

AN ABSTRACT OF THE STUDY OF

Ming-Chu Mu for the degree of Doctor of Philosophy
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Title: A COMPARATIVE STUDY OF ACADEMIC EXPERIENCES OF AMERICAN AND
FOREIGN GRADUATE STUDENTS AT OREGON STATE UNIVERSITY.

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Abstract Approved: Carvel W. Wood

This study was designed to determine and compare the academic experiences encountered by both American and foreign students in master's and doctoral programs at Oregon State University in Winter term, 1982. The findings of this study are meant to contribute to the area of international education by defining and describing foreign students' academic experiences in American Higher Education. The results of this study could help scholars who deal with foreign students to develop an adequate approach to academic advising and curriculum designing, and could help foreign students who are studying or planning to study abroad to develop a proper approach to the academic aspect of their learning experience.

The instrument used in this study was a questionnaire entitled "College Academic Experience Survey." Two hundred and sixty graduate students were selected at Oregon State University in Winter Term 1982, and divided into four subgroups based on nationality and degree

program. Among the four subgroups a comparison was made in the areas of academic learning experience, estimate of gains and background information. In February 1982, before the survey started, a pilot study was conducted among 20 graduate students, which made a valuable contribution to the validity of the questionnaire. The survey started in March 1982 by using a three-stage mailing system and a response rate of 81.9% was achieved. There were three null hypotheses tested by a three-dimensional loglinear model and two-factor analysis of variance.

The following findings were drawn from this study:

1. There were statistically significant differences between American and foreign graduate students at Oregon State University in how they put their efforts into academic work. The specific tests were done in the area of academic experiences, estimate of gains, and background information.
2. Although foreign students in the sample had some problems, chiefly language and financial, there was no noticeable problem mentioned about the competence of instruction they received. Foreign graduate students "survive" their academic programs through their approaches which is different from that of their American counterparts.
3. Both American and foreign students in this study reportedly have achieved large gains as a result of their academic efforts. Foreign students seem to be aware that they have received cultural and social enrichment in addition to their purely academic gains.

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Experiences of American and Foreign Graduate
Students at Oregon State University

by

Ming-Chu Mu

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CONTENTS

	Page
I. INTRODUCTION	1
Statement of the Problem	2
Purpose of the Study	2
Design of the Study	3
Objectives of the Study	5
Limitations of the Study	6
Definition of Terms	7
II. REVIEW OF THE LITERATURE	10
Overview of Literature on Foreign Students	10
Literature Related to Academic Area and Foreign Graduate Students	11
Review of Quality of Student Effort	15
Independent Variables Suggested in Literature	19
III. RESEARCH DESIGN	24
Sampling Procedure	24
Instrumentation	27
Pilot Study	29
Data Collection Procedure	30
Hypotheses	31
Statistical Analysis	34
IV. DATA ANALYSIS	38
Demographic Data	38
Test of Null Hypotheses	52
V. SUMMARY, CONCLUSIONS AND DISCUSSION	79
Summary	79
Conclusions and Discussion	92
Recommendation	96
BIBLIOGRAPHY	99

APPENDICES

A	Approval from Committee for Protection of Human Subjects	104
B	Questionnaire	106
C	Summary Statistics for Pilot Study	111
D	Cover Letters	113
E	Frequency Distribution of Sample by Situations and Subgroups	117
F	Frequency Distribution of Estimate of Gain and Subgroups	128

LIST OF TABLES

<u>Table</u>	<u>Page</u>
I. Distribution of graduate students' population	24
II. Distribution of graduate students' population by nationality and degree program	25
III. Sampling fraction	27
IV. Distribution of response rate by subgroups	39
V. Distribution of sample by sex and subgroups	41
VI. Distribution of sample by school and subgroups	41
VII. Distribution of foreign students by region of the world and degree program	42
VIII. Distribution of sample by length of stay at Oregon State University and Subgroups	43
IX. Distribution of sample by credit hours and subgroups	44
X. Distribution of sample by G.P.A. and subgroups	45
XI. Distribution of sample by marital status and subgroups	46
XII. Distribution of sample by age and subgroups	47
XIII. Distribution of sample by weekly hours for study/ work for pay and subgroups	48
XIV. Distribution of sample by most difficult problem and subgroups	51
XV. Distribution of sample by rank of the overall in- struction at Oregon State University and subgroups	52

A COMPARATIVE STUDY OF ACADEMIC EXPERIENCES OF
AMERICAN AND FOREIGN GRADUATE STUDENTS
AT OREGON STATE UNIVERSITY

CHAPTER I

INTRODUCTION

Cross-cultural exchange programs offer the opportunity for intercultural contact and the facilitation of understanding between people of varying backgrounds. The United States has been engaged in educational exchange for two hundred years, and foreign students have been an important element in the U.S. student population.

The Institute of International Education (IIE) reports an annual census of foreign students in its publication "Open Doors". The census reflects an unbroken growth in number of foreign students. In 1960-1961, the IIE reported 53,100 foreign students attending American colleges and universities. By 1970, the IIE census counted 135,000 students from foreign countries. The 1975 census reported a total of 218,401 foreign students on U.S. campuses. The 1981-1982 census reported 326,299 foreign students which made up 2.6% of the total student population in American Higher Education.

Although the foreign student population is a small proportion of the U.S. student population, it is a substantial group. This has interested many researchers in finding out why the increase, and in making other kinds of studies of the foreign student population.

This study is meant to contribute to the growing body of literature which is viewing foreign students as a distinct student population and trying to identify the nature of their problems and to see if they have an approach to the learning process which differs significantly from that of their American counterparts.

Statement of the Problem

When Pace (1980) looked at quality of student effort, he made the assumption that students get out of college what they put into it. Generally, the notion of quality of educational outcomes suggests that quality is dependent upon what the institution does or does not do. Pace has his own viewpoint. He believes that researchers must not only consider what the institution offers, but also what the students do with those offerings. Students have to realize that if they expect to benefit from what their college or university has to offer, they have to take a certain amount of initiative. The process of initiating students' effort becomes a very powerful factor to the quality of educational outcomes. The question is: within an educational institution, is there any difference between American and foreign graduate students in the way that they put their effort into academic work?

Purpose of the Study

Most of the research done in the area of foreign students' academic concerns dealt with achievement, problems, and needs. This study

was interested in student's effort in the process of getting advanced degrees through academic experiences. The comparison was made between American and foreign students in master's and doctoral programs.

The central purpose of this study was to investigate if there are any differences between American and foreign graduate students at Oregon State University in the area of academic experiences, estimate of gains, and background information.

Design of the Study

This was a comparative study which was interested in the way that American and foreign graduate students put their effort into academic work at Oregon State University.

Oregon State University offers facilities, personnel, programs, and general support to all students who enroll in the university during the year. According to the general regulation of admission to Graduate School:

Oregon State University welcomes applications from students, without regard to age, sex, race, handicap, national origin, marital status, or religion, who provide evidence of suitable preparation for work at the graduate level. (Graduate School Bulletin, 1982)

Graduate studies offered through the Graduate School lead to master's degrees and doctoral degrees. In Winter Term 1982, there were 1506 American students and 514 foreign students enrolled in the advanced degree programs offered by the Graduate School. During the

process of obtaining an advanced degree at Oregon State University, there is no special standard for foreign students. A grade-point average (G.P.A.) of 3.00 (B average) is required for all advanced degree candidates. Foreign students are expected to pass the same program requirements as American students. The question of what do foreign graduate students have an approach to the learning process which differs significantly from the way American graduate students do at Oregon State University becomes the major theme of this study.

This research was started by selecting 260 students from Oregon State University which included an equal number of 65 students in American master's, foreign master's, American doctoral, and foreign doctoral groups. The questionnaire entitled "College Academic Experience Survey" was developed and used as the instrument of survey in this study. It reflected the Oregon State University atmosphere and emphasized college experience with respect to courses learning, writing ability, preparation of courses, relationship with faculty members, current program, educational goal, and gains.

A pilot study was conducted prior to the survey. The outcomes were used to validate the questionnaire as well as the value of research. Three stages of mailing procedures was applied in the survey. The information from returned questionnaires was collected and analyzed. Since sample of the study was classified into categorical form, a loglinear model was used to analyze the categorical data, and two-factor analysis of variance was used to analyze the demographic data. The 0.05 and 0.01 levels of significance were

selected to test three null hypotheses stated in Chapter III. The testings and finding were compiled in Chapter IV to determine whether there are significant differences between American and foreign graduate students in the way they put their effort into academic work at Oregon State University. Summary of the study and conclusion and discussion were stated in Chapter V.

Objectives of the Study

This study was concerned with American and foreign graduate students' academic experiences at Oregon State University. The objectives of the study were the following:

- To assess the varying academic experiences of American and foreign graduate students at Oregon State University, as measured by ten questions related to college academic experiences such as participation in classes, preparation of course requirements, relationship with faculty members, evaluation of instructional quality, and students' educational objectives.
- To evaluate how American and foreign graduate students perceive gains from academic experiences at Oregon State University in five areas: vocational training, ability to think analytically and logically, ability to get along with different kinds of people, broad general education about different fields of knowledge and acquaintance of different philosophies, cultures, and ways of life.

- To make appropriate recommendations to educational institutions in order for them to consider means of accommodating some of the unmet needs identified in this study.
- To help identify future directions for research on foreign student affairs.

Limitations of the Study

The survey was administered at Oregon State University in Winter Term 1982. Limitations of the study were the following:

- This study was conducted on a single campus of a state university.
- Sample of the study was selected from the student list of Winter Term 1982. Consequently, no students were included if they had not registered Winter Term 1982.
- This study was restricted to graduate students. It included master's program students and doctoral program students who had been accepted by any department at Oregon State University during the 1981-1982 school year. This did not include undergraduate students and those students who had not set up a specific academic program leading to an advanced degree, such as special students, unclassified students, and post-baccalaureate students.
- The instrument of this survey research was a questionnaire which was delivered by mail. Students would not be able to receive the mailings if they did not give the adequate address.

Definition of Terms

Definitions of some phrases used in this study are the following:

A. American Student

A student with citizenship in the United States and enrolled in an academic program at Oregon State University.

B. Foreign Student

A student with citizenship in any country other than the United States and enrolled in an academic program at Oregon State University.

C. Graduate Student

A student enrolled in a master or doctoral program at Oregon State University. In this study, the phrase is used to designate only classified graduate students, and does not include unclassified graduate students, post-baccalaureate students, or special students.

D. Master's Degrees

All master's degree programs required a minimum of 45 graduate credit hours (some Ed.M. degrees require a higher minimum). Approximately two-thirds of the work (30 term hours) must be in the major and one-third (15 term hours) in the minor. At least 30 term hours residence is required. The student's program is

worked out under the guidance of the major and minor professors and approval of the Graduate School. Master's degrees are Master of Science (M.S.), Master of Arts (M.A.), Master of Education (Ed.M.), and other master's degrees: Master of Business Administration, Master of Engineering, Master of Forestry, Master of Materials Science, Master of Ocean Engineering, Joint Master's Degree in Counseling.

E. Doctoral Degrees

Doctoral degrees are Doctor of Philosophy (Ph.D.) and Doctor of Education (Ed.D.). The degree of Doctor of Philosophy is granted primarily for creative attainments. The degree of Doctor of Education emphasizes applied studies in education. This degree is often used to prepare for positions in supervision, curriculum development, classroom teaching or in administration. The student's doctoral study program, either Ph.D. or Ed.D., is formulated and approved subject to departmental policies at a formal meeting of his or her doctoral committee. The equivalent of at least three years of full-time work beyond the bachelor's degree and a minimum of 36 hours of graduate work is required in residence at Oregon State University.

The student working toward the doctor's degree must pass a group of comprehensive preliminary examinations in his or her major and minor subjects. For the fulfillment of doctoral degree programs, a thesis embodying the results of research and

giving evidence of originality and ability in independent investigation must be submitted.

F. College Academic Experiences

College academic experiences are college or university experiences with respect to classroom learning and intellectual development. This consist of experiences regarding the understanding of what an instructor says during a lecture, attending a class, preparing for quizzes and examinations, disagreeing with an instructor about a grade on a paper or test, writing a paper or essay, using the library, dealing with faculty members, coping with dissatisfaction with instruction in an academic program, and forming individual educational objectives.

G. College Academic Experience Survey

It is the questionnaires used as an instrument in this study. The questionnaire includes sections on academic experiences, the student's estimates of gains, and background informations.

CHAPTER II

REVIEW OF THE LITERATURE

Parson (1925) found that most American colleges are glad to have foreign students; such diverse contact with representatives from other lands is a benefit to American students. The number of foreign students in all colleges and universities in the United States has increased dramatically during the past seventy years. According to Kadi (1976), between 1915 and 1974 the number of foreign students in American colleges and unviersities gradually grew from 3,790 to 151,066. This was a 3,886 percent growth.

The growth and nature of the foreign student population has become an interesting research area, and a number of studies have been done in this area. A review of the literature on this subject is organized into four sections as follows:

- a. Overview of literature on foreign students
- b. Literature related to academic area and foreign graduate students
- c. Review of quality of student effort
- d. Independent variables suggested in literature.

Overview of Literature on Foreign Students

Research in the area of foreign students has dealt with various topics and populations. Many studies concentrated only on one campus

(e.g. Rising & Copp 1968, Win 1971, Han 1975, Stafford 1977). Several studies dealt with foreign students in one state (e.g. Sharma 1971, Nenyord 1975). Some studies were concerned with one nationality group (e.g. Cortes 1970, Davis 1973). Other studies focused on students from one region in the world (e.g. Win 1971, Pruitt 1977). There were also some studies concerned only with particular professional groups or specific majors (e.g. Mackson 1975, Findley 1975).

The subject matter of previous studies was mostly centered around performance (e.g. Hountras 1956, El-lakeny 1970, Hj:zainuddin 1974, Chongolnee 1978), adjustment to the U.S. environment and problems (e.g. Selltiz et al., 1963 Dunnett 1977, Hull 1978), and non-return to the home country (e.g. Ritterband 1968, Myers 1972, and Glazer 1974).

Literature Related to Academic Area and Foreign Graduate Students

The areas of research which seem most related to this study are the areas of academic achievement and the academic needs and problems of foreign students. In his doctoral dissertation, El-lakany (1970) reviewed the literature and found that relatively few studies had been conducted on foreign students in the area of academic achievement, although studies had been made on their attitudes and adjustment problems. Kadi (1976) presented a summary of articles and studies of foreign students. According to Kadi's research, 4,111 articles and researches had been done in the area of foreign students

by the year of 1968. There were only 145 (3.53%) related to academic achievement/employment, and 31 (0.75%) related to English as a second language. By the year 1975, 122 doctoral dissertations had been done in the area of foreign students, there were less than 29 percent related to performance, achievements, and language.

Some of the previous studies which have been done to investigate the relationship of selected factors to the academic achievement, academic needs and problems of foreign students, will be reviewed with a focus on the process of academic learning and encounter experiences.

According to Han (1975), the principal goals of foreign students in the U.S. were educational. Singh (1976) also found that the main reason for foreign students to come and study in the American colleges and universities was for educational purposes. Hull (1978) made the point that academic goals were the most important to foreign students.

When a student goes to another country to study, he or she becomes involved in a different educational system with unfamiliar teaching methods, examinations, student-teacher relationships, degrees of supervision, and other aspects. Erling O. Schild* wrote:

The stranger has to learn new behaviors which are goal-achieving in the new environment while they may have been either unknown to him, ineffective or prohibited in his home culture.

*Erling O. Schild, "The Foreign Student as Stranger Learning the Norms of the Host Culture", Journal of Social Issues, XVIII, No. 1 (1962), 42-43.

Otto Klineberg (1970) remarked that those differences create serious problems of academic adjustment.

In Kasrain's Ph.D. dissertation, there were noted two basic difficulties which seem to face most foreign students: (1) studying in a foreign language and (2) learning in cultural and social settings which are different from those of their home countries. The anxiety and strain of adjustment, a vast amount of loneliness, and lack of knowledge of the American system of higher education also affect and delay the foreign students when they face the new academic environment.

Johnson (1971), in a study of foreign students at the University of Tennessee, claimed that English language proficiency was the most frequent problem of foreign students. Financial problems, separation from family and homesickness came next. Win's (1971) study on Indian and Japanese students at the University of Southern California revealed that academic problems were most frequent. Breuder (1972) mentioned that foreign students in Florida colleges cited problems with financial aid, English language, placement and admission. Moghrabi (1972) studies the problems of foreign students at the University of Nebraska and found that English language problems were the most prominent, and emotional anxiety was commonly due to lack of social life and linguistic problems. Nenyod (1975) also found that the major problems of foreign students in Texas were communication, academic, finances, housing and food, religion, social and personal well-being, and so on. Von Dorpowski (1977) found that the most

critical problems for Oriental, Latin American, and Arabian students in the United States are financial aid, English language, and placement. A survey conducted by Deutsch (1970), indicates that students from North America and Europe have fewer academic difficulties than do those from Africa, Asia, and Latin America.

Those who go abroad to study in American universities or other academic institutions can never be a representative sample of the population as a whole. It was a majority opinion that the foreign students group were a select group. Individuals with superior capacity and ambitions when compared with their fellow nationals went to unusual trouble to get the best available education. Parson remarked that there was major agreement that they are good students, worthy of admission to American educational institutions.

Most policy planners and administrators have tended to favor graduate over undergraduate foreign students for many years. According to Walton (1971), the major reasons cited for preferring graduates were that they were less likely to remain permanently in the United States, and that all students were better off if they completed the undergraduate education at home before going abroad.

Generally, graduate students are older than undergraduate students, and also have a higher level of social maturity, academic performance, environmental adjustment, satisfaction of study program, and higher expectation to make a greater contribution by paying off their educational training. But most of the researches conducted on

foreign students during the 1950's and early 1960's did not differentiate systematically between graduate and undergraduate foreign students. Typically, studies dealt with the problems, needs, and attitudes of all foreign students on a particular campus or of all students of a particular nationality.

There is some evidence that foreign students at the graduate level perform better than those at the undergraduate level in academic area. A large-scale study of 5,700 students at thirty-one institutions, Koenig (1953) showed that the proportion of "above average" grades increased at higher academic levels. Warmbrunn and Spatter (1957) found that at Stanford, undergraduates failed twice as often as graduates. Kincaid (1961) mentioned that, among non-European students in California institutions, 78 percent of the graduates said they had a grade average of B or higher compared with only 27 percent of the undergraduates. Kincaid (1961) also mentioned that the goals of graduate students were oriented more toward career preparation than were those of undergraduates. Graduates consistently rated their ability to read, write and speak English higher than did undergraduates, and more graduates were "very well satisfied" with their course of study.

Review of Quality of Student Effort

C. Robert Pace made his principal assumption in his publication: "Measuring the Quality of Student Effort", Current Issues in Higher Education, 1980. What students get out of college not only depends

on what the institution does or does not do, it also depends upon what they put into it. To evaluate the effect of higher education on students, it is necessary to consider the students' contribution as well as those of the institution.

According to Pace's theory, all academic learning and development requires an investment of time and effort by the student. Effort is a quality dimension in the sense that some kinds of efforts are potentially more educative than others. For example: making an outline of course materials or explaining the subject to another student is more educative than merely taking notes or underlining passages in a textbook. Outlining and explaining are higher-cognitive activities which require more effort. It takes more effort and is more educative to search through the library's card catalog for relevant materials than it does merely to take out a reference that has been assigned by a course instructor. Some experiences surely do have greater potential for enhancing learning and development than others, and also require more effort. Based on what Pace looked at, a comprehensive questionnaire called "College Student Experiences" was developed and used in a major research in spring 1979. This questionnaire was administered at 13 colleges and universities. A total of 4,351 questionnaires was filled out by a cross section of undergraduates at these educational institutions. The response rate varied from more than two-thirds in a few institutions to slightly less than 40 percent in a few others.

This questionnaire: "College Student Experiences", is composed of three major sections. The first section, background, requests information about the status of the individual--age, sex, marital status, race, educational level of parents, year in college, housing, grades, major field, expectation about continuing an advanced degree, time spent studying, time spent on a job, and proportion of college expenses paid by parents or family.

The second section includes college activities and the college environment. There are 14 quality-of-effort scales dealing with three areas: the first of these is quality of effort with respect to academic and intellectual experiences and consists of response regarding the library, the faculty, the classroom, and writing. The second area is personal or interpersonal experiences including self-understanding, student acquaintances, conversation topics and conversation level. The third area is related to group facilities and opportunities, such as the use of student union and athletic facilities, involvement in clubs and organizations and in the residence programs. There are eight rating scales dealing with the aspect or characteristic of the college environment. These include student development: academic, scholarly, intellectual qualities; esthetic, expressive, and creative qualities; critical, evaluative, analytical skills; and vocational and occupational competence.

The final section of the questionnaire, called "Estimate of Gains", consists of 18 statements of fairly typical and important objectives, such as vocational training, a broad general education,

ability to write effectively, and ability to think analytically and logically.

There are numerous findings presented in Pace's research paper. When the quality of effort is related to academic and intellectual experiences, the mean scores of sophomores are higher than those of freshmen, juniors are higher than sophomores, seniors highest. There is evidence to suggest that the higher the quality of academic/intellectual effort, the higher the grade. The quality of effort scores of students whose grades are B, or lower, are not as good as those whose grades are approximately B; nor are they as good as those whose grades are B+ or higher. It shows that students who invest a greater amount of time and higher degree of effort in academic and intellectual matters are rewarded with better grades. The same finding is clearly evident with respect to the number of hours students indicate they spend on academic matters. Students with the highest scores on the academic/intellectual quality-of-effort scales are ones who typically spend 40 hours or more on their school work. Those who average fewer have lower quality-of-effort scores.

There is no particular relationship between year in college and student's quality of use of group facilities and opportunities. The same is true with respect to the quality of personal and interpersonal experiences. There are no large differences in qualities of effort scores between whites and minority group members--blacks and hispanics.

In the area of estimate of gain, there is a general increase in

sense of progress from freshman to senior year with respect to the achievement of educational goals.

There seems to be a clear relationship between students' grades and their general education and intellectual competency. There seems to be no relationship between students' grades and their personal and interpersonal understanding. There are almost no differences of any magnitude in any of the outcomes in the area of estimate of gain. As to time spent on school work, the more time the better with respect to the outcomes of the estimate of gains.

There is one statement which we may include in Pace's survey: If students expect to benefit from what this college or university has to offer they have to take the initiative. Ninety-six percent of the participants agreed. The findings of Pace's survey show that quality of effort is clearly related to degree of attainment--the greater the effort, the greater the gain.

Independent Variables Suggested in Literature

There are varying publications in which certain independent variables were identified as significantly related to academic achievement of foreign students. The independent variables we will identify are:

Academic level

A number of studies investigated academic level in its relationship to academic performance, adjustment and problems. Hountras

(1956) found that the degree held at admission was related to academic achievement. Collins (1976) found that the kinds of problems encountered by foreign students vary by academic level. Siriboonma (1978) reported that academic level was positively related to satisfaction with the U.S. experience. Stafford (1978) found that undergraduate foreign students reported greater difficulty in English language, academic course work, finances, food, unfriendliness of the community, and maintaining cultural customs than did graduates.

Sex

Sex difference has been investigated in relation to academic performance, problems encountered in the U.S., adaptation and adjustment, and perception of educational experiences. In the area of academic performance, El-lakany (1970) found that females had better academic performance in terms of G.P.A. than males. HJ:zainuddin (1974) found that females performed better academically in the first year. The findings of Hountras' (1956) investigation revealed no significant relationship between academic achievement and sex.

Major field

The field in which a foreign student majors may determine the probability of his or her success in academic performance and in the problems or needs he or she faces. Hountras (1956) found that there was a proportionately greater number of foreign graduate students majoring in social and physical sciences having probationary status

than those in other fields. Chongolnee (1978) found that the academic performance of foreign students differed by major field; the engineering majors had the highest performance followed by physical sciences majors, then biological science majors, social science majors had the lowest academic performance. Han (1975) found that foreign students majoring in engineering have more problems with English than students in other fields.

Region of the world and country of origin

Most of the multi-national and multi-regional researches on foreign students indicate that students from various regions of the world differed in terms of their adjustment and the problems they encountered in the United States. Chongolnee (1978) found that Asians had better performance than others. Sharma (1971) found that students from South Asia had better academic adjustment than those from the Far East or Latin America. Hull (1978) also found that goals, adjustment, and problems of foreign students varied by country of origin; Africans were most likely to face discrimination, and Iranians were most likely to have academic problems. Spaulding and Flack (1976) concluded that the problems of foreign students tended to vary depending upon the country or region of the world from which they came.

Length of stay

Through reviewing the literature, length of sojourn has remained a confirmed significant variable related to academic performance,

adjustment problems, decisions to stay abroad, satisfaction with training, and so forth. Hull (1978) found that length of stay in the U.S. was positively related to the degree of adjustment. Guglielmo (1967) found that length of stay was related to the students' knowledge of immigration, automobile operators' responsibilities, income tax and social security, housing, employment, purchasing and installment buying.

Marital status

Marital status is an important variable in foreign student studies. According to previous research, married and unmarried foreign students on U.S. campuses differ in lifestyles, needs, and problems. Marital status was found to be related to academic performance, problems experience, satisfaction with U.S. experiences, and not-return to home country. In the academic area, Hountras (1956) found that married students had higher academic achievement than singles. El-lakany (1970) reported that marital status was not related to academic performance of foreign students.

Age

Age as an independent variable has been investigated in relation to academic performance, adjustment problems, perception of educational experiences, and probability of returning home after graduation. In the area of academic performance, El-lakany (1970), Elting (1970), and Siriboonma (1978), reported that older students had

higher academic performance; Hj:zainuddin (1974) found that younger students performed better academically. Hountras (1956) and Selltiz et al. (1963) found that age was not to be related to academic performance.

CHAPTER III

RESEARCH DESIGN

Sampling ProcedureFrame of population

At Oregon State University, advanced degrees are offered through the Graduate School. Registration status is divided into four categories: advanced degree candidates, special students, unclassified students, and post-baccalaureate students.

According to Graduate School figures in Winter Term 1982, when this study took place at Oregon State University, the distribution of students was as follows (Table I):

Table I

Distribution of Graduate Students Population

	Degree candidates	Special students	Unclassified students	Post-Bacalau- reate students	Row total
MEN	1395	145	0	194	1734
WOMEN	641	128	0	136	905
Column total	2036	273	0	330	2639

In this study, only advanced degree candidates were selected. They are regular graduate students who have been accepted by the university and a major department to work toward an advanced degree in the academic year 1981-1982. There were a total of 2036 graduate program students who registered in the beginning of Winter Term, 1982. In the middle of Winter Term, 1982, when this study was done at Oregon State University, there were 16 graduate students who discontinued their programs by withdrawing or failing to pay the tuition and fees. There was a total of 2020 graduate students defined as the population of this study which included 1233 master's students and 787 doctoral students. This population was composed of 1506 American graduate students and 514 foreign graduate students. (Table II).

Table II

Distribution of Graduate Student Population by Nationality
and Degree Program

	American	Column %	Foreign	Column %	Row total	
Master's students	979	65.0%	254	49.4%	1233	61.0%
Row %	79.4%		20.6%		100.0%	
Doctoral students	527	35.0%	260	50.6%	787	39.0%
Row %	67.0%		33.0%		100.0%	
Column total	1506	100.0%	514	100.0%	2020	100.0%
Row %	74.6%		25.4%		100.0%	

Securing of list of students

With the approval of the Committee for Protection of Human Subjects (Appendix A), this study was permitted to use the graduate students at Oregon State University as the population for study. Two hundred and sixty graduate students were selected at random as a sample. They were equally divided into four groups based on the criteria of master or doctoral program and American or foreign student. They are American master's, foreign master's, American doctoral, and foreign doctoral students. The random sample selection was done by computer based on the student list from the registrar's office. This student list is called the Student Information System file (SIS). It has been computerized and stored in the computer. The information on this list includes student's name, student ID number, sex, age, school, major department, nationality status, local mailing address and home and parents' address, telephone number, and so forth. All student's personal information is listed on SIS through the Registrar's Office, Oregon State University, when students are accepted through the admission process. It is kept up-to-date each term.

Selecting the sample

This study was interested equally in the subject's educational program and nationality. The whole sample was divided into four groups: American master's, foreign master's, American doctoral, and foreign doctoral students. There was an equal interest in the

academic experiences of all four groups. Sixty-five students for each group were selected by a random method using a computer search from the SIS student list. The total sample size for this study was 260. The proportions of the sample selection are given in Table III.

Table III

Sampling Fraction

		American	Foreign	Overall
Master's students	Ratio of sample to population	6.64%	25.59%	10.54%
Doctoral students	Ratio of sample to population	12.33%	25.00%	16.52%
	Size of sample	130	130	260
Overall	Size of population	1506	514	2020
	Ratio of sample to population	8.63%	25.29%	12.87%

InstrumentationQuestionnaire

The survey instrument used in this study--"College Academic Experience Survey", (Appendix B), was modified from "College Student

Experiences" so as to reflect the Oregon State University atmosphere and to emphasize college academic experiences. It was composed of three sections dealing with: (1) academic experiences with a focus on using the library, experiences with faculty, course learning, writing, and personal experiences related to academic learning; (2) perception of gains through academic experiences; (3) demographic information.

The first section was composed of ten questions about academic learning experiences, such as participation in classes, preparation of course requirements, relationship with faculty members, evaluation of instructional quality, student's educational objectives, and so forth. There were four possible action-responses plus one open-ended alternative offered in reply to each operation. The students were asked to circle one number which best indicated the frequency of responses in each item, using a 1-5 scale in which "1" represented "Very Infrequently" and "5" represented "Very Frequently".

The second section was composed of five areas: vocational training, ability to think analytically and logically and to put ideas together, understanding other people and the ability to get along with different kinds of people, gaining a broad general education about different fields of knowledge, and broadening the acquaintance and enjoyment of different philosophies, cultures, and ways of life. Students were asked to reflect on their experiences at Oregon State University, to what extent they felt they had gained or made progress in each area. Students were asked to circle the number from

1-5 that best indicated their gain, with "1" representing "Very little gain" and "5" representing "Very large gain".

The third section was the background section which requested information about the status of the individual: length of stay at Oregon State University, credit hours, G.P.A., age, marital status, hours of academic study, hours of working for pay, difficult problems, and rank of overall instruction.

The questionnaire comprised 35 questions. The purpose of the study was explained in a cover letter. The questionnaire was mailed through either campus mail or local U.S. mail to participants. Participants were assured that their responses were confidential and would not be linked to their names.

Pilot Study

A pilot study was conducted in February, 1982. A copy of the questionnaire and a cover letter which stated the purpose of the study were delivered to ten American graduate students and ten foreign graduate students who were interested in cross-cultural education and voluntarily contributed their participation and personal points of view to this study. A face-to-face interview concentrated on the content of the questionnaire, concerns of literal technique, and suggestions.

The main idea of having a pilot study was to insure that the questionnaire would reflect the graduate students' attitude regarding academic experiences at Oregon State University.

The conclusions of the pilot study were very positive and supportive. The summary of basic data for the pilot study is listed in Appendix C. The response rate was 100.0%. All 20 of the graduate students returned their completed questionnaires and gave their positive comments about the content of the questionnaire which covered the common concerns of their academic learning experiences at Oregon State University. They were especially happy to know that their participation will make a contribution to a cross-cultural comparative study.

Data Collection Procedure

Schedule

A proposal of this study entitled "A Comparative Study of Academic Experiences of American and Foreign Graduate Students at Oregon State University" was approved by the School of Education, and the Graduate School at Oregon State University, on January 20th, 1982. The approval to use graduate students at Oregon State University as the population of this study was granted by the Committee for Protection of Human Subjects in February, 1982. The pilot study was conducted in February, 1982. The first period of survey of this study started in March, 1982. The last completed questionnaire returned in early May, 1982. The preparation of statistical data analysis started in June, and computer analysis began in July, 1982, and ended in March, 1983.

Mailing system

There were three stages of mailing. The first, in early March, 1982, included one copy of "College Academic Experience Survey", one stamped return envelope, and a cover letter (Appendix D) which explained the purpose and content of the study. The completed responses were requested to be returned in three weeks.

The second, about three weeks after the first mailing, included a reminder letter (Appendix D) to those who did not return their questionnaires. There was a telephone number and address enclosed for contact in case the questionnaire in the first mailing was misplaced.

Two weeks later, a third mailing was sent to those who had not yet responded to the survey. It included another cover letter (Appendix D) which related the purpose of the survey, another copy of the questionnaire, and a stamped return envelope. This was the last step of the mailing procedure and responses were expected to be returned in the following four weeks.

Hypotheses

The following null hypotheses were tested:

H₀₁: There is no significant difference in response in the area of college academic experience between American and foreign graduate students.

Students were divided into four groups: American masters, foreign masters, American doctoral, and foreign doctoral students. The area of college academic experience was divided into ten situations. There were four possible responses listed under each situation. Participants were asked to circle one number from a scale of 1-5 that indicated the frequency of their responses, with "1" representing "Very Infrequently" and "5" representing "Very Frequently". These ten situations were:

1. When you do not understand what an instructor says during a lecture,
2. When you are in a class,
3. When you prepare for your quizzes and examinations,
4. When you disagree with your instructor about your grade on a paper or test,
5. When you write a paper or essay for your class requirement,
6. When you go to the library,
7. The relationship with faculty members,
8. When you deal with faculty members, how do they respond to you,
9. When you are dissatisfied with instruction in your current program,
10. The importance of your educational objectives.

Ho2: There is no significant difference in the estimate of gains between American and foreign graduate students

All four groups of students were asked to think over their experiences at Oregon State University, and to consider their progress in five areas: (a) vocational training, acquiring knowledge and skill applicable to a career; (b) ability to think analytically and logically and to put ideas together; (c) understanding other people and the ability to get along with different kinds of people; (d) gaining a broad general education about different fields of knowledge; (e) broadening the acquaintance and enjoyment of different philosophies, cultures, and ways of life. Participants were asked to circle one number from a scale of 1-5 that indicated the level of gain and progress, with "1" representing "Very little gain" and "5" representing "Very large gain".

Ho3. There is no significant difference in the area of background information between American and foreign graduate students.

The background information includes: school, major fields, sex, nationality, length of studying at Oregon State University, current credit hours, G.P.A., marital status, age, the average studying hours each week, the average working hours for pay each week, difficult problems, and the rank of overall instruction to Oregon State University.

Statistical Analysis

The information from the returned questionnaires was used to analyze the demographic data and to test the null hypotheses in this study. The 0.05 and 0.01 level of significance were selected for determining the dependence between variables. Two-factor analysis of variance and loglinear model were used to test the hypotheses listed in this study.

Loglinear Model

A variety of social science data come in the form of cross-classified tables of counts instead of measurements; the units of a sampled population in such circumstances are cross-classified according to each of several categorical variables.

One of the statistical methods to analyze cross-classified data is the loglinear model. The loglinear model used in this study was to put data into three-dimensional tables and analyze a three factor loglinear model. Let X_{ijk} be the observation in the i th row, j th column, and k th layer of the table, and let M_{ijk} be the corresponding expected value for that entry. The likelihood-ratio statistic, G^2 , was used to test whether the difference between the expected values for sub-models. This conditional test statistic has an asymptotic chi-square distribution with degrees of freedom equal to the difference in the degrees of freedom for sub-models.

According to Fienberg (1977), the term categorical will be used to refer to variables whose values are dichotomous (e.g., yes or no),

nonordered polytomous (e.g., five different detergents), and ordered polytomous (e.g., young, middle-aged, old). In this study, some of the categorical variables used were sex (male, female), various type of difficult problems (financial, social, language, instructional, etc.), rank of overall instruction (poor, fair, good, great), and so forth.

The variables that are free to vary in response to controlled conditions are response variables, and variables that are regarded as fixed, either as in experimentation or because the context of the data suggests they play a determining or causal role in the situation under study, are explanatory variables. In this study, each answer from the students' questionnaires is a response variable. The number of students in each nationality and degree program category was fixed in the sample selection procedure. Variables of nationality and degree program are explanatory variables. Nationality may be defined as main factor, and degree program may be defined as co-factor. If N represents nationality as the main factor, D represents degree program as co-factor, and R represents each one of the answers from the students' questionnaires as response variables. Then the saturated (full) model is written in terms of the structural parameters as:

$$\log M_{ijk} = \lambda + \lambda_i^N + \lambda_j^D + \lambda_k^R + \lambda_{ij}^{ND} + \lambda_{jk}^{DR} + \lambda_{ik}^{NR} + \lambda_{ijk}^{NDR}$$

Because both nationality and degree program were fixed factors in the procedure of selecting the sample, the interaction of these two variables was not tested. This study was interested in whether or not the distribution of response variables depended upon the main factor-nationality and the co-factor-degree program. The result of either accepting or rejecting the null hypotheses represented that distribution of the response variable was dependent upon or independent of the main factor of nationality and the co-factor of degree program.

The strategies of testing a null hypothesis are the following:

First, $H_0 = \chi^2_{NR} = \chi^2_{DR} = \chi^2_{NDR} = 0$ is tested. If its P-value is not statistically significant, the null hypothesis is accepted. The distribution of the response variable is independent of both nationality and degree program.

Only if its P-value is statistically significant (smaller than 0.05), and the null hypothesis is rejected. The distribution of response variable is dependent upon at least one of the explanatory variables. The tests are to investigate whether the distribution of response variable is dependent on only nationality or degree program, or on both. The next step is to test $H_0 = \chi^2_{NR} = 0$ and $H_0 = \chi^2_{DR} = 0$.

When the expected value of G^2 from $G^2 [DN, DR] - G^2 [DN, DR, NR]$ is not significant at 0.05 level of significance. The distribution of the response variable is independent of nationality. Only if its value of G^2 is statistically significant, $H_0: \chi^2_{NR} = 0$ is rejected.

The distribution of the response variable is dependent upon nationality.

When the expected value of G^2 from $G^2 [DN, NR] - G^2 [DN, NR, DR]$ is not significant at 0.05 level of significance, $H_0: \lambda^{DR} = 0$ is accepted. The distribution of the response variable is independent of the degree program. The interaction between the response variable and nationality may be measured from the table of sums obtained by combining over the degree programs. Only if it is statistically significant, $H_0: \lambda^{DR} = 0$ is rejected. The distribution of the response variable is dependent upon each degree program.

CHAPTER IV

DATA ANALYSIS

The main purpose of this chapter is to present the information obtained from the personal questionnaire, to analyze the data, to test the hypotheses, and to determine the dependence or independence of the response variables and explanatory variables. This chapter contains the procedure and the statistical methods which were used to conduct the study. It includes the demographic data on the students, and compares American and foreign graduate students' experiences in the academic area by testing the null hypotheses stated in Chapter III.

Demographic Data

Response rate

There was a total of 260 questionnaires mailed for this study. A total of 213 copies were returned, a 81.9% response, which is a significantly high rate for a mail survey. The group of American masters returned 56 copies for the highest response rate (26.3%) among the four subgroups; followed by foreign doctoral students, and then American doctoral students. Foreign masters returned only 50 copies for the lowest response rate (23.5%). This information is given in Table IV.

Table IV

Distribution of Response Rate by Subgroups

Group Label	Absolute Freq.	Frequency (PCT)	Frequency (PCT)
American Master's	56	26.3	26.3
Foreign Master's	50	23.5	49.8
AD American doctoral	52	24.4	74.2
FD Foreign doctoral	<u>55</u>	<u>25.8</u>	<u>100.0</u>
	213	100.0	

Sex

Within the sample of this study were 150 male and 63 female students. The number of male students enrolled was greater than the number of female students in both master's and doctoral programs. In the doctoral program there were three times as many male students as female. Based on nationality, the male students exceeded female students in the American group by a little more than $1\frac{1}{2}$ times and there were a little more than $3\frac{1}{2}$ times male to female students in the foreign group. Similarly, in the group of foreign doctoral students, the number of males was over five times the number of females. (Table V)

School of major

Within the American students' group, the largest subgroup comprised students whose major was Science and combined Oceanography and

Pharmacy (36, 34.0%), followed by Agriculture and combined Forestry (24, 22.6%), and Education (21, 19.8%). There was a tendency for American students in these three areas to move on to the doctoral program.

Within the foreign students' group, the largest subgroup comprised students whose major was Engineering (41, 39.0%), followed by Science combined Oceanography and Pharmacy (27, 25.7%), and Agriculture and Forestry (21, 20.0%). Both Engineering and Sciences majors included a similar number of students in master's and doctoral programs, and there was a higher percentage of foreign students moving on to doctoral programs in the area of Agriculture and Forestry. (Table VI)

Region of the world

In the total of 213 returned questionnaires, there were 108 American students (50.7%), comprising 56 master's and 52 doctoral students, and 105 (49.3%) foreign students, comprising 50 master's and 55 doctoral students. Of the foreign students, the largest group was 58 Asian students, comprising 28 master's and 30 doctoral students, coming from Republic of China, Hong Kong, Japan, Korea, Thailand, ect. The second largest group was 21 Near and Middle East students, comprising 8 master's and 13 doctoral students, natives of Iran, Saudi Arabia, Turkey, etc. The third group was African students, followed by Latin American, and North American, and European students. (Table VII)

Table V. Distribution of Sample by Sex and Subgroups

SEX	American Master's	Foreign Master's	American Doctoral	Foreign Doctoral	Row Total
Female	24 11.3%	14 6.6%	16 7.5%	9 4.2%	63.0 29.6%
Male	32 15.0%	36 16.9%	36 16.9%	46 21.6%	150.0 70.4%
Column Total	56.0 26.3%	50.0 23.5%	52.0 24.4%	55.0 25.8%	213.0 100.0%

Table VI. Distribution of Sample by School and Subgroups

SCHOOL	American Master's	Foreign Master's	American Doctoral	Foreign Doctoral	Row Total
Agriculture & Forestry	11.0 5.2%	6.0 2.8%	13.0 6.1%	15.0 7.0%	45.0 21.2%
Education	9.0 4.2%	2.0 .9%	12.0 5.6%	5.0 2.3%	28.0 13.1%
Home Economics	2.0 0.9%	3.0 1.4%	3.0 1.4%	3.0 1.4%	11.0 5.2%
Science & Ocean. & Phar.	14.0 6.6%	15.0 7.0%	22.0 10.4%	12.0 5.7%	63.0 29.0%
Engineering	9.0 4.2%	21.0 9.9%	2.0 0.9%	20.0 9.4%	52.0 24.4%
Others	11.0 5.2%	3.0 1.4%	0 0%	0 0%	14.0 6.5%
Column Total	56.0 26.3%	50.0 23.5%	52.0 24.4%	55.0 25.8%	213.0 100.0%

Table VII

Distribution of Foreign Students by
Region of the World and Degree Program

Region of the World	Master's	Doctoral	Row Total
Africa	3	7	10
Asia	28	30	58
Europe	3	0	3
Latin America	5	1	6
Near & Mid. East	8	13	21
North America	2	2	4
Others	1	2	3
Column Total	50	55	105

The Length of Stay at Oregon State University

Regarding the length of stay at Oregon State University in this study, the average number of terms was 7.44. There was definite evidence that both American and foreign students in doctoral programs had spent more terms here than those who were in master's programs. Foreign students in the same program stayed a greater number of terms than American students (in both master's and doctoral programs.) In master's programs foreign students stayed .74 term longer than American, and in doctoral programs, foreign students stayed 2.15 terms longer than American. (Table VIII)

Table VIII

Distribution of Sample by Length of Stay
at Oregon State University and Subgroups

	Mean	Std Dev	N
Group	7.4413	5.0153	(213)
American master's	4.8393	2.8011	(56)
Foreign master's	5.6000	2.6878	(50)
American doctoral	8.5577	5.4284	(52)
Foreign doctoral	10.7091	5.8426	(55)

Credit hours

In this study the average number of credit hours which students took in Winter term, 1982, was 10.12. There was a slight tendency shown in this study for both foreign master's and foreign doctoral students, compared to American students in the same level of program, to take more credit hours in Winter term, 1982, when this study took place. The order of mean credit hours in these four subgroups was: foreign doctoral listed in the first - 10.6, followed by foreign master's - 10.5, American doctoral - 10.4, and American master - 9.1. (Table IX)

G.P.A. (grade-point average)

More American students (51, 61.4%) than foreign students (32, 38.5%) indicated their G.P.A. between 4.00 and 3.75; more foreign students (30, 57.7%) than American students (22, 42.3%) indicated

Table IX

Distribution of Sample by Credit Hours and Subgroups

	Mean	Std Dev	N
Group	10.1232	3.5097	(211)
American master's	9.1071	4.1415	(56)
Foreign master's	10.5000	3.1216	(48)
American doctoral	10.4231	3.6960	(52)
Foreign doctoral	10.5455	2.7542	(55)
Total Cases =	213		

Missing Cases = 2 or .9 PCT.

their G.P.A. between 3.74 and 3.50; there were 22 (55.0%) foreign students and 18 (45.0%) American students in the category of 3.49-3.25. There were 18 (60.0%) foreign and 12 (40.0%) American students in the category of 3.24-3.00. Five (62.5%) American students and three (37.5%) foreign students indicated their G.P.A. at 2.99 or less. (Table X)

When we combined the two highest G.P.A. levels together as the first category (4.00-3.50), the two lower G.P.A. levels together as the second category (3.49-3.00), and the lowest level as the third category (2.99 or less), the foreign master's students showed up as the lowest G.P.A. group. If we give two points to the level of 3.50 and above and one point to the level of 3.49-3.00, then we show the same 1.7 mean score for three groups: American master's, American doctoral, and foreign doctoral students. Only the group of foreign master's students retained a 1.4 mean score.

Table X

Distribution of Sample by G.P.A. and Subgroups

G.P.A.	American Master's	Foreign Master's	American Doctoral	Foreign Doctoral	Row Total
4.00-3.75	21 9.9%	9 4.2%	30 14.1%	23 10.8%	83 39.0%
3.74 - 3.50	15 7.0%	13 6.1%	7 3.3%	17 8.0%	52 24.4%
3.49 - 3.25	9 4.2%	13 6.1%	9 4.2%	9 4.2%	40 18.8%
3.24 - 3.00	8 3.8%	13 6.1%	4 1.9%	5 2.3%	30 14.1%
2.99 or less	3 1.4%	2 .9%	2 .9%	1 .5%	8 3.8%
Column Total	56 26.3%	50 23.5%	52 24.4%	55 25.8%	213 100.0%

The group of American master's students had the highest percentage of unsatisfactory G.P.A. (3, 37.5%), next followed by American doctoral (2, 25.0%) and foreign master's (2, 25.0%), and foreign doctoral (1, 12.5%).

Married/not married

There was a subtotal of 101 (47.6%) who answered "Yes" to the question: "Are you currently married?" There were 111 (52.4%) persons who answered "No", leaving one person who missed this question. Both American master's and American doctoral students had a similar percentage of married and not married. In the group of

foreign master's students, the number of those who were not married was 2.3 times the number of those who were married. In the group of foreign doctoral students, the number of those who were married was 1.5 times the number of those who were not married. (Table XI)

Table XI

Distribution of Sample by Marital Status
and Subgroups

Group	American Master's	Foreign Master's	American Doctoral	Foreign Doctoral	Row Total
Married	28 13.2%	15 7.1%	26 12.3%	32 15.1%	101 47.6%
Not Mar- ried	28 13.2%	35 16.5%	25 11.8%	23 10.8%	111 52.4%
Missing	0 0%	0 0%	1 0%	0 0%	1 0%
Column Total	56 26.4%	50 23.6%	51 24.1%	55 25.1%	212 100.0%

Number of Missing Observations = 1

Age

The mean age in the whole survey was 29.5. The average age of the master students was shown to be younger than that of the doctoral students. Both master's and doctoral foreign students had smaller mean average age than American students in the same level of program, and the standard deviation in foreign student groups was smaller, too. (Table XII)

Table XII

Distribution of Sample by Age and Subgroups

Group	Mean	Std Dev	N
	29.4615	5.1121	(208)
American Master's	28.0000	4.7781	(54)
Foreign Master's	27.5400	3.6712	(50)
American Doctoral	31.7885	6.6578	(54)
Foreign Doctoral	30.5000	3.5452	(52)

Total Cases = 213

Missing Cases = 5 or 2.3 PCT.

Average of weekly studying hours and hours of work for pay

In this study, students spent an average of 45.37 hours a week on activities related to school work. Comparing the mean of weekly study hours in the four subgroups, foreign students spent more study hours than American students in the same level of program. The mean hours that foreign masters students spent in a week was the highest (52.02), followed by foreign doctoral students (46.96), American master's students (42.02), and the lowest was American doctoral students (41.25). (Table XIII)

In this study, students spent an average of 16.61 hours a week working for pay. The data provided a witness that both American masters and doctoral students spent more than 20 hours a week working for pay. The group of American doctoral students had the highest

mean, which was 24.08 hours a week. This was more than times that of the group of foreign master's students, which had the lowest mean, only 7.98 hours a week. (Table XIII.)

Table XIII

Distribution of Sample by Weekly Hours for
Study/Work for Pay and Subgroups

Study Work for Pay	Mean	Std Dev.	N
American Master's	42.02	22.38	56
	21.60	16.21	53
Foreign Master's	52.02	24.86	48
	7.98	12.35	49
American Doctoral	41.23	24.14	52
	24.08	17.86	52
Foreign Doctoral	46.96	23.42	53
	12.35	11.28	54
Total of Sample	45.37	23.88	209
	16.61	15.98	208

The most difficult problem

In the group of American mater's students, 15 responses (28.3%) indicated that a financial problem was the most difficult problem; none of them mentioned language proficiency. There were 12 (22.6%) responses which indicated instructional competence was the most difficult problem, 4 (7.5%) listed social relations. Within the remaining group of 22 (41.5%), the following "other" problems were indicated: 2 (1.9%) no problems, 15 (28.3%) specified managing time

was the most difficult problem, 1 (.9%) mentioned lack of research assistantship, 1 (.9%) complained about poor academic advising, and 1 (.9%) was suffering from stress.

In the group of foreign master's students, there were 17 (36.2%) who indicated that language proficiency was the most difficult problem, 14 (29.8%) specified financial problems, 7 (14.9%) chose social relations as the most difficult problem, and only 3 (6.4%) mentioned instructional competency as the most difficult problem. Within the group of 6 (12.8%) who answered "others", there were 3 (6.4%) who specified no problem, 1 (2.1%) was suffering with health and family problems, 1 (2.1%) was complaining about having an unjust professor, and 1 (2.1%) mentioned too many classes and researches.

In the group of American doctoral students, 20 (42.6%) of them picked the financial problem as the most difficult. Six (12.8%) indicated social relations was the most difficult problem. There were only 2 (4.3%) who picked instructional competence and only 1 (2.1%) mentioned language proficiency. Within the group of 18 (38.3%) who indicated "other" problems, there were 4 (8.5%) with no problem, 4 (8.5%) were suffering from uncertainty about the future, 9 (19.2%) mentioned that managing time was the most difficult problem, and 1 (2.1%) mentioned health.

In the group of foreign doctoral students, 19 (37.3%) mentioned the financial problem, 15 (29.4%) specified that language proficiency was the most difficult problem, 6 (11.8%) mentioned social relations and 4 (7.8%) indicated instructional competence. Within the group of

7 "other" types of problems, there were 3 (5.9%) with no problems, 2 (3.9%) mentioned that adjustment to the new system was the most difficult problem, 1 (2.0%) was complaining about inadequate research equipment, and 1 (2.0%) mentioned homesickness.

In the American student's group, financial problems were specified as the most difficult problem. The category of "other" was used significantly highly by American students, too. In the category of "other", a significantly large group specified that how to manage time was the most difficult problem; either that they had no time for school courses, study and research, or no time for family. In foreign student groups both finances and language were mentioned often as the most difficult problem. (Table XIV);

Rank of overall instruction

A total of 133 (62.7%) students ranked the overall instruction level as "good", and 64 (30.2%) students ranked the overall instruction level as "fair". (Table XV)

If we combined poor and fair as one category, and made good and great another category, then we can see that foreign master's students were close in priority between "poor & fair" (46.0%) and "good & great" (54.0%). But American doctoral students put significantly more weight upon the higher rank of "good & great" (76.9%). American master's and foreign doctoral students had a similar pattern in ranking. There were around 30% choosing the lower rank - "poor & fair" and 70% the higher rank - "good & great".

Table XIV

Distribution of Sample by Most Difficult
Problem and Subgroups

Problem	American Master's	Foreign Master's	American Doctoral	Foreign Doctoral	Row Total
Finan- cial	15 7.6%	14 7.1%	20 10.1%	19 9.6%	68 34.3%
Language	0 0%	17 8.6%	1 .5 %	15 7.6%	33 16.7%
Social	4 2.0%	7 3.5%	6 3.0%	6 3.0%	23 11.6%
Inst Com- petence	12 6.1%	3 1.5%	2 1.0%	4 2.0%	21 10.6%
Other	22 11.1%	6 3.0%	18 9.1%	7 3.5 %	53 26.8 %
Missing	3 0%	3 0%	5 0%	4 0 %	15 0%
Column Total	53 26.8%	47 23.7%	47 23.7 %	51 25.8 %	198 100.0 %

If we gave one point for the level of "poor", two points for "fair", three points for "good", and four points for "great", we would have one mean score for each subgroup. American doctoral would have the highest mean score of rank - 2.81, followed by foreign doctoral - 2.76, American master's - 2.73, and foreign master's - 2.54. These were between fair and good.

Table XV

Distribution of Sample by Rank of the Overall Instruction
at Oregon State University and Subgroups

Rank	AM	FM	AD	FD	Row Total
Poor	1 .5%	1 .5%	2 .9%	0 0%	4 1.9%
Fair	15 7.1%	22 10.4%	10 4.7%	17 8.0%	64 30.2%
Good	37 17.5%	26 12.3%	36 17.0%	34 16.0%	133 62.7%
Great	2 .9%	1 .5%	4 1.5%	4 1.9%	11 5.2%
Missing	1 0%	0 0%	0 0%	0 0%	1 0%
Column Total	55 25.9%	50 23.9%	52 24.5%	55 25.9%	212 100.0%

Number of Missing Observations = 1

Test of Null Hypotheses

There were three null hypotheses stated in Chapter III. Ho1 compared student responses in the area of academic experiences through ten situations. Ho2 compared students' estimate of gain in five areas. Ho3 compared students' personal characteristics. Ho1 and Ho2, which were composed of categorical data, were tested by loglinear model, and Ho3 was tested by loglinear model and two-factor analysis of variance. The results are the following:

H₀₁: There is no significant difference in response in the area of college academic experience between American and foreign graduate students.

The process of testing H₀₁ was to establish ten situations related to students academic experiences, with a comparison made in each situation. There were four possible responses listed under each situation. Students were asked to circle one number for each possible response from a scale of 1-5 that indicated the frequency of their responses, with "1" representing "Very Infrequently" and "5" representing "Very Frequently".

Situation 1: When you do not understand what an instructor says during a lecture, how frequently do you take each of the following actions?

- a. Ask a student about it
- b. Study it by yourself
- c. Ask the instructor about it
- d. Leave it there

Test statistic for Situation 1.

Re- sponse	P-value for		P-value for		NR		DR	
	$\chi^2_{DR} = \chi^2_{NR}$	$\lambda_{DNR} = 0$	χ^2_{DNR}	$\lambda = 0$	Test χ^2	df	Test χ^2	df
a	0.05	0.05			9.29	5	4.81	5
					P > .05		P > .30	
b	0.06	0.03			-		-	
c	0.17	0.09			4.41	5	5.52	5
					P > .30		P > .30	
d	0.05	0.57			18.17	5	3.26	5
					P < .01**		P > .50	

The testing result of possible responses a, b, and c was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign graduate students in response to these three areas. The distribution of these three responses were independent of the explanatory variables, nationality and degree program.

But the test result of response d, "leave it there", was to reject the null hypothesis by main factor-nationality at .01 level of significance. This could be interpreted that there was significant difference between American and foreign students in their choice of this particular response. The distribution of response d was dependent upon nationality only, not upon degree program.

According to the frequency table (Appendix E), there were 11 (50%) American and 11 (50%) foreign students who indicated that they had never responded to situation 1 by "leaving it there". A tendency was shown for foreign students to scale on "1"-Very Infrequently (66, 54.1%) and "5"-Very Frequently (5, 100%), more than American students (56, 45.9%; 0, 0.0%). There were more American students (41, 70.0%) who scaled on 2, 3, and 4 on the scale of 1-5 than foreign students (18, 30.0%).

Situation 2: When you are in a class, how frequently do you take each of the following actions?

- a. Listen attentively
- b. Take good notes

- c. Do work for other classes
- d. Go to sleep

Test result of possible responses a and d was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign students in the choice of listening attentively and going to sleep. The distribution of response a and d were independent of explanatory factors.

Test statistic for Situation 2

Re- sponse	P-value for $\lambda_{DR} = \lambda_{NR}$	P-value for $\lambda_{DNR} = 0$	Test $\lambda_{NR} = 0$ G^2 , df P-value	Test $\lambda_{DR} = 0$ G^2 , df P-value
a	0.15	0.91	6.79 3 P > .05	6.23 3 P > .05
b.	0.01 **	0.36	19.04 4 P < .01 **	3.11 4 P > .30
c.	0.05*	0.31	14.28 5 P < .05*	4.74 5 P > .30
d.	0.30	0.33	7.79 4 P > .05	1.63 4 P > .80

The test result of response b was to reject the null hypothesis by main factor-nationality at .01 level of significance. The test result of response c was to reject the null hypothesis by main factor-nationality at .05 level of significance. These could be interpreted that there were significant differences between American and foreign graduate students in choosing to take good notes and do work for other classes. The distribution of responses b and c were dependent upon nationality only, not upon degree program.

According to the frequency table (Appendix E), there were more American students (98, 59.1%) very frequently taking good notes than foreign students (69, 40.9%). There were more foreign students (8, 80.0%) very infrequently taking good notes than American students (2, 20.0%). There were 1 (0.5%) American and 9 (4.4%) foreign students who had never responded to situation 2 by response c. There were more American students (102, 54.0%) very infrequently doing works for other classes than foreign students (87, 46.0%). There were very small groups of American (2, 50.0%) and foreign students (2, 50.0%) very frequently doing work for other classes.

Situation 3: When you prepare for your quizzes and examinations, how frequently do you take each of the following actions?

- a. Plan ahead and set a schedule for studying
- b. Study with friends
- c. Do a short review before the test
- d. Try to catch up (cram)

The test result of possible responses a and c was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign graduate students in planning ahead and setting a schedule for studying, and doing a short review before the test. The distribution of responses a and c were independent of explanatory factors.

Test Statistic for Situation 3

Re- sponse	P-value for DR λ	NR $=\lambda$	DNR $=\lambda$	P-value for DNR $=0$	Test G ² , P-value	NR= df	Test G ² , P-value	DR= df
a		0.62		0.97	3.93 P > .20	4	5.21 P > .20	4
b		0.13		0.89	13.79 P < .05*	5	6.06 P > .20	5
c		0.45		0.12	4.74 P > .30	5	1.61 P > .80	5
d		0.01 **		0.37	17.15 P < .01**	5	7.65 P > .10	5

The test result of response b was to reject the null hypothesis by main factor-nationality at .05 level of significance. This could be interpreted that there was significant difference between American and foreign students in the choice of studying with friends. The distribution of response b was dependent upon nationality only, not degree program.

The test result of response d was to reject null hypothesis by main factor-nationality at .01 level of significance. This could be interpreted that there was significant difference between American and foreign students in the choice of trying to catch up (cramming). The distribution of response d was dependent upon nationality only, not degree program.

According to the frequency table (Appendix E), there was a tendency shown that, when they prepare for their quizzes and examinations, more foreign students (21, 61.8%) than American students (13,

38.2%) very frequently studied with friends. There were more American students (81, 59.6%) than foreign students (55, 40.4%) very infrequently study with friends. There were 7(3.3%) foreign students who had never responded to Situation 3 by response d. More American students (55, 61.1%) than foreign students (35, 38.9%) very frequently tried to catch up. More foreign students (57, 51.8%) than American students (53, 48.2%) very infrequently tried to catch up.

Situation 4: When you disagree with your instructor about your grade on a paper or test, how frequently do you take each of the following actions?

- a. Complain about this to your friends
- b. Decide to do nothing
- c. Discuss this with the instructor and try to straighten it out
- d. Go to see the instructor's superior

Test Statistic for Situation 4

Re- sponse	P-value for $\lambda^{DR} = \lambda^{NR} = \lambda^{DNR} = 0$	P-value for $\lambda^{DNR} = 0$	Test $\lambda^{NR} = 0$ G^2 , df P-value	Test $\lambda^{DR} = 0$ G^2 , df P-value
a	0.002 **	0.0003 **	-	-
b	0.007 **	0.43	14.66 5 P < .05*	12.56 5 P < .05*
c	0.04 *	0.52	15.88 5 P < .01**	5.77 5 P > .30
d	0.001 **	0.02 *	-	-

The test result of responses a and d was to reject the null hypothesis at .01 level of significance. Because the analysis of loglinear model examined that three factor interaction can not be dropped, there was no further testing needed. This could be interpreted that there were significant differences between American and foreign students in response a and d. The distribution of response a and d were dependent upon both nationality and degree program.

The test result of response b was to reject the null hypothesis by both nationality and degree program, at .05 level of significance. This could be interpreted that there was significant difference between American and foreign students in response b. The distinction of response b was dependent upon nationality within each degree program. There were 15 (7.2%) American and 30 (14.5%) foreign students who had never responded to Situation 4 by response b.

According to the frequency table (Appendix E), there were more foreign students (21, 53.8%) than American students (18, 46.2%) who very frequently decided to do nothing. There were more American students (52, 59.1%) than foreign students (36, 40.9%) who very infrequently decided to do nothing.

The test result of response c was to reject the null hypothesis by main factor-nationality at .01 level of significance. This could be interpreted that there was significant difference between American and foreign students in response c. The distribution of response c was dependent upon nationality only, not upon degree program.

There were 15 (7.1%) American and 26 (12.3%) foreign students who had never responded to Situation 4 by response c. There were more American students (49, 53.3%) than foreign students (43, 46.7%) who very frequently discussed it with the instructor and tried to straighten it out. There were more foreign students (25, 58.1%) than American students (18, 41.9%) who very infrequently discussed it with the instructor and tried to straighten it out.

Situation 5: When you write a paper or essay for your class requirement, how frequently do you take each of the following actions?

- a. Write a rough draft and then revise it two or more times before turning it in
- b. Ask an instructor or other person to review the draft before rewrite it
- c. Write it carefully the first time
- d. write it in a hurry and turn it in without worrying too much about it

Test statistic for Situation 5

Re- sponse	DR λ	P-value for NR $\lambda = \lambda = \lambda = 0$	P-value for DNR $\lambda = 0$	Test $\lambda^{NR=0}$ G^2 , df P-value	Test $\lambda^{DR=0}$ G^2 , df P-value
a		0.43	0.65	10.33 5 P > .05	1.66 5 P > .80
b		0.06	0.58	12.62 5 P < .05*	7.24 5 P > .20
c		0.16	0.20	8.36 5 P > .10	4.44 5 P > .30
d		0.008 **	0.25	10.92 5 P < .05*	10.50 4 P < .05*

The test result of responses a and c was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign students in the decision to write a rough draft and then revise it two or more times before turning it in, and decision to ask an instructor or other person to review the draft before rewriting it. The distribution of response a and c were independent of nationality and degree program.

The test result of response b was to reject the null hypothesis by main factor-nationality at .05 level of significance. The test result of response d was to reject the null hypothesis by both main factor-nationality and co-factor-degree program at .05 level of significance. These could be interpreted that there was a significant difference between American and foreign students in the decision to ask an instructor or other person to review the draft before rewriting it, and the decision to write it in a hurry and turn it in without worrying too much about it. The distribution of response b was dependent upon nationality only, not degree program. The distribution of response d was dependent upon nationality within each degree program.

According to the frequency table (Appendix E), there were 6 (31.6%) American students and 13 (68.4%) foreign students who indicated that they had never responded to Situation 5 by response b. There were more foreign students (29, 61.7%) than American students (18, 38.3%) who very frequently asked an instructor or other person to review the draft before rewriting it. There were more American

students (74, 55.6%) than foreign students (59, 44.4%) who very infrequently asked an instructor or other person to review the draft before rewriting it.

There were 5 (23.8%) American students and 16 (76.2%) foreign students who indicated that they had never responded to Situation 5 by response d. There were more American students (92, 54.4%) than foreign students (77, 45.6%) who very infrequently write it in a hurry and turn it in without worrying too much about it. There were more American students (11, 64.7%) than foreign students (6, 35.3%) who very frequently write it in a hurry and turn it in without worrying too much about it.

Situation 6: When you go to the library, how frequently do you take each of the following actions?

- a. Find a quiet place to read or study materials you bring
- b. Take along materials assigned for the course
- c. Research ideas, look for further reference
- d. Make photo copies of materials

The test result of responses a, b, c, and d was to accept the null hypothesis (Appendix E). This could be interpreted that there was no significant difference between American and foreign students in finding a quiet place to read or study materials they bring, taking along materials assigned for the course, researching ideas,

Test Statistic for Situation 6

Re sponse	P-value for			P-value for		NR		DR	
	DR	NR	DNR	DRN	DRN	Test $\lambda = 0$	Test $\lambda = 0$	Test $\lambda = 0$	Test $\lambda = 0$
	λ	$= \lambda$	$= \lambda$	$= 0$	$\lambda = 0$	G^2 , df	G^2 , df	G^2 , df	G^2 , df
						P-value	P-value	P-value	P-value
a		0.87			0.89	4.02 5 P > .50	3.63 5 P > .50		
b		0.28			0.48	10.90 6 P > .05	2.40 6 P > .80		
c		0.32			0.29	8.62 5 P > .10	2.38 5 P > .70		
d		0.89			0.76	2.85 5 P > .70	3.15 5 P > .50		

looking for further reference, and making photo copies of materials. The distribution of responses a, b, c, and d were independent of the explanatory factors.

Situation 7: Thinking about your relationship with faculty members, how frequently do you take each of the following actions?

- Ask instructional questions right after class
- Ask academic problems during office hours
- Make appointments other than office hours to discuss academic ideas or questions
- Visit informally about non-academic matters

Test Statistic for Situation 7

Re- sponse	P-value for			P-value for		NR Test $\lambda = 0$		DR Test $\lambda = 0$	
	DR λ	NR λ	DNR λ	DNR λ	DNR λ	G^2 , df P-value	G^2 , df P-value	G^2 , df P-value	G^2 , df P-value
a		0.03 *			0.23	16.51 5 P < .01**	2.92 5 P > .70		
b		0.35			0.70	10.24 5 P > .05	2.96 5 P > .70		
c		0.29			0.51	10.76 5 P > .05	2.21 5 P > .80		
d		0.14			0.81	13.57 5 P < .05*	4.79 5 P > .30		

The test result of responses b and c was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign students in their relationship with faculty members either in asking above academic questions during office hours and making appointments other than office hours to discuss academic ideas or questions. The distribution of responses b and c were independent of explanatory factors.

The test result of response a was to reject the null hypothesis by main factor-nationality at .01 level of significance. The test result of response d was to reject the null hypothesis by main factor-nationality at .05 level of significance. These could be interpreted that there were significant differences between Ad F graduate students in response a and d. The distribution of response a and d were dependent upon main factor-nationality only, not upon the degree program.

Regarding the relationship with faculty members in asking instructional questions right after class (Appendix E), there were more American students (38, 52.8%) than foreign students (34, 47.2%) who very frequently ask instructional questions right after class. There were more American students (38, 55.1%) than foreign students (31, 44.9%) who very infrequently responded the same way. There were 2 (16.7%) American students and 10 (83.3%) foreign students who indicated that they had never been responded to Situation 7 by response a.

In the matter of visiting informally about non-academic matters, there were 2 (18.2%) American students and 9 (81.8%) foreign students who indicated that they had never responded to situation 7 by response d. There were more American students (22, 57.9%) than foreign students (16, 42.1%) who very frequently visited faculty members informally about non-academic matters. There were more foreign students (60, 50.8%) than American students (58, 49.2%) who very infrequently visited faculty members informally about non-academic matters.

Situation 8: When you deal with faculty members, how frequently do you think they respond to you in each of the following actions?

- a. Is friendly but not very helpful
- b. Sends you to some other people
- c. Responds briefly and quickly
- d. Tries his or her best to assist you and is helpful

Test Statistic for Situation 8

Re- sponse	P-value for			P-value for	NR		DR	
	DR λ	NR λ	DNR λ	DNR λ	Test G^2 , P-value	df	Test G^2 , P-value	df
a			0.003 **	0.046 *	-		-	
b			0.23	0.22	10.04 P > .05	5	1.98 P > .80	5
c			0.11	0.27	9.29 P > .05	5	6.83 P > .20	5
d			0.09	0.64	11.67 P < .05*	4	4.65 P > .30	4

The test result of responses b and c was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign students in response b and c. The distribution of b and c was independent of explanatory factors.

The test result of response a was to reject the null hypothesis at .01 level of significance. Because the analysis of loglinear model examined that three factors interaction cannot be dropped, there was no further testing needed. This could be interpreted that there was significant difference between American and foreign students in response a. The distribution of response a was dependent upon nationality and degree programs.

According to the frequency table (Appendix E), there were 3 (27.3%) American and 8 (72.7%) foreign students who pointed out that they had never responded to Situation 8 by response a. There were

more foreign students (16, 69.6%) than American students (7, 30.4%) who very frequently thought that faculty members responded to them in a friendly but not very helpful way. There were more American students (69, 65.1%) than foreign students (37, 74.9%) who very infrequently thought that faculty members responded to them in a friendly but not very helpful way.

The test result of response d was to reject the null hypothesis at .05 level of significance by main factor-nationality. This could be interpreted that there was significant difference between American and foreign students in response d. The distribution of response d was dependent upon nationality only, not upon the degree program.

There were 2 (20.0%) American and 8 (80.0%) foreign students who indicated that they had never responded to Situation 8 by response d. There were more American students (82, 57.7%) than foreign students (60, 42.3%) who very frequently thought the faculty members responded to them by trying their best to assist them and be helpful. There were more foreign students (12, 75.0%) than American students (4, 25.0%) who very infrequently thought faculty members tried their best to assist them and be helpful.

Situation 9: When you are dissatisfied with instruction in your current program, how frequently do you take each of the following actions?

- a. Complain about the instructor to friends
- b. Blame curriculum or program

c. Think about changing academic fields

d. Talk to a counselor or a specialist

Test Statistic for Situation 9

Re- sponse	P-value for			P-value for DNR $\lambda = 0$	Test $\chi^2_{NR=0}$		Test $\chi^2_{DR=0}$	
	DR λ	NR λ	DNR $\lambda = 0$		G^2 , P-value	df	G^2 , P-value	df
a		0.23		0.11	7.07 P > .10	4	0.59 P > .95	4
b		0.68		0.61	1.33 P > .80	4	5.18 P > .20	4
c		0.005 **		0.56	16.48 P < .01**	4	7.81 P > .05	4
d		0.001 **		0.16	18.72 P < .01**	4	6.34 P > .10	4

The test result of responses a and b was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign students in complaining about the instructor to friends and blaming curriculum or program. The distribution of responses a and b were independent of explanatory factors.

The test result of response c was to reject the null hypothesis by nationality at .01 level of significance. This could be interpreted that there was significant difference between American and foreign students in thinking about changing academic fields. The distribution of response c was dependent upon main factor-nationality

According to the frequency table (Appendix E), there were 12 (31.6%) foreign students and 26 (68.4%) American students who pointed

out that they had never responded to Situation 9 by response c. There were more foreign students (14, 63.6%) than American students (8, 36.4%) who very frequently thought about changing academic fields. There were more American students (83, 63.8%) than foreign students (47, 36.2%) who very infrequently thought about changing academic fields.

The test result of response d was to reject the null hypothesis by main factor-nationality at .01 level of significance. This could be interpreted that there was significant difference between American and foreign students in deciding to talk to a counselor or specialist. The distribution of response d was dependent upon nationality only, not upon the degree program.

There were 12 American (32.4%) and 25 (67.6%) foreign students who indicated that they had never responded to Situation 9 by response d. There were more foreign students (12, 92.3%) than American students (1, 7.7%) who very frequently talked to a counselor or a specialist. There were more American students (88, 62.4%) than foreign students (53, 37.6%) who very infrequently talked to a counselor or a specialist.

Situation 10: Thinking about your own educational objectives, how important are each of the following to you?

- a. Self-satisfaction
- b. Vocational satisfaction
- c. Family expectation
- d. Social expectation

Students were asked to circle one number for each item, with a 1-5 scale which has "1" representing "Haven't thought about it", "2" representing "Not at all", "3" representing "Not too important", "4" representing "Somewhat important", and "5" representing "Very important".

The test result of responses a and d was to reject the null hypothesis by nationality at .01 level of significance. The test result of responses b and c was to reject the null hypothesis by nationality at .05 level of significance. This could be interpreted that there was significant differences between American and foreign students in the importance they attached to all four educational Test Statistic for Situation 10

Re- sponse	P-value for			P-value for DNR $\lambda = 0$	Test $\lambda^{NR=0}$		Test $\lambda^{DR=0}$	
	DR λ	NR $= \lambda$	DNR $= \lambda$		G^2 , df	P-value	G^2 , df	P-value
a	0.001	**		0.96	27.44	4 P < .01**	4.40	4 P > .20
b	0.05	*		0.18	14.03	5 P < .05 *	1.83	5 P > .80
c	0.04	*		0.10	12.57	4 P < .05 *	1.74	4 P > .80
d	0.07			0.61	15.05	4 P < .01**	2.06	4 P > .80

objectives. The distribution of responses a, b, c, and d was dependent upon nationality only, not upon the degree program.

According to the frequency table (Appendix E), there were 90 (60.7%) American students and 62 (39.3%) foreign students who indi-

cated that self-satisfaction was very important. There were 12 (28.0%) American students and 31 (72.0%) foreign students who indicated it was somewhat important. There were only 8 (100.0 %) foreign students and no American students who circled level 3 and lower.

Regarding vocational satisfaction, there were 68 (64.1%) American students and 38 (35.9%) foreign students who indicated it was very important. There were 35 (45.5%) American and 42 (54.4%) foreign students who indicated it was somewhat important. Five (25.0%) American and 15 (75.0%) foreign students circled level 3 and lower.

Concerning family expectation, 11 (33.3%) American and 22 (66.7%) foreign students pointed out that it was very important, 32 (45.1%) American and 39 (54.9%) foreign students pointed out that it was somewhat important, and 35 (62.5%) American and 21 (37.5%) foreign students thought it was not too important. There were 29 (64.4%) American and 16 (35.6%) foreign students who thought "Not at all" or hadn't thought about it.

Regarding social expectation, there were 6 (26.1%) American and 17 (73.9%) foreign students who thought it was very important. There were 27 (42.9%) American and 36 (57.1%) foreign students who thought it was somewhat important. There were 75 (62.5%) American and 45 (37.5%) foreign students who thought it was not too important, or "Not at all", or hadn't thought about it.

Ho2: There is no significant difference in the estimate of gain between American and foreign graduate students

The process of testing Ho2 was to test all five areas which were stated in Chapter III:

- a) vocational training, acquiring knowledge and skill applicable to a career;
- b) ability to think analytically and logically and to put ideas together;
- c) understanding other people and the ability to get along with different kinds of people;
- d) gaining a broad general education about different fields of knowledge;
- e) broadening the acquaintance and enjoyment of different philosophies, cultures, and ways of life.

Students were asked to circle one number from a scale of 1-5 that indicated the level of gain and progress, with "1" representing "Very little gain", "5" representing "Very large gain".

The test result of gain a and b was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign students when estimating their gains in the area of vocational training and ability to think analytically and logically and to put ideas together. The distribution of gain a and b were independent of explanatory factors.

Test Statistic for Ho2

Re- sponse	P-value for $\lambda^{DR} = \lambda^{NR} = \lambda^{DNR}=0$	P-value for $\lambda^{DNR}=0$	Test $\lambda^{NR}=0$ G^2 , df P-value	Test $\lambda^{DR}=0$ G^2 , df P-value
a	0.29	0.71	4.09 4 P > .50	9.27 4 P > .05
b	0.60	0.97	7.34 4 P > .10	2.05 4 P > .70
c	0.20	0.49	10.96 4 P < .05*	1.50 4 P > .90
d	0.02 *	0.53	15.04 4 P < .05*	2.09 4 P > .70
e	0.04 *	0.30	15.04 4 P < .05*	2.09 4 P > .70

The test result of gain c, d, and e was to reject the null hypothesis by main factor-nationality at .05 level of significance. These could be interpreted that there were significant differences between American and foreign students in the area of gain c,d,and e.

According to the frequency table (Appendix E), more foreign students (59, 56.2%) than American students (46, 43.8%) indicated that they had very large gains in area c. More American students (25, 64.1%) than foreign students (14, 35.9%) indicated that they had very little gain.

Regarding area d, more foreign students (45, 65.3%) than American students (35, 43.9%) indicated that they had very large gains. More American students (40, 59.7%) than foreign students (27, 40.3%) indicated that they had very little gain.

In the area of e, more foreign students (46, 61.3%) than American students (28, 38.7%) indicated that they had very large gains. More American students (52, 65.8%) than foreign students (27, 34.2%) indicated that they had very little gain.

Ho3: There is no significant difference in the area of background information between American and foreign graduate students.

The process of testing Ho3 was to gather all information from student questionnaires which were stated in Chapter III. The test results were as follows:

School of major

The test result regarding school of major was to reject the null hypothesis by main factor-nationality at .01 level of significance. This could be interpreted that there was significant difference between American and foreign students in their school of major. The

Sex

The test result regarding the sex variable was to reject the null hypothesis by nationality at .05 level of significance. This could be interpreted that there was significant difference between American and foreign students in the variable of sex. The distribution of sex was dependent upon nationality only, not upon degree program.

Test Statistic for Ho3

Variable	P-value for $\lambda^{DR} = \lambda^{NR} = \lambda^{DNR} = 0$	P-value for $\lambda^{DNR} = 0$	Test $\lambda^{NR} = 0$ G^2 , df P-value	Test $\lambda^{DR} = 0$ G^2 , df P-value
School of major	0.001**	.15	27.8 4 P < .01**	5.2 4 P > .20
Sex	0.02*	.79	5.61 1 P < .05*	3.72 1 P > .05
G.P.A.	0.14*	.46	8.85 4 P < .05*	13.75 4 P < .05*
Marital status	0.3*	.04*	-	-
Most diffi- cult problem	.000**	.20	53.80 4 P < .001**	5.47 4 P > .20
Rank of over- all instruction	.20	.55	5.81 3 P > .10	4.60 3 P .10

distribution of schools was dependent upon nationality only, not upon degree program.

Length of stay at Oregon State University

The test result regarding length of stay at Oregon State University was to reject the null hypothesis by nationality at .05 level of significance, and by degree program at .01 level of significance. This could be interpreted that there were significant differences between American and foreign students within each program. The distribution of length of stay at Oregon State University was dependent upon both nationality and degree program.

Credit hours

The test result regarding credit hours was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign graduate students in the number of credit hours they carried when the survey was administered.

G.P.A.

The test result regarding G.P.A. was to reject the null hypothesis by both nationality and degree program at .05 level of significance. This could be interpreted that there was significant difference between American and foreign students in their G.P.A. The distribution of G.P.A. was dependent upon nationality within each degree program.

Marital status

The test result regarding marital status was to reject the null hypothesis at .05 level of significance. Because the loglinear model examined that the three factors' interaction cannot be dropped, there was no further testing needed. This could be interpreted that there was significant difference between American and foreign students in marital status. The distribution of marital status was dependent upon both nationality and degree program.

Age

The test result regarding age was to reject the null hypothesis by degree program at .01 level of significance. This could be interpreted that there was significant difference between American and foreign students in the variable of age. The distribution of age was dependent upon the degree program only, not upon nationality.

Weekly study hours

The test result regarding weekly study hours was to reject the null hypothesis by nationality at .05 level of significance. This could be interpreted that there was significant difference between American and foreign students in the average hours spent on activities related to school work every week. The distribution of study hours was dependent upon nationality only, not upon the degree program.

Weekly hours work for pay

The test result regarding hours spend working for pay every week was to reject the null hypothesis by nationality at .01 level of significance. This could be interpreted that there was significant difference between American and foreign students in the hours spent working for pay. Its distribution was dependent upon nationality only, not upon the degree program.

Problems

The test result regarding problems was to reject the null hypothesis by nationality at .001 level of significance. This could be interpreted that there was significant difference between American and foreign students in their problems. The distribution of problems was dependent upon nationality only, not upon the degree program.

Rank of overall instruction at Oregon State University

The test result of rank of overall instruction was to accept the null hypothesis. This could be interpreted that there was no significant difference between American and foreign students in the way they ranked the overall instruction. The distribution of rank was independent of explanatory factors.

CHAPTER V

SUMMARY, CONCLUSIONS AND DISCUSSION

The purpose of this study was to examine and compare American and foreign graduate students' academic experiences at Oregon State University, to find out whether there was some difference in the way they set their academic work; thereby providing background information for a better understanding of how students can and should allocate their efforts in advanced degree programs, as well as highlighting differences between American and foreign students.

Summary

Procedures and Data Analysis

A total of 260 students were randomly selected from the graduate student population in Winter Term, 1982, at Oregon State University. The sample was equally divided into four subgroups, based on nationality and degree program.

A survey questionnaire was developed as an instrument and administered to the sample during March and May 1982. There were three stages in the mailing, to insure that students did receive a copy of the questionnaire and understood the purpose of the study. A total of 213 completed questionnaires were returned, an 81.9x% response rate.

The information from students' questionnaires was compiled into tables in Chapter IV. The three null hypotheses in the study were tested by loglinear model and two-factor analysis of variance. The 0.05 and 0.01 level of significance were used to compare the difference between American and foreign graduate students in the hypothetical areas.

Findings of the Demographic Data

Within the foreign student group, there were more students who came from Asian and Mid East countries than European, North American, and Latin American countries. The majority of foreign students majored in the area of sciences and technology. In the area of sciences, there were 36 American and 27 foreign students, 29.5% of the whole sample. In the School of Engineering, there were 9 American and 41 foreign students, 24.4% of the whole sample.

In general, the number of male students in the study was much greater than the number of female students. This happened to be true in both the American and foreign group. The difference was bigger in the doctoral program than the master's, bigger in the foreign than in the American group.

Doctoral students had a higher mean of terms of stay at Oregon State University than master's students. The number of terms American doctoral students spent was 1.8 times that of American master's students. The number of terms foreign doctoral students spent was 1.9 times that of foreign master's students. Both foreign master's

and doctoral students spent more terms than American students in the same level of program.

The average number of credit hours which all students in the sample took in Winter term, 1982, was 10.12. Of the four subgroups all had an average close to and higher than 10.12, except the American master's which had a mean of 9.11.

Foreign doctoral students' G.P.A. was comparable with that of American master's and American doctoral students. Only the G.P.A. of foreign master's was lower than that of the other three groups. But the percentage of those with an unsatisfactory G.P.A. in the foreign group was lower than that of the American group.

In the American group, there was a very close proportion of those students who were married and not married. In the foreign group, there were more unmarried master's students than those who were married: by contrast, there were more doctoral students married than not married.

The average age in the doctoral program was higher than in the master's program in both American and foreign groups. But the overall age of foreign students was a little younger than that of the American students in the same level of program.

The average hours that foreign master's students spent on activities related to academic work every week was 52.02; it was 5.04 hours higher than foreign doctoral students, 10.01 hours higher than American master's students, and 10.79 hours higher than American doctoral students. The average hours of foreign master's students spent

on work for pay every week was 7.98. This was the lowest mean compared to the other three groups; it was 4.38 hours lower than foreign doctoral students, 13.63 hours lower than American master's students, and 26.1 hours lower than American doctoral students.

There was a tendency for foreign students to spend more time in academic work and less time in work for pay compared to American students in the same level of program. Within both the American and foreign students' group, master's students spent more time in academic work and less time in working for pay than doctoral students.

The most difficult problem in the foreign master's group was language, followed by financial problems, social relations, and competency of instructors. Although the language problem was severe, instructional competence was apparently not considered a very serious problem.

Foreign doctoral students suffered most from financial problems, with the language problem second. Social relations, instructional competence, and other problems were not really severe.

Within American master's and doctoral groups, the financial problem was the most difficult. No language problem was mentioned by American master's students; only one American doctoral student picked language as the most difficult problem. Social relations was not a severe problem for American groups. A greater number of American master's students mentioned instructional competence as the most difficult problem compared to the other three groups. There were quite a few students in the American master's and doctoral group who

specified "other" problems compared to the foreign group. Twenty-four students mentioned that managing time for both academic works and family, social, and leisure life was the most difficult problem.

More American students than foreign students stated that self-satisfaction and vocational satisfaction was very important. More foreign students than American students stated that family expectation and social expectation were very important.

Results of the Null Hypotheses

There were 10 questions in H₀₁ which considered 10 situations related to academic experiences. Each situation had four possible responses.

Situation 1: When you do not understand what an instructor says during a lecture, how frequently do you take each of the following actions:

- a. Ask a student about it
- b. Study it by yourself
- c. Ask the instructor about it
- d. Leave it there

H₀₁ was accepted in response a, b, and c, and rejected in response d, sponsored by main factor-nationality. There was no significant difference between American and foreign graduate students in the responses, asking a student about it, studying it yourself, and asking the instructor about it. There was significant difference in

the fourth response, "leaving it there." Majority of American and foreign graduate students very infrequently "leave the problem there." No American responded to situation 1 by "leaving it there" very frequently. A small group of foreign students either very infrequently or very frequently responded "leave it there", and this happened in foreign master's student groups more often than foreign doctoral group.

Situation 2: When you are in a class, how frequently do you take each of the following actions?

- a. Listen attentively
- b. Take good notes
- c. Do work for other classes
- d. Go to sleep

Hol was accepted in response a and d, and rejected in response b and c by main factor-nationality. There was no significant difference between American and foreign graduate students in the responses, listening attentively and going to sleep. There were significant differences in the responses, taking good notes and doing work for other classes. American students were frequently taking good notes and infrequently doing work for other classes compared to foreign students.

Situation 3: When you prepare for your quizzes and examinations, how frequently do you take each of the following actions?

- a. Plan ahead and set a schedule for studying
- b. Study with friends
- c. Do a short review before the test
- d. Try to catch up (cram)

Hol was accepted in response a and c, and rejected in response b and d by main factor-nationality. There was no significant difference between American and foreign graduate students in the responses, planning ahead and setting a schedule for studying and doing a short review before the test. There were significant differences in the responses, studying with friends and trying to catch up. More foreign students frequently studied with friends compared to American students. More American students frequently "tried to catch up."

Situation 4: When you disagree with your instructor about your grade on a paper or test, how frequently do you take each of the following actions?

- a. Complain about this to your friends
- b. Decide to do nothing
- c. discuss this with the instructor and try to straighten it out
- d. go to see the instructor's superior

Hol was rejected in response a, b and d by both main factor-nationality and co-factor-degree program, and rejected in response c

by main factor-nationality only. There were significant differences between American and foreign students within each degree program, in the response, complaining about this to friends, deciding to do nothing, and going to see the instructor's superior. There were significant differences between American and foreign graduate students in the response of discussing this with the instructor and trying to straighten it out.

Foreign master's and American doctoral students very frequently complained about this to their friends compared to foreign doctoral and American master's students. More foreign master's and American master's students decided to do nothing about it compared to American students. American students frequently discussed it with the instructor and tried to straighten it out. No American students responded by very frequently going to see the instructor's superior. By contrast, five foreign students responded by very frequently going to see the instructor's superior.

Situation 5: When you write a paper or essay for your class requirement, how frequently do you take each of the following actions?

- a. Write a rough draft and then revise it two or more times before turning it in
- b. Ask an instructor or other person to review the draft before rewriting it
- c. Write it carefully the first time
- d. Write it in a hurry and turn it in without worrying too much about it.

Hol was accepted in response a and c, and rejected in response b by main factor-nationality, in response d by both nationality and degree program. There was no significant difference in the response of writing a rough draft and then revising it two or more times before turning it in, and writing it carefully the first time. There was significant difference between American and foreign graduate students in the response, asking an instructor or other person to review the draft before rewriting it. There was significant difference between American and foreign students within each degree program in the response, writing it in a hurry and turning it in without worrying too much about it.

Foreign students had more tendency to very frequently ask an instructor or other person to review the draft before rewriting it. Foreign doctoral students had least tendency compared to American and foreign master's students to very frequently write it in a hurry and turn it in without worrying too much about it.

Situation 6: When you go to library, how frequently do you take each of the following actions?

- a. find a quiet place to read or study materials you bring
- b. take along materials assigned for the course
- c. research ideas, look for further reference
- d. make photo copies of materials

Hol was accepted by response a, b, c and d. There was no significant difference between American and foreign graduate students in the responses, finding a quiet place to read or study, taking along materials assigned for the course, researching ideas, looking for further references, and making photo copies of materials.

Situation 7: Thinking about your relationship with faculty members, how frequently do you take each of the following actions?

- a. Ask instructional questions right after class
- b. Ask academic problems during office hours
- c. Make appointments other than office hours to discuss academic ideas or questions
- d. Visit informally about non-academic matters

Hol was accepted in response b and c, and rejected in response a and d, by main factor-nationality. There was no significant difference between American and foreign graduate students in the response of asking academic questions during office hours and making appointments other than office hours to discuss academic ideas or questions. There were significant differences in the responses, asking instructional questions right after class and visiting informally about non-academic matters.

There was a tendency for more American students than foreign students very frequently to ask the instructor questions right after class and to visit faculty members informally about non-academic matters.

Situation 8: When you deal with faculty members, how frequently do you think they respond to you in each of the following actions?

- a. Is friendly but not very helpful
- b. Sends you to some other people
- c. Responds briefly and quickly
- d. Tries his or her best to assist you and is helpful

Hol was accepted in the response of b and c, and rejected in response a, by main factor-nationality, and co-factor-degree program, and rejected in response d by main factor-nationality. There was no significant difference between American and foreign graduate students in whether they thought that faculty members only responded briefly and quickly and sent students to some other people. There was significant difference between American and foreign students within each degree program in the response, being friendly but not very helpful. There was significant difference between American and foreign graduate students in the response, trying the best to assist student and being helpful.

More foreign students perceived faculty members as frequently being friendly but not very helpful. American students had a more positive attitude in that more American students frequently thought faculty members responded to them in the way of trying their best to assist them and be helpful.

Situation 9: When you are dissatisfied with instruction in your current program, how frequently do you take each of the following actions?

- a. Complain about the instructor to friends
- b. Blame curriculum or program
- c. Think about changing academic fields
- d. Talk to a counselor or a specialist

Hol was accepted in response a and b, and rejected in response c and d by main-factor-nationality. There was no significant difference between American and foreign graduate students in responses, complaining about the instructor to friends and blaming curriculum or program. There were significant differences in the responses, thinking about changing academic fields and talking to a counselor or a specialist.

Foreign students tended to think frequently about changing academic fields and to talk to a counselor or a specialist.

Situation 10: Thinking about your own educational objectives, how important are each of the following to you?

- a. self-satisfaction
- b. vocational satisfaction
- c. family expectation
- d. social expectation

Hol was rejected in response a, b, c, and d by main factor-nationality. There were significant differences between American and

foreign graduate students in the objectives of self-satisfaction, vocational satisfaction, family expectation, and social expectation. More American students indicated that self and vocational satisfaction were very important. More foreign students indicated that family and social expectation were very important.

There were five areas tested in Ho2 to determine students' estimate of gain. Ho2 was accepted in the areas a and b, and was rejected in the areas c, d, and e by main factor-nationality. There was no significant difference in the estimate of gain between American and foreign graduate students in the area of vocational training, and ability to think analytically and logically. There were significant differences in the estimate of gain between American and foreign graduate students in the area of understanding other people, gaining a broad general education, and broadening the acquaintance and enjoyment of different philosophies, cultures, and ways of life.

More foreign students indicated that there was a very large gain in these three areas.

There were 11 tests related to background information in Ho3. Two out of eleven tests accepted the null hypothesis and 9 tests rejected it. Ho3 was accepted in the area of number of credit hours and rank of overall instruction at Oregon State University, and was rejected in the areas: school of major, sex, length of stay at O.S.U., average hours of study, average hours of work for pay, and the most difficult problem by main factor-nationality; and was rejected in the area of age by co-factor-degree program only.

CONCLUSIONS AND DISCUSSION

Based on the findings of this study, one may conclude that there were some differences between American and foreign graduate students in the way they put their efforts into academic work. Significant differences existed in 9 situations out of 10 tested within Ho1, in 3 areas out of 5 tested within Ho2, and in 9 categories out of 11 tested within Ho3. Specifically, the results from this study suggest the following:

The foreign groups had a smaller proportion of female students than the American groups. There was a bigger percent of those who were not married among the foreign master's students and those who were married among the foreign doctoral students. These influenced the distribution of sex and marital status for the whole sample. Based on the mean of age in each group, foreign students were younger than American students in the same level of program; this made the mean age in the entire sample younger than the mean of American students.

Over 50% of foreign students in the sample came from Asian countries. We can see Oregon State University is very attractive to foreign students from eastern cultures. The greatest number of American students were majoring in Science, Agriculture, and Education. The majority of foreign students were majoring in Engineering and Sciences. Notably, in the School of Engineering, the number of foreign students was 2.3 times American in the master's program, and

10 times American in the doctoral program. It seems clear that foreign students would rather major in an area which does not involve a potential language problem. On the other hand, the good reputation achieved in science and technology in American higher education have been a very powerful force attractive to foreign students.

If we ask the question: "How do American and foreign students approach their academic work? We can see that foreign students, who come from a background of different cultures and languages to study at Oregon State University, use different ways to allocate their efforts in academic work compared to their American counterparts.

Specifically, what foreign students very frequently do compared to American students are the following:

When they do not understand what an instructor says during the lecture they tend to "leave it there." In a class, they might do work for other classes. They like to study with friends for tests; and they tend to do nothing if they receive a grade which they disagree with. They ask an instructor or other person to review the draft of paper or essay before rewriting it. They think that faculty members are not very helpful. When dissatisfied with the instruction for a certain program they often consider changing major fields.

What American students very frequently do compared to foreign students are the following:

In a class, they take good notes. They often try to "catch up" when they prepare for a test. They discuss a grade with the instructor and try to straighten it out if they disagree with it, they ask

instructional questions right after class, and visit faculty members informally about non-academic matters. They think that faculty members are helpful and try their best to assist students.

As we can see, it is not easy for foreign students to take good notes in a class. When they don't understand a lecture or disagree with a grade, they tend to do nothing about it. The relationship they have with faculty members is not quite open and positive as that of American students. It seems that many of the behavior responses of the foreign students can be traced directly back to their language problems. ✓

In the matter of the most difficult problem, both American master's and doctoral students had financial problems and problems with managing time well in both academic work and family life. Both foreign master's and doctoral students mentioned a language problem, which seems to be a common difficulty for most foreign students. There was no noticeable complaint about instructional competence. By contrast, no American master's students indicated language as the most difficult problem, but 12 (22.6% within the group) students picked instructional competence as the most difficult problem.

If we compared G.P.A. in four groups, American doctoral group had the highest G.P.A. followed by foreign doctoral, American master's, and foreign master's students. Even though foreign students had relatively lower G.P.A. compared to their American counterparts, G.P.A. of foreign doctoral students was comparable to the American doctoral group, who had the highest average of the four groups. And

the foreign master's students had no problem achieving the minimum G.P.A. required for the graduate program.

It goes without saying, the foreign students in this study have language problems which would still be the common problem for all foreign students. The findings of this study determine a great number of the differences between them and their American counterparts in the area of academic experiences. Some "survival skills" might directly relate to how they work out their disadvantage of language proficiency: namely: (1) extra work in writing, (2) studying with friends, (3) spending a great deal of time in school work and not in work for pay while they also face financial pressures.

Foreign master's students spent the highest amount of time in activities related to school work, and the least amount of time in work for pay. Foreign doctoral students spent the second highest amount of time in school work and second least amount of time work for pay. It is also true that foreign students spend longer time in their degree program, while at the same time carrying a greater number of credit hours during the term, compared to American students at the same level. It seems clear that foreign students need to study hard and long to be able to "survive" their academic programs. The differences encountered in their academic experiences led to an approach which is different from their American counterparts, to allocate their efforts into their academic work.

With respect to the estimate of gains, both American and foreign students seem to feel they have achieved large gains as a result of

their academic efforts, but foreign students are aware that they have received cultural and social enrichment simply as part of the experience of studying in a different country. A large group of foreign students estimated very large gain in three areas tested in Ho 2: understanding other people and the ability to get along with different kinds of people; gaining a broad general education about different fields of knowledge; broadening the acquaintance and enjoyment of different philosophies, cultures, and ways of life.

If we refer to American students' educational objectives, which emphasized vocational and self satisfaction, and foreign students' educational objectives, which emphasized social and family expectations, we may say that American students come to study at Oregon State University to fulfill individual and vocational goals, and foreign students study at Oregon State University to fulfill not only vocational goals, but family and social expectations as well. In addition, foreign students seem to realize very large gains in interpersonal relations, idea of diverse educations, philosophies, cultures, and ways of life.

Recommendation

In view of the findings of this study, following recommendations can be made for research, scholars, and foreign students.

1. There were four subgroups based on nationality and degree program in this study. Each subgroup was fix designed with an equal size of 65 students, however, the the proportions for the subgroups from the

respective subpopulation varied. Two alternative sampling methods might be considered: first, to select a certain sample size with an equal proportion to the respective subpopulation for each subgroup, second, randomly select a certain sample size from the whole population and then divide it into subgroups. 2. The three-stage mailing system used in this study achieved an 81.9% response rate. The three-stage mailing method is strongly recommended as a highly effective way in mail survey.

3. A face-to-face interview with each student in the sample is suggested. This might avoid misunderstanding of questions and reduce the possibility of missing data.

4. Through the finding of this study, there were certain differences between American and foreign graduate students in the way they put their efforts into academic work. There was a tendency shown in this study, foreign students spent a great deal of time in their school work. Further investigation should be conducted to determine how and why foreign students spent more time than American students in their school work.

5. A follow-up study to determine the dependence of all background variables upon academic experiences and estimate of gains should be considered.

6. Additional research should be developed to compare and determine the academic experiences and estimate of gains of foreign students, broken down by specific regions of the world, specific areas of study, and level of education.

7. For the systematic storing and retrieving of information in the area of international education and foreign students, the establishment of a centralized research institution is suggested.

8. Scholars who deal with foreign students may base on the information found from this study to develop proper approaches to academic advising and curriculum designing. Foreign students who are studying or planning to study abroad may base on the findings of this study to develop an adequate approach to the academic aspect of their learning experiences.

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Appendices

Appendix A

Approval from committee for protection of human subjects

OREGON STATE UNIVERSITY
Committee for Protection of Human Subjects

Summary of Review

TITLE: A Comparative Study of Academic Experiences of American and Foreign
Graduate Students at Oregon State University

PROGRAM DIRECTOR: Carvel W. Wood (Ming-Chu Mu Suen)

RECOMMENDATION:

- ☒ Approval
☐ Provisional Approval
☐ Disapproval
☐ No Action

REMARKS:

Redacted for Privacy

Date: January 20, 1982

Signature:

cc: Committee Chairman

mep

Rod. V. Frakes
Associate Dean of Research
Phone: 754-3439

Appendix B
Questionnaire

COLLEGE ACADEMIC EXPERIENCE SURVEY

INSTRUCTION:

In thinking over your experiences at O.S.U. up to now, how have you responded in each of the following situations? There are several possible responses listed below each situation, please answer each of the responses. Circle the number from 1-5 that indicates the frequency of your responses, with "1" representing "Very Infrequently" and "5" representing "Very Frequently".

1. WHEN YOU DO NOT UNDERSTAND WHAT AN INSTRUCTOR SAYS DURING A LECTURE, HOW FREQUENTLY DO YOU TAKE EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item). (IF YOU HAVE NEVER BEEN IN THIS SITUATION, PLEASE CHECK HERE _____, AND SKIP TO QUESTION 2).

	Very Infre- quently			Very fre- quently	
a. ask a student about it.....	1	2	3	4	5
b. study it by yourself.....	1	2	3	4	5
c. ask the instructor about it.....	1	2	3	4	5
d. leave it there.....	1	2	3	4	5
e. other (specify _____).					

2. WHEN YOU ARE IN A CLASS, HOW FREQUENTLY DO YOU TAKE EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item).

	Very Infre- quently			Very Fre- quently	
a. listen attentively.....	1	2	3	4	5
b. take good notes.....	1	2	3	4	5
c. do work for other classes.....	1	2	3	4	5
d. go to sleep.....	1	2	3	4	5
e. other (specify _____).					

3. WHEN YOU PREPARE FOR YOUR QUIZZES AND EXAMINATIONS, HOW FREQUENTLY DO YOU TAKE EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item).

	Very Infre- quently			Very Fre- quently	
a. plan ahead and set a schedule for studying....	1	2	3	4	5
b. study with friends.....	1	2	3	4	5
c. do a short review before the test.....	1	2	3	4	5
d. try to catch up (cram).....	1	2	3	4	5
e. other (specify _____).					

4. WHEN YOU DISAGREE WITH YOUR INSTRUCTOR ABOUT YOUR GRADE ON A PAPER OR TEST, HOW FREQUENTLY DO YOU TAKE EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item). (IF YOU HAVE NEVER BEEN IN THIS SITUATION, PLEASE CHECK HERE _____, AND GO TO QUESTION 5).

	Very Infre- quently			Very Fre- quently	
a. complain about this to your friends.....	1	2	3	4	5
b. decide to do nothing	1	2	3	4	5

- | | Very
Infre-
quently | 1 | 2 | 3 | 4 | 5 | Very
Fre-
quently |
|---|---------------------------|---|---|---|---|---|-------------------------|
| c. discuss this with the instructor and try to straighten it out..... | | 1 | 2 | 3 | 4 | 5 | |
| d. go to see the instructor's superior..... | | 1 | 2 | 3 | 4 | 5 | |
| e. other(specify_____). | | | | | | | |
5. WHEN YOU WRITE A PAPER OR ESSAY FOR YOUR CLASS REQUIREMENT, HOW FREQUENTLY DO YOU TAKE EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item). (IF YOU HAVE NEVER BEEN IN THIS SITUATION, PLEASE CHECK HERE _____, AND GO TO QUESTION 6.)
- | | Very
Infre-
quently | 1 | 2 | 3 | 4 | 5 | Very
Fre-
quently |
|---|---------------------------|---|---|---|---|---|-------------------------|
| a. write a rough draft and then revise it two or more times before turning it in..... | | 1 | 2 | 3 | 4 | 5 | |
| b. ask an instructor or other person to review the draft before rewriting it..... | | 1 | 2 | 3 | 4 | 5 | |
| c. write it carefully the first time..... | | 1 | 2 | 3 | 4 | 5 | |
| d. write it in a hurry and turn it in without worrying too much about it..... | | 1 | 2 | 3 | 4 | 5 | |
| e. other (specify_____). | | | | | | | |
6. WHEN YOU GO TO LIBRARY, HOW FREQUENTLY DO YOU TAKE EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item). (IF YOU HAVE NEVER BEEN IN THIS SITUATION, PLEASE CHECK HERE _____, AND GO TO QUESTION 7).
- | | Very
Infre-
quently | 1 | 2 | 3 | 4 | 5 | Very
Fre-
quently |
|---|---------------------------|---|---|---|---|---|-------------------------|
| a. find a quiet place to read or study materials you bring..... | | 1 | 2 | 3 | 4 | 5 | |
| b. take along materials assigned for the course... | | 1 | 2 | 3 | 4 | 5 | |
| c. research ideas, look for further references.... | | 1 | 2 | 3 | 4 | 5 | |
| d. make photo-copies of materials..... | | 1 | 2 | 3 | 4 | 5 | |
| e. other(specify_____). | | | | | | | |
7. THINKING ABOUT YOUR RELATIONSHIP WITH FACULTY MEMBERS, HOW FREQUENTLY DO YOU TAKE EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item). (IF YOU HAVE NEVER BEEN IN THIS SITUATION PLEASE CHECK HERE _____, AND GO TO QUESTION 8.)
- | | Very
Infre-
quently | 1 | 2 | 3 | 4 | 5 | Very
Fre-
quently |
|--|---------------------------|---|---|---|---|---|-------------------------|
| a. ask instructional questions right after class.. | | 1 | 2 | 3 | 4 | 5 | |
| b. ask academic problems during office hours..... | | 1 | 2 | 3 | 4 | 5 | |
| c. make appointments other than office hours to discuss academic ideas or questions..... | | 1 | 2 | 3 | 4 | 5 | |
| d. visit informally about non-academic matters.... | | 1 | 2 | 3 | 4 | 5 | |
| e. other (specify_____). | | | | | | | |
8. WHEN YOU DEAL WITH FACULTY MEMBERS, HOW FREQUENTLY DO YOU THINK THEY RESPOND TO YOU IN EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item). (IF YOU HAVE NEVER BEEN IN THIS SITUATION, PLEASE CHECK HERE _____, AND GO TO QUESTION 9.)

- | | Very
Infre-
quently | 1 | 2 | 3 | 4 | Very
Fre-
quently |
|--|---------------------------|---|---|---|---|-------------------------|
| a. is friendly but not very helpful..... | 1 | 2 | 3 | 4 | 5 | |
| b. sends you to some other people..... | 1 | 2 | 3 | 4 | 5 | |
| c. responds briefly and quickly..... | 1 | 2 | 3 | 4 | 5 | |
| d. tries his or her best to assist you and is helpful..... | 1 | 2 | 3 | 4 | 5 | |
| e. other (specify _____). | | | | | | |
9. WHEN YOU ARE DISSATISFIED WITH INSTRUCTION IN YOUR CURRENT PROGRAM, HOW FREQUENTLY DO YOU TAKE EACH OF THE FOLLOWING ACTIONS? (Circle one number for each item). (IF YOU HAVE NEVER BEEN IN THIS SITUATION, PLEASE CHECK HERE _____, AND GO TO QUESTION 10).
- | | Very
Infre-
quently | 1 | 2 | 3 | 4 | Very
Fre-
quently |
|--|---------------------------|---|---|---|---|-------------------------|
| a. complain about the instructor to friends... | 1 | 2 | 3 | 4 | 5 | |
| b. blame curriculum or program..... | 1 | 2 | 3 | 4 | 5 | |
| c. think about changing academic fields..... | 1 | 2 | 3 | 4 | 5 | |
| d. talk to a counselor or a specialist..... | 1 | 2 | 3 | 4 | 5 | |
| e. other (specify _____). | | | | | | |
10. THINKING ABOUT YOUR OWN EDUCATIONAL OBJECTIVES, HOW IMPORTANT ARE EACH OF THE FOLLOWING TO YOU? (Circle one number for each item).
- | | Haven't
thought
about it | Not
at
all | Not too
impor-
tant | Somewhat
impor-
tant | Very
impor-
tant |
|---------------------------------|--------------------------------|------------------|---------------------------|----------------------------|------------------------|
| a. self-satisfaction..... | 1 | 2 | 3 | 4 | 5 |
| b. vocational satisfaction..... | 1 | 2 | 3 | 4 | 5 |
| c. family expectation..... | 1 | 2 | 3 | 4 | 5 |
| d. social expectation..... | 1 | 2 | 3 | 4 | 5 |
| e. other (specify _____). | | | | | |

INSTRUCTION:

In thinking over your experiences at O.S.U. up to now, to what extent do you feel you have gained or made progress in each of the following respects? Circle the number from 1-5 that best indicates your gain, with "1" representing "Very little gain" and "5" representing a "Very large gain".

- | | Very
little
gain | 1 | 2 | 3 | 4 | Very
large
gain |
|---|------------------------|---|---|---|---|-----------------------|
| a. Vocational training--acquiring knowledge and skill applicable to a career..... | 1 | 2 | 3 | 4 | 5 | |
| b. Ability to think analytically and logically and to put ideas together..... | 1 | 2 | 3 | 4 | 5 | |
| c. Understanding other people and the ability to get along with different kinds of people..... | 1 | 2 | 3 | 4 | 5 | |
| d. Gaining a broad general education about different fields of knowledge..... | 1 | 2 | 3 | 4 | 5 | |
| e. Broadening the acquaintance and enjoyment of different philosophies, cultures, and ways of life..... | 1 | 2 | 3 | 4 | 5 | |

BACKGROUND INFORMATION

1. Including Winter term 1982, (and summer terms), how many terms have you completed at O.S.U. as a graduate student?

_____ terms.

2. How many credit hours are you taking this (Winter) term?

_____ credit hours.

3. What was your cumulative Grade Point Average at the beginning of Winter term 1982 at O.S.U. as a graduate student? (Please circle one).

1 (4.00-3.75) 3 (3.49-3.25) 5 (2.99-or less)
2 (3.74-3.50) 4 (3.24-3.00)

4. Are you currently married? (Please circle one)

1 Yes
2 No

5. Your age is _____.

6. During this term about how many hours a week, on the average, do you usually spend on activities that are related to your school work? (This includes time spent in class, lab, homework, and time spent in studying.)

_____ hours a week.

7. During this term, about how many hours a week, if any, do you usually spend working for pay? (This includes working as a laboratory assistant, teaching assistant, research assistant, student worker, off-campus work, etc.).

_____ hours a week.

8. Thinking about your experiences as a graduate student at O.S.U., what is the most difficult problem for you? (Please circle one).

a financial problem c social relations
b language proficiency d instructional competence
e other (specify _____).

9. As a graduate student at O.S.U., how do you rank the overall instruction? (Please circle one).

a poor b fair c good d great

THANK YOU. PLEASE RETURN THIS QUESTIONNAIRE BY MARCH 3, 1982 IN THE ENCLOSED STAMPED ENVELOPE. THANKS AGAIN.

Appendix C
Summary statistics for pilot study

Summary statistics for pilot study

I. American graduate student

Sample size: 10

<u>Sex</u>	<u>Program</u>	<u>Marital status</u>	<u>Average length of stay (term)</u>	<u>Average G.P.A.</u>	<u>Average age</u>	<u>Average time for study(hr)</u>	<u>Average time work for pay (hr)</u>
Male 7	Master 5	Married 6	11.45	3.8	33.3	41	13.28
Female 3	Doctor 5	Single 4	SD _x 5.38	SD _x 0.13	SD _x 4.50	SD _x 11.41	SD _x 7.71

II. Foreign graduate student

Sample size: 10

<u>Sex</u>	<u>Program</u>	<u>Marital status</u>	<u>Average length of stay (term)</u>	<u>Average G.P.A.</u>	<u>Average age</u>	<u>Average time for study(hr)</u>	<u>Average time work for pay (hr)</u>
Male 9	Master 2	Married 10	11.7	3.49	31.8	41.95	10.1
Female 1	Doctor 8	Single 0	SD _x 4.06	SD _x 0.25	SD _x 2.44	SD _x 16.81	SD _x 11.45

Appendix D

Cover letters

Dear Participant:

This is a cross-cultural comparative study. Objectives for this study are to assess the varying academic experiences of American and foreign graduate students at O.S.U., to make appropriate recommendation to educational institutions in the area of international education, in order for them to consider means of accommodating some of the unmet needs.

Your answers to this questionnaire are very important. By answering the following questions, you will assist a doctoral student also contribute to the area of international education.

This is an anonymous questionnaire, and your responses will be kept confidential. You will note that your questionnaire is numbered. This is so I can send reminders to those who have not returned the survey.

Please complete the questionnaire as soon as possible and return it in the enclosed stamped envelope by March 3, 1982. Thank you for your participation and cooperation.

Sincerely,

Redacted for Privacy

Ming-chu Mu
3365 N.W. Orchard Ave., Corvallis,
754-3372 (office)
757-0983 (home)

Ming-Chu Mu
3365 N.W. Orchard Ave.
Corvallis, OR 97330

Hi again:

About a week ago I wrote to you seeking your response to the "College Academic Experience Survey". Your name was drawn in a random sample of graduate students at Oregon State University.

If you have already completed and returned it, please accept my sincere thanks. If not, please do so today. This is a cross-cultural comparative research study of American and foreign graduate students. Because it has been sent to only a small, but representative, sample, your participation is extremely important to this research.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now.--754-3372 (office)

--757-0983 (home)

I will deliver another one.

Your participation and cooperation are greatly appreciated.

Sincerely,

Redacted for Privacy

Ming-Chu Mu

3-10-1982

March 30, 1982

Tel: 754-3372 (office)
757-0983 (home)

Dear Participant:

About 4 weeks ago I wrote to you seeking your response on the "College Academic Experience Survey". As of today I have not yet received your completed questionnaire.

This research study is a cross-cultural comparative study. The objective for this study is to assess the varying academic experiences by which I will be able to make a comparison among 4 groups. They are American masters students, American doctoral students, foreign masters students, and foreign doctoral students.

Your name was drawn by random selection through a computer. I am writing to you again because of the significance each questionnaire has to the usefulness of this study. Also because it has been sent to only a small sample, your response is extremely important.

In the event that your questionnaire has been misplaced, a replacement is enclosed. Please complete the questionnaire as soon as possible and return it in the enclosed stamped envelope.

Your contribution to the success of this study will be appreciated greatly.

Most Sincerely,
Redacted for Privacy

Ming-chu Mu
Doctoral student, School of Ed.
Oregon State University

Appendix E

Frequency distribution of sample by situations and subgroups

Response	Subgroup*	Frequency								
		Scale						Missing counts	Total	Scale mean
		0	1	2	3	4	5			
a	AM	4	8	5	12	15	12	0	56	3.11
	FM	0	10	9	13	13	4	1	49	2.84
	AD	2	5	7	17	11	10	0	52	3.15
	FD	8	9	10	10	9	5	4	51	2.35
b	AM	4	2	2	13	19	16	0	56	3.56
	FM	1	3	2	3	12	28	1	49	4.16
	AD	2	0	4	5	18	23	0	52	4.04
	FD	7	1	3	7	13	22	2	53	3.58
c	AM	3	3	9	18	13	10	0	56	3.16
	FM	0	6	14	16	7	7	0	50	2.90
	AD	1	4	14	13	12	8	0	52	3.06
	FD	4	9	12	7	13	8	2	53	2.75
d	AM	7	29	13	6	1	0	0	56	1.37
	FM	3	34	6	1	1	4	1	49	1.49
	AD	4	27	14	6	1	0	0	52	1.48
	FD	8	32	8	2	0	1	4	51	1.16

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Response	Subgroup*	Frequency								
		Scale						Missing counts	Total	Scale mean
		0	1	2	3	4	5			
a	AM	0	0	0	4	19	33	0	56	4.52
	FM	0	0	4	3	15	28	0	50	4.34
	AD	0	0	0	3	17	32	0	52	4.56
	FD	0	0	0	5	13	34	3	52	4.56
b	AM	0	0	0	4	23	29	0	56	4.45
	FM	0	2	4	11	13	19	1	49	3.88
	AD	0	0	2	4	18	28	0	52	4.38
	FD	0	0	2	14	17	20	2	53	4.04
c	AM	1	45	7	2	1	0	0	56	1.23
	FM	2	40	4	1	1	1	1	49	1.23
	AD	0	43	7	1	1	0	0	52	1.23
	FD	7	42	1	0	0	0	5	50	0.90
d	AM	2	49	4	1	0	0	0	56	1.07
	FM	4	35	7	2	0	1	1	49	1.22
	AD	1	46	4	0	0	1	0	52	1.10
	FD	6	39	4	1	0	0	5	50	1.00

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Response	Subgroup [*]	Frequency								
		Scale						Missing counts	Total	Scale mean
		0	1	2	3	4	5			
a	AM	0	6	8	12	13	17	0	56	3.48
	FM	0	5	5	7	16	17	0	50	3.70
	AD	0	4	5	8	14	21	0	52	3.83
	FD	0	4	2	6	16	27	0	55	4.09
b	AM	0	25	14	11	5	1	0	56	1.98
	FM	0	16	10	13	4	6	1	49	2.47
	AD	0	25	17	3	5	2	0	52	1.88
	FD	1	18	11	9	5	6	5	50	2.34
c	AM	1	6	4	9	17	19	0	56	3.64
	FM	0	6	5	6	13	19	1	49	3.69
	AD	0	8	3	4	15	22	0	52	3.62
	FD	1	8	9	9	13	10	5	50	3.10
d	AM	0	16	11	16	13	0	0	56	2.29
	FM	4	14	13	5	10	3	1	49	2.24
	AD	0	15	11	14	7	5	0	52	2.54
	FD	3	16	14	9	4	4	5	50	2.14

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Response	Subgroup*	Frequency								
		Scale						Missing counts	Total	Scale mean
		0	1	2	3	4	5			
a	AM	11	8	9	17	7	4	0	56	2.24
	FM	11	7	6	10	10	6	0	50	2.38
	AD	4	10	10	11	8	8	1	51	2.64
	FD	18	10	6	15	0	1	5	50	1.44
b	AM	11	11	14	9	7	4	0	56	2.03
	FM	12	8	7	7	6	9	1	49	2.29
	AD	4	17	10	13	6	1	1	51	2.06
	FD	18	16	5	6	4	2	4	51	1.37
c	AM	11	6	6	10	12	11	0	56	2.70
	FM	11	8	7	4	6	13	1	49	2.51
	AD	4	1	5	15	11	15	1	51	3.43
	FD	15	5	5	5	8	16	1	54	2.63
d	AM	11	43	0	2	0	0	0	56	0.88
	FM	13	31	3	1	0	1	1	49	0.92
	AD	4	44	3	0	0	0	1	51	0.98
	FD	19	28	0	0	2	1	5	50	0.82

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Response	Subgroup*	Frequency						Missing counts	Total	Scale mean
		Scale								
		0	1	2	3	4	5			
a	AM	2	6	5	5	13	25	0	56	3.71
	FM	5	2	4	10	7	21	1	49	3.53
	AD	2	5	7	6	14	18	0	52	3.55
	FD	6	2	3	5	12	26	1	54	3.72
b	AM	2	28	13	4	6	3	0	56	1.87
	FM	5	15	13	8	4	5	0	50	2.12
	AD	4	32	11	3	2	0	0	52	1.37
	FD	8	20	11	4	6	2	4	51	1.73
c	AM	1	13	10	13	8	11	0	56	2.84
	FM	4	11	11	8	11	4	1	49	2.47
	AD	3	7	12	10	14	6	0	52	2.83
	FD	9	11	7	12	6	5	5	50	2.20
d	AM	1	41	6	5	3	0	0	56	1.42
	FM	6	28	10	3	1	1	1	49	1.34
	AD	4	40	5	0	3	0	0	52	1.19
	FD	10	34	5	1	0	0	5	50	0.94

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Response	Subgroup*	Frequency								Total	Scale mean
		Scale						Missing counts			
		0	1	2	3	4	5				
a	AM	3	12	5	8	12	16	0	56	3.10	
	FM	1	6	6	8	11	17	1	49	3.49	
	AD	1	15	6	3	9	18	0	52	2.92	
	FD	1	10	5	7	11	17	4	51	3.33	
b	AM	4	11	5	11	10	15	0	56	3.02	
	FM	1	8	7	15	10	8	1	49	3.00	
	AD	1	14	7	5	13	12	0	52	2.98	
	FD	1	7	4	17	12	10	4	51	3.22	
c	AM	1	2	4	12	13	24	0	56	3.89	
	FM	1	3	3	10	18	15	0	50	3.72	
	AD	1	4	1	8	11	27	0	52	4.02	
	FD	1	0	2	12	21	18	1	54	3.91	
d	AM	2	6	5	17	8	18	0	56	3.38	
	FM	1	3	4	15	12	14	1	49	3.56	
	AD	1	2	3	12	11	23	0	52	3.90	
	FD	1	5	3	13	14	16	3	52	3.58	

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Response	Subgroup*	Frequency								
		Scale						Missing counts	Total	Scale mean
		0	1	2	3	4	5			
a	AM	1	6	9	19	19	2	0	56	2.99
	FM	3	8	9	10	9	10	1	49	2.90
	AD	1	8	15	11	14	3	0	52	2.73
	FD	7	7	7	16	10	5	3	52	2.58
b	AM	1	9	11	18	13	4	0	56	2.80
	FM	3	11	5	12	10	9	0	50	2.84
	AD	1	7	13	12	14	5	0	52	2.88
	FD	6	10	10	15	8	5	1	54	2.44
c	AM	2	24	15	7	8	0	0	56	1.91
	FM	3	14	15	12	3	2	1	49	2.08
	AD	9	20	12	10	8	1	0	52	2.14
	FD	7	15	12	10	7	2	2	53	2.02
d	AM	1	14	17	13	7	4	0	56	2.41
	FM	2	21	13	7	4	2	1	49	1.92
	AD	1	13	14	13	7	4	0	52	2.46
	FD	7	20	6	9	6	4	3	52	1.98

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Response	Subgroup*	Frequency								
		Scale						Missing counts	Total	Scale mean
		0	1	2	3	4	5			
a	AM	3	8	23	19	3	0	0	56	2.20
	FM	4	6	13	17	7	2	1	49	2.47
	AD	0	14	24	9	3	1	1	51	2.08
	FD	4	10	8	21	7	0	5	50	2.34
b	AM	3	20	19	9	2	3	0	56	1.39
	FM	4	25	16	3	0	1	1	49	1.45
	AD	0	17	22	9	1	2	1	51	2.00
	FD	4	23	14	6	2	1	5	50	1.64
c	AM	4	6	10	26	9	1	0	56	2.59
	FM	4	5	7	17	13	4	0	50	2.84
	AD	0	7	17	20	6	1	1	51	2.55
	FD	4	9	7	23	9	1	2	53	2.51
d	AM	1	0	2	11	30	12	0	56	3.88
	FM	4	0	8	7	20	10	1	49	3.41
	AD	1	1	1	8	26	14	1	51	3.94
	FD	4	0	3	14	16	14	4	51	3.57

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Situation 9

Response	Subgroup*	Frequency								Total	Scale mean
		Scale						Missing counts			
		0	1	2	3	4	5				
a	AM	6	5	4	12	16	11	2	54	3.11	
	FM	5	8	9	11	9	7	1	49	2.65	
	AD	6	6	9	5	15	11	0	52	2.96	
	FD	18	4	4	12	9	3	5	50	1.98	
b	AM	6	13	12	14	8	1	2	54	2.15	
	FM	6	12	10	13	6	2	1	49	2.14	
	AD	6	13	18	11	2	2	0	52	1.92	
	FD	19	13	9	6	4	1	3	52	1.35	
c	AM	6	29	11	3	4	1	2	54	1.50	
	FM	6	18	6	11	5	4	0	50	2.06	
	AD	6	34	9	0	1	2	0	52	1.27	
	FD	20	17	6	3	3	2	4	51	1.18	
d	AM	6	38	9	1	0	0	2	54	1.09	
	FM	5	21	6	7	5	5	1	49	2.02	
	AD	6	35	6	4	1	0	0	52	1.21	
	FD	20	22	4	2	2	0	5	50	0.88	

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Situation 10

Response	Subgroup*	Frequency								
		Scale						Missing counts	Total	Scale mean
		0	1	2	3	4	5			
a	AM	0	0	0	0	6	50	0	56	4.89
	FM	0	0	1	4	17	26	2	48	4.40
	AD	0	0	0	0	6	46	0	52	4.88
	FD	0	1	0	2	14	36	2	53	4.58
b	AM	0	0	0	2	19	35	0	56	4.59
	FM	3	2	2	5	20	16	2	48	3.77
	AD	0	1	1	1	16	33	0	52	4.52
	FD	1	1	0	5	22	22	4	51	4.17
c	AM	1	3	12	17	20	3	0	56	3.30
	FM	0	1	6	8	18	15	2	48	3.83
	AD	0	4	10	18	12	8	0	52	3.19
	FD	1	1	8	13	21	7	4	51	3.43
d	AM	0	6	18	18	11	3	0	56	2.77
	FM	0	3	6	11	18	11	1	49	3.57
	AD	0	7	13	13	16	3	0	52	2.90
	FD	2	4	9	12	18	6	4	51	3.14

*

AM: American master's

FM: Foreign master's

AD: American doctoral

FD: Foreign doctoral

Appendix F

Frequency distribution of sample by estimate of gain and subgroups

Response	Subgroup*	Frequency								
		Scale						Missing counts	Total	Scale mean
		0	1	2	3	4	5			
a	AM	0	0	4	16	18	18	0	56	3.89
	FM	1	0	8	16	17	8	0	50	3.44
	AD	0	2	2	12	19	17	0	52	3.90
	FD	0	1	3	16	16	18	1	54	3.87
b	AM	0	6	6	17	16	11	0	56	3.25
	FM	0	1	4	14	17	14	0	50	3.78
	AD	0	4	4	14	19	11	0	52	3.56
	FD	0	1	2	17	22	13	0	55	3.80
c	AM	0	8	6	18	14	10	0	56	3.21
	FM	0	1	7	14	22	6	0	50	3.50
	AD	0	7	5	18	15	7	0	52	3.19
	FD	0	2	4	17	18	13	1	54	3.67
d	AM	0	11	12	16	10	7	0	56	2.82
	FM	0	3	15	16	12	4	0	50	2.98
	AD	0	11	6	17	13	5	0	52	2.90
	FD	0	2	7	16	17	12	1	54	3.56
e	AM	0	14	13	16	7	6	0	56	2.61
	FM	0	3	12	16	12	7	0	50	3.16
	AD	0	10	15	12	12	3	0	52	2.67
	FD	0	5	7	15	15	12	1	54	3.41

*

AM: American master's

AD: American doctoral

FM: Foreign master's

FD: Foreign doctoral