for the present job than for the first job.

   c. The respondents from Subsaharan Africa rated the value of all selected educational experiences the highest of any respondent group from the four world areas.

7. The perceived value of learning English in the formal setting of the English Langauge Institute at OSU increased for those graduates more advanced in their careers.

8. Research was the selected learning experience perceived as most helpful by several indicators and it was also encountered by the highest percentage of graduates.

9. The frequent and occasionally emphatic requests by alumni for more relevancy and for practical experiences, especially by Subsaharan Africans, confirmed for the respondent group the findings of other studies discussed in the review of literature.

10. A final conclusion from the findings of this study was that respondents were satisfied, for the most part, with their education at OSU as reflected in the fact that almost one in 10 volunteered all positive comments when asked for improvements only. It was also concluded that advisement by faculty in the College of Agriculture definitely functions as a strength, this indicated by the fact that the need for better advising was mentioned least often by respondents from the developing world.

Recommendations

As a result of the conclusions drawn from the analysis and interpretation of the data, the following recommendations were made:

1. Establishment and continual maintenance of complete and current records for alumni would aid greatly the pursuit of similar follow-up studies in the future. It is recommended that the information from this study be incorporated into the files of each academic department within the College of Agriculture at OSU. Further, another office within the university could be tasked to maintain appropriate address lists. Possibilities would include the Office of International Programs or the Assistant Dean of Agriculture for International Programs.

2. It is recommended that follow up studies of international graduates of the College of Agriculture be conducted, perhaps by EdD candidates in Agricultural Education, on a regular basis with the recommended interval to be no more than five years.

3. In view of the finding of discernable differences in the perceived extent of helpfulness to careers between several discriminators, it is recommended that faculty and administrators within the College of Agriculture examine their curriculum and educational offerings to insure the needs of the various categories of students from the developing world continue to be satisfied. Particular attention needs to be paid to incorporate practical experiences and relevancy to home country situation in the plan of study.

4. Further study is recommended in determining what happens to graduates from the developing world when they return home. Considering the importance of extension work in the developing world, it may be of concern that for the respondent group in this study fewer returned to work in extension than came from that area of endeavor. If, however, consideration is given to the implications that many returned to teach and administer extension programs, that would most certainly impact on educational planning for their U.S. studies.

5. Almost one-half of the purposive sample for this study returned to work in cities of 150,000 or more. Again, further study is recommended to determine the possible nature and extent of impact these agricultural graduates are having on increasing the production of food and fiber for their countries.

6. In view of the fact that an increased appreciation of the value of formal language training at the English Language Institute

seems to occur later in the graduates' careers, it is recommended that administrators encourage students in residence to avail themselves of this opportunity.

7. Finally, the relatively high level of satisfaction with the education received by students from the developing world which was reflected in the results of this study should be a source of satisfaction to the faculty and administration of the College of Agriculture at Oklahoma State University. It is recommended that in each department of the College of Agriculture the Department Head and/or the individual designated as having major responsibility for planning and coordinating studies of international students consider carefully the strengths and weaknesses as may be implied in the results of this study. Further, that they attempt to maintain the areas of implied strengths such as coursework, research, and advisement as well as seek ways to bring about more effectiveness in other areas of the learning experience.

SELECTED BIBLIOGRAPHY

Althen, Gary, Editor. Learning Across Cultures. Washington: National Association for Foreign Student Affairs, 1981.

Alter, Chester M. University Resources for International Development. Washington: Agency for International Development, 1968.

Angasith, P. "An Evaluation of the Agricultural Education Program of Oklahoma State University by International Students Graduating During the Period 1960 to 1976." (Unpublished Ed.D. thesis, Oklahoma State University, 1976.)

Armbruster, Robert J., Editor. A Process of Global Enlightenment. Washington: A report of the Bicentennial Project by the Board of Foreign Scholarships, 1976.

Benor, Daniel and James W. Harrison. Agricultural Extension: The Training and Visit System. Washington: The World Bank, 1977.

Boyan, R. Douglas, Editor. Open Doors: 1979-1980. New York: Institute of International Education, 1981.

Caballero, H. "Relating Graduate Training to Needs of Students Returning to Countries Less Developed in Technology." Journal of Animal Science 45(1977):903.

Castle, Emery N. Agricultural Education and Research: Academic Crown Jewels or Country Cousin? Washington: Resources for the Future, Inc., 1981.

Chandler, R. F., Jr. "Can American Universities Provide Appropriate Graduate Education in Horticulture for Students from Less Developed Countries?" Hort. Sci. 9(1974):210.

Claar, J. B. and L. H. Watts. "Knowledge Transfer in Developing Countries." Proceedings Conference on International Extension, Steamboat Springs, Colorado, 1983.

Claar, J. B., D. T. Dahl, and Lowell H. Watts. The Cooperative Extension Service: An Adaptable Model for Developing Countries. Urbana, Illinois: INTERPAKS, 1983.

Clausen, A. W. Population Growth and Economic and Social Development. Washington: The World Bank, 1984.

"The College and World Affairs." New York: Report of a Committee of Education and World Affairs, 1965.

Combs, Philip H. Future Critical World Issues in Education. Essex, Connecticut: International Council for Educational Development, 1981.

Conrad, J. H. "The Role of the Department, Graduate Committee and Advisor." Journal of Animal Science 45(1977):923.

Doane, Ted H. and Barbara Chesser. "Improving Graduate Programs for Developing Country Nationals." Staff Development Conference, University of Nebraska, Lincoln, 1980, pp. 5-10, 34-37, 44-50.

Edgerton, Wallace B. "Trends in Educational Exchange." International Education and Cultural Exchange, Vol. 11, No. 1 (1975):11-16, 44.

_____. "International Exchange Goals." Mighican State University International Year Conference Proc., (1982), 25-33.

"The Foreign Student in United States Community and Junior Colleges." Proceedings of a Colloquium at Racine, Wisconsin, 1977. New York: College Entrace Examination Board, 1978.

Gabriel, L. Rhodelia. "Characteristics of Foreign Students on an American Campus." Journal of the National Association of Women Deans and Counselors 36(1973):184.

Goodwin, Cranfurd and Michael Nacht. Absence of Decision. New York: Institute of International Education, 1983.

_____. Fondness and Frustration. New York: Institute of International Education, 1984.

Griffin, K. B. and J. L. Enos. Planning Development. Reading, Massachusetts: Addison-Wesley Publishing Company, 1970.

Guevara, Juan M. "Adequacy of Animal Science Education in the United States in Meeting the Needs of Animal Agriculture in Venezuela." (Unpublished Masters thesis, Oklahoma State University, 1979.)

Hood, Mary Ann G. and Kevin J. Schieffer, Editors. Professional Integration: A guide for Students from the Developing World. Washington: National Association for Foreign Student Affairs, 1983.

Hull, William F. Foreign Students in the United States of America. New York: Praeger, 1978.

Jenkins, Hugh. "The Relevance of U.S. Education to Students from Developing Countries." A Report on the Fourth AID/NAFSA Workshop. Washington: National Association for Foreign Student Affairs, 1980.

Johnson, D. Gale. "Objective of International Training in Agricultural Economics." American Journal of Agricultural Economics, Vol. 56, No. 5(1974):1176.

Key, James. AGED 5980 Research Design. 1974.

Lee, Motoko T., Mokhtar Abd-Ella and Linda A. Burks. Needs of Foreign Students from Developing Nations at U.S. Colleges and Universities. Washington: National Association for Foreign Student Affairs, 1981.

Leinwand, Gerald. Without a Nickel: The Challenge of Internationalizing the Curriculum and the Campus. Washington: American Association of State Colleges and Universities, 1983.

Marks, Leonard H. The Unfinished Agenda. Washington: U.S. Advisory Commission on International Educational and Cultural Affairs, 1978.

Mibey, Richard K. "Career Objectives of International Students Studying Agriculture, Faculty Awareness of These Objectives, and Judgments of Both Groups as to Effectiveness of Learning Experisnces Provided at Oklahoma State University." (Unpublished Ph.D. thesis, Oklahoma State University, 1984.)

Michie, Allan A., Editor. Diversity and Interdependence through International Education. New York: Education and World Affairs, 1967.

Oliver, E. Eugene. No Two Alike. Washington: Agency for International Development, 1983.

Pruitt, F. J. "The Adaptation of Foreign Students on American Campuses." Journal of the National Association for Women Deans, Administrators, and Counselors 41(1978):144.

Rigney, J. A. "Education for Foreign Students: A U.S. University Perspective." Hort. Sci. 9(1974):213.

Sattar, Abdus and F. W. Lancaster. The Role of the Information Specialist in the Dissemination of Agricultural Information. Urbana, Illinois: INTERPAKS, 1984.

Spaulding, S. and M. Flack. The World's Students in the United States. New York: Praeger, 1976.

"Student Profile, Fall 1983." Stillwater, Oklahoma: Office of Institutional Research, 1983.

"World Food Issues." Center for the Analysis of World Food Issues Program in International Agriculture. Ithaca, New York: Cornell University, 1984.

York, E. T. A Major International Dimension for U.S. Colleges of Agriculture: An Imperative. Denver: Seaman A. Knapp Memorial Lecture presented at the Annual Meeting of the National Association of State Universities and Land Grant Colleges, 1984.

APPENDIX A

MEMORANDUM REQUESTING FACULTY SUPPORT TO AGRICULTURAL ACADEMIC DEPARTMENT

OKLAHOMA STATE UNIVERSITY

MEMORANDUM

DATE Feburary 22, 1984

TO

FROM H. Robert Terry

SUBJECT Addresses of International Alumni, College of Agriculure

A doctoral candidate in the Agricultural Education Department, Glade Presnal, will soon start gathering data for his dissertation. The topic will relate to how our former international students perceive their training at OSU helped prepare them for their initial jobs when they returned home. Other areas of interest will include present positions and socio-economic background. The resulting data will also be used in OSU's Office of International Programs to improve administrative procedures for international students.

Many professors continue to correspond with former students. Would you please give each professor in your department an opportunity to provide the requested information on the sheets inclosed? There are additional copies for active instructors that were not on our faculty list as well as any retired professors that might be able to help. If you cannot get the form to retired staff, please note their names and current address so we can make contact.

Thank you for your assistance.

Glade Presnal
Glade Presnal
Graduate Student
Agricultural Education

HRT
H. Robert Terry
Professor and Head
Dept Of Agricultural Ed

APPENDIX B

FACULTY RESPONSE FORM

A doctoral student in Agricultural Education will soon be surveying former international students of the College of Agriculture. Would you provide the information below for your former foreign students from developing countries? Please return the form to your department office whether or not you have any names or addresses. We are interested in any graduate up to and including June, 1984.

_____ I have no names to provide at this time.

INTERNATIONAL OSU AGRICULTURAL ALUMNI, DEVELOPING COUNTRIES

	NAME	CURRENT OR LATEST ADDRESS	DEGREE Level/Subject	YEAR GRADUATED
Example	Abdul Saab	Apt #3 Via San Luis City Country	MS Agronomy PhD Ag Economics	1962 1979

APPENDIX C

REQUEST FOR SUPPORT FROM INFLUENTIAL ALUMNI

OKLAHOMA STATE UNIVERSITY · STILLWATER

Office of International Programs
(405) 624-6535
Cables: INTPROSU

TELEX NUMBERS
160274 OSU UT
709606 OSU INTL PROG

74078

Dear Mr. Asbun,

I hope this finds you well and continuing your career with many successes. Your education in the College of Agriculture at Oklahoma State University was, of course, meant to help you get started in your career with a solid educational foundation. As you look back now you may have some ideas as to the value of certain educational experiences as they related to preparing you for your job.

A survey of OSU alumni of the College of Agriculture will soon be made by a doctoral student in Agricultural Education. The purpose will be to let our alumni evaluate their experiences at OSU so that we may improve the quality of education for future students from your country.

The survey will be mailed about June, 1984. We are trying to get a complete list of names and addresses of alumni from university records but, as you know, addresses do change frequently. Would you be willing to help by assisting us in the location of former OSU agriculture students? If so, would you return the inclosed letter indicating current names and addresses of OSU Agriculture graduates ? We would need this by the end of May, 1984. In addition, would you be willing to help us in the distribution of the questionnaire to a number of graduates in your country? A packet containing these questionnaires would be sent to you in June, 1984 for distribution and return.

Thank you for your help. Our efforts will improve the quality of education for international students at OSU. Again, best wishes to you and your family.

Glade Presnal
Graduate Student
International Programs

Robert R. Price
Professor Emeritus
Department of Agricultural Education
Agricultural Hall
Oklahoma State University
Stillwater, Oklahoma
USA 74078

APPENDIX D

RESPONSE FORM FROM INFLUENTIAL ALUMNI

Please return AIR MAIL. We have inclosed a coupon that can be used to purchase the necessary postage in your country.

Dr. Price,

Remarks-

I will be willing to assist with the project. _____

I am sorry that I cannot assist at this time. _____

Following are the names of some graduates for which I now have addresses or can obtain them-

Name _____

APPENDIX E

COVER LETTER FOR QUESTIONNAIRE

OKLAHOMA STATE UNIVERSITY · STILLWATER

Office of International Programs
(405) 624-6535
Cables: INTPROSU

TELEX NUMBERS
160274 OSU UT
709606 OSU INTL PROG

74078

June 25, 1984

Mr. Aderonke Olorunrinu
Ikorodu Road
Lagos, Nigeria

Dear Mr. Olorunrinu:

We hope this finds you well and successful in your chosen field. The time you spent at Oklahoma State University (OSU) was meant to help you prepare for a career with a good academic background. How well you think that was accomplished is the purpose of this letter.

We are conducting a survey to find out how you think various educational experiences at OSU prepared you to work in your country. Your answers to the enclosed survey will be used to assess, and hopefully improve, the educational program offered to international students in the College of Agriculture at OSU. Please take the time to answer the questionnaire schedule and return it to the address below by September 15, 1984. You can be assured that your response will be kept confidential and will be used only to improve the quality of education for international students at OSU.

The enclosed Postal Reply Coupon is to help defray your cost of postage for the return of the survey. The "Pistol Pete" sticker may bring back fond memories of your student days at OSU. Thank you for your assistance.

Glade C. Presnal
Graduate Student
Department of Agriculture Education

Robert R. Price
Professor Emeritus
College of Agriculture

Please return your completed questionnaire schedule to:

Mr. Glade Presnal
Office of International Programs
221 N. USDA Building
Oklahoma State University
Stillwater, OK 74078
U.S.A.

GCP/RRP/jrs

Enclosures

APPENDIX F

QUESTIONNAIRE AND JURY LISTING

RESPONSE SCHEDULE FOR GRADUATES OF OSU COLLEGE OF AGRICULTURE

PART ONE

In this first section we would like to know some facts about you in order to compare your experiences to other alumni with similar backgrounds. If you attended any other university prior to or after attending OSU, please do not consider such experiences when answering the questions.

Native country _____

Present address _____

_____

_____

1. What is your present age?

( ) 20-25 years
( ) 26-35 years
( ) 36-45 years
( ) 46 and older

2. What was your degree and year graduated from OSU? Major field of study?

( ) BS/BA ____ Year _____
( ) MS/MA ____ Year _____
( ) PhD/EdD ____ Year _____

3. What economic category in your country would your parents have been in during your younger years, compared to the entire population?

( ) Upper one-third
( ) Middle one-third
( ) Lower one-third

4. For most of your years before coming to OSU, did you live in:

( ) Open Country
( ) Village of 500 people or less
( ) Town of 500 to 5,000 persons
( ) City of 5,000 to 30,000 persons
( ) City of 30,000 to 75,000 persons
( ) City of 75,000 to 150,000 persons
( ) City over 150,000 persons?

5. During your first employment after leaving OSU, did you live in:

( ) Open Country
( ) Village of 500 people or less
( ) Town of 500 to 5,000 persons
( ) City of 5,000 to 30,000 persons
( ) City of 30,000 to75,000 persons
( ) City of 75,000 to 150,000 persons
( ) City over 150,000 persons?

6. ___ Yes ___ No Have you ever been engaged in farming?

7. ___ Yes ___ No Were your parents ever engaged in farming?

8. ___ Yes ___ No After leaving OSU, were you engaged in production agriculture (farming)?

9. Which would best describe your last job before coming to OSU?

( ) Teaching
( ) Research
( ) Extension
( ) Administration
( ) Government
( ) Business (Agriculture related)
( ) Business (Non-agriculute related)
( ) Other (Please specify _____)

10. Which would best describe your first job after leaving OSU?

( ) Teaching
( ) Research
( ) Extension
( ) Administration
( ) Government
( ) Business (Agriculture related)
( ) Business (Non-agriculture related)
( ) Other (Please specify _____)

11. Which would best describe your present job?

( ) Teaching
( ) Research
( ) Extension
( ) Administration
( ) Government
( ) Business (Agriculture related)
( ) Business (Non-agriculture related)
( ) Other (Please specify _____)

12. What was your job title before coming to OSU?

_____

13. What was your first job title after leaving OSU?

_____

14. What is your present job title?

_____

15. What was your major source of funds during your studies at OSU?

( ) Personal and family funds
( ) Part-time jobs while at OSU
( ) My government
( ) International Development Agencies (World Bank, AID, etc.)
( ) Private business sponsorship
( ) Other (Please specify _____)

PLEASE COMPLETE BACK SIDE OF THIS FORM

PART TWO

Rate each of the following selected learning experiences in terms of the extent to which each contributed to your success in your initial employment (Column I) and present employment (Column II). If you are now in your first job since leaving OSU, fill out Column I only and put a check mark here ( ). If you check the column headed, "Did not experience at OSU", please check with a Y if you feel the experience would have been helpful, check with an N if you feel the experience would not have been helpful in your job. You may use an X or ✓ for all other checks.

I — Extent of helpfulness in first job. (Check in one column only)						TYPES OF LEARNING EXPERIENCES	II — Extent of helpfulness during present job. (Check in one column only)				
Did not experience at OSU	Not helpful for job	Slightly helpful	Moderately helpful	Very helpful	Essential (Must know in job)	If you have additional comments on any question, please check the box next to that question and write your comments at the bottom of this page, numbering your comments the same as the item checked.	Not helpful in job	Slightly helpful	Moderately helpful	Very helpful	Essential (Must know in job)
						1. Classwork in major subject area. ( )					
						2. Electives outside major subject area. ( )					
						3. Out-of-class interactions with advisor or other faculty. ( )					
						4. Research (How to conduct it, read and understand it, how to write results). ( )					
						5. Experiences through which you gained an understanding of how higher (university level) education works in the USA in teaching, research and extension in the field of agriculture. ( )					
						6. Courses or experiences on how you might adapt elements of higher education in the USA to the situation in your country. ( )					
						7. Courses or experiences in agricultural extension to include how adults learn, community development, information dissemination and the adoption process for new technologies. ( )					
						8. Courses or experiences including principles and practices of administration, management, leadership and organizational procedures in education, government or business. ( )					
						9. Visits to agricultural schools, agribusinesses, extension offices or operational farms. ( )					
						10. Internships/assistantships related to major field of study. ( )					
						11. Attendance at professional conferences or meetings. ( )					
						12. Applications of agricultural principles learned through home stays with American families. ( )					
						13. Learning the English language at the English Language Institute. ( )					
						14. List other learning experiences and score them in the same way as previous items. a. ( ) b. ( ) c. ( )					

15. This is your opportunity to help us improve the value of the education process at OSU for career preparation of your countrymen that will be attending in the future. We hope your answer will include specific recommendations for changes at OSU that we can take action on. Please complete the following statement.

"I would make the following changes at OSU to improve the career preparation value of the education process for international students . . . "

Additional comments - Questions 1-14:

Please return this completed questionnaire to:

Mr. Glade Presnal
Office of International Programs
221 N USDA Building
Oklahoma State University
Stillwater, OK 74078
USA

Jury Listing

The following staff and faculty at Oklahoma State University were consulted during the development of the questionnaire used in this study:

1. Dr. H. Robert Terry
2. Dr. Robert Kamm
3. Mr. William Abbott
4. Dr. Robert Price
5. Dr. Dean F. Schreiner
6. Mr. Hugh Rouk
7. Dr. Eddy Finley
8. Mrs. Virginia Banks
9. Dr. Larry Hynson
10. Dr. Deke Johnson
11. Dr. Robert Reisbeck
12. Mr. Conrad Evans
13. Dr. U. Jerry Grant
14. Mr. John Witt
15. Mrs. Dana Stone
16. Dr. Roy Lessly
17. Dr. Kenneth McKinley
18. Dr. James Key

International students from the following countries provided input to questionnaire formulation and/or completed questionnaires for testing/retesting purposes:

1. Iraq
2. Korea
3. Saudi Arabia
4. Kenya
5. Venezuela
6. Indonesia
7. Mexico
8. Ethiopia
9. Nigeria
10. Thailand

APPENDIX G

PISTOL PETE STICKER AND POSTAL REPLY COUPON

OKLAHOMA STATE UNIVERSITY

Remove from card slowly and carefully so you do not pull up the surface of the coated card. Stick anywhere, on your shirt, cap, lapel or tie and return to this card between uses. May be applied and removed many times until lint or dust covers the adhesive. Swiss embroidered emblems are colorfast and guaranteed washable so stick in position and sew on if desired.

Office of International Programs
221 USDA Building
OKLAHOMA STATE UNVERSITY
Stillwater, Oklahoma 74078 [405] 624-6535
TELEXES
160274 OSU UT
709606 OSU INTL PROG

Pistol Pete - A Real Life Hero

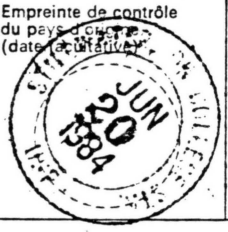
The Pistol Pete image is based on a real-life western hero, former deputy U.S. Marshall Frank Eaton who in 1923 was adopted as the living emblem of the pioneer spirit of OSU.

Eaton was born in New Haven, Connecticut, in 1860. His father, who moved to Kansas and later joined the vigilantes, was shot down by outlaws when Frank was only eight. Eaton, as the legend goes, avenged his father's murder when he reached manhood. Among other adventures in his life, Eaton rode for Judge C. Parker - the famous "Hanging Judge." During the eight years he was a deputy marshall for the Fort Smith magistrate, 65 officers of the court were killed pursuing outlaws. Eaton eventually retired to live in the town of Perkins just south of the OSU campus. His autobiography of 278 pages, *Veteran of the Old West*, appeared in 1952 and has gone through several editions.

Frank Eaton died in 1958, but his spirit of rugged individualism has not been forgotten.

UNION POSTALE UNIVERSELLE **COUPON-RÉPONSE INTERNATIONAL** C 22

Ce coupon est échangeable dans tous les pays de l'Union postale universelle contre un ou plusieurs timbres-poste représentant l'affranchissement minimal d'une lettre ordinaire, expédiée à l'étranger par voie de surface.

Empreinte de contrôle du pays d'origine (date facultative)	Prix de vente (indication facultative)	Timbre du bureau qui effectue l'échange
	**65 cents**	

VITA

Glade Charles Presnal

Candidate for the Degree of

Doctor of Education

Thesis: PERCEPTIONS OF BENEFITS OF SELECTED EDUCATIONAL EXPERIENCES BY DEVELOPING COUNTRY AGRICULTURAL ALUMNI OF OKLAHOMA STATE UNIVERSITY

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Wichita, Kansas, May 12, 1942, the son of Ross and Madeline Presnal.

Education: Graduated from Goddard High School, Goddard, Kansas, in June, 1960; received Bachelor of Arts degree in Political Science, Kansas State University, Manhattan, Kansas, 1966; received the Master of Science degree in Adult Education, Kansas State University, Manhattan, Kansas, 1980; completed requirements for the Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, July, 1985.

Professional Experiences: U.S. Army Intelligence Officer, 1967-1979; Cooperative Extension 4-H and Youth Agent, Iowa State University, Ames, Iowa, 1981-1983.

Professional Organizations: American Association for Adult and Continuing Education, Association for International Agricultural Education, Phi Kappa Phi, Phi Delta Kappa, Gamma Sigma Delta, Kappa Delta Pi.