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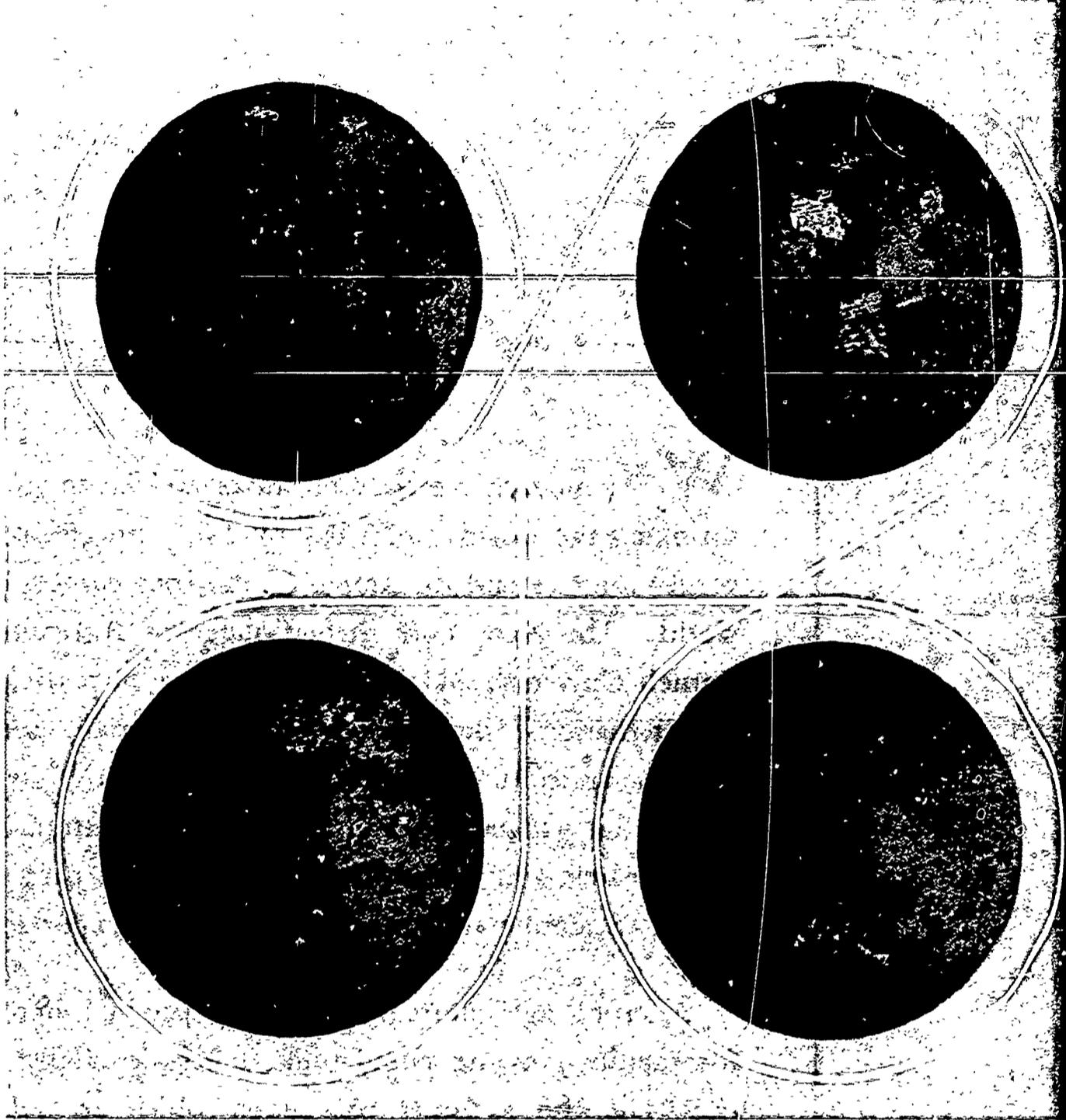
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ABSTRACT

This report is based on research to evaluate an 8-week summer orientation program for foreign graduate students. Based on this research and on the opinions of advising professors, it is evident that foreign students do experience a period of adjustment that varies from 1 - 2 semesters. The results indicate that foreign students profit significantly from orientation. After the orientation, the students had: lower transcultural anxiety scores; significantly higher knowledge of the US and its universities' requirements; significantly higher English language test scores; and lower transcultural anxiety and higher grades than a control group of students in the first semester of study in the US. This study also supported findings of other studies indicating the positive relationship between English language scores and grades achieved, as well as the positive correlation between prior transcultural experience and higher grades. Suggestions for future orientation programs and a bibliography are included. (AF)

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Evaluating Orientation for Foreign Students

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

James W. Longest

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Foreword

This publication is based on research conducted by the New York State College of Agriculture to evaluate a Summer Orientation Program for foreign graduate students. The idea for this program was first proposed by Mr. Kenneth Wernimont who at that time was fellowship officer for the Rockefeller Foundation. This eight weeks' program was held each summer from 1961-1965, with financial support from the Rockefeller Foundation. Participants were limited to graduate students in agriculture who had been admitted to graduate schools in universities in the United States. Immediately after completion of the orientation program, some of the students entered the Graduate School at Cornell University while others went to graduate schools elsewhere for formal education and training in their special fields of interest.

The primary objective was to provide an opportunity for new foreign graduate students coming to the United States, especially those from non-English speaking countries, to obtain special training in English and exposure to the North American educational system, agriculture and culture. The intent was to provide a better background of understanding for the students from developing countries so they might obtain maximum benefit from their graduate studies.

Since this was an experimental program, the Rockefeller Foundation agreed to finance a study which would evaluate the usefulness of orientation prior to academic work. It is hoped that the results of this study will prove useful to those who are now conducting orientation programs as well as to those who might initiate programs in the future.

K. L. Turk, Director
International Agricultural Development
April, 1969

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The author is indebted to many individuals for their assistance, encouragement, and advice. Dr. Gerald M. Shattuck, at that time a graduate assistant in the Department of Rural Sociology, assisted with data collection, developed the trans-cultural adjustment anxiety variable, and was very helpful in review of the literature in the field. Director Kenneth L. Turk, Dr. Robert A. Polson, Mr. Fred B. Morris, Dr. Joseph F. Metz, Jr., Dr. W. Keith Kennedy, and others on the committee for orientation of foreign students supported and advised on the evaluation project. Mr. Jesse Perry of The Rockefeller Foundation generously consulted with and aided the author in various stages of the project. Director A. A. Johnson and Associate Director A. E. Durfee generously agreed to the author's spending the time necessary to conduct and complete the project.

Mrs. Bette Maxwell and Mrs. Carol Knapp assisted with interviewing students and staff respectively and with data processing. Extension Studies staff members Mrs. Dianne Coyle, Mrs. Martha Cheney, Mrs. Mary Jones, Miss Kay Shipman and Miss Jean Harshaw contributed to data processing and manuscript preparation.

Appreciation is due Dr. Frank Alexander of Cornell University for his critical review of the manuscript. While some of his criticisms were accepted, the author is entirely responsible for the statistical interpretations and the major conclusions of the report.

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EVALUATING ORIENTATION
FOR FOREIGN STUDENTS

by
James W. Longest*

INTRODUCTION

This publication is from the Cornell College of Agriculture research on foreign graduate students' personal and academic adjustment in United States universities. The focus of this report is on evaluation of an orientation program sponsored by the Rockefeller Foundation and the reactions of professors who were advising foreign students.

Change in English language scores and in knowledge about United States and university norms are reported for the students who participated in the orientation program. The orientees are compared with a matched group of students on grades, transcultural

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anxiety, and student preception of difficulties. Finally, the views of the advising professors are briefly summarized and interpreted.

The results obtained in this research must be viewed more as having developed rather than proved the hypotheses and theory. The 14 orientees and 14 matched students would have been too few cases even for hypotheses and theory development except that a population of 85 newly registering students were available for testing the effects of such variables as development status of student's country, proficiency in English language, and trans-cultural anxiety.¹ The report should also serve as an example of research methodology and of the use of other social science research and theory in the interpretation of results.

¹In his Ph.D. thesis research in 1963-64, Dr. Gerald Shattuck tested some of the same variables with a sample of previously registered students compared with the newly registered students referred to here. Most generalizations made in this report therefore have substantial support from analyses of a much larger population of foreign graduate students.

THEORETICAL FRAME OF REFERENCE

As a rationale for giving orientation to foreign students, it is hypothesized and generally assumed that they experience a period of adjustment. The rationale states that orientation will speed the adjustment process and lessen the difficulties and thereby the amount of anxiety experienced in making adjustments. Also included is the belief that decreasing the severity of difficulties and the consequent anxiety facilitates adjustment which in turn leads to better academic performance.

To accomplish these ends, orientation programs, formal and informal, are typically designed to help foreign students meet their basic physical, social, and psychological needs within the culture and social structure of the host nation and university. For foreign graduate students an important part of orientation is informing them about curriculum and thesis requirements and academic standards of procedures of the university, major department, and advising professor.

Amount of adjustment required and whether viewed as exhilarating or unduly stressful varies from individual to individual because of psychological differences and also because of differences in prior experiences or lack of prior experiences that were similar. For example, Shuval found that among active Zionist immigrants to Israel, those disappointed with their experiences in Israel had a significantly higher number of psychosomatic complaints than did those who were not disappointed.¹ Those with

¹Judith T. Shuval, Immigrants on the Threshold, Atherton Press, N.Y., N.Y., 1963, pp. 72-73 and table 10.

more psychosomatic complaints were more subject to disappointment with their experiences in the new environment.¹ This is one example of people viewing the same experience differently because of different degrees of personality stability as indexed by a number of psychosomatic complaints. The effects of prior conditioning is also illustrated in Shuval's research by differences in level of optimism of concentration camp survivors versus a control group of immigrants not subjected to concentration camp experience. Tests of the two groups confirmed that the concentration camp experiences had apparently "hardened" the survivors so that they did not change their degree of optimism nearly as much as the control group when placed under either adverse or preferential treatment circumstances.² It is a rather common observation that experience with a set of circumstances increases ability to cope with the same or similar circumstances in the future. Thus freshmen at a large university who graduated from small high schools often have difficulty adjusting to university expectations and have lower grades in their freshman year than they had had in high school or than they subsequently had in their sophomore, junior and senior years in college. Most college

¹The opposite could also be hypothesized - namely that those who became disappointed thereafter suffered more psychosomatic complaints. However, most evidence supports the hypothesis that high frequency of psychosomatic complaints lead to disappointment rather than the reverse. See for example Shuval, op. cit. pp. 100-101, and G. W. Allport, J. S. Bruner, and E. M. Jandorf, "Personality Under Social Catastrophe," in C. Kluchohn and H. A. Murray, Eds., Personality in Nature, Society, and Culture, Alfred A. Knopf, N.Y., 1948.

²Shuval, op. cit. pp. 93-100.

advisers have known students with academic records reflecting such adjustments and have been given the case details by the student when he was asked for an explanation. The point being, however, that a year's experience attending a large university provides most students with an adequate base for returning to their usual level of academic performance. Thus, prior experience whether labeled education, training, or employment is generally deemed advantageous and lack of prior experience a handicap. Similarly in this research on adjustment of foreign graduate students, those students who had had considerable prior transcultural experience made significantly higher grades both semesters than did those students with no or only a little transcultural experience.¹ There is also a relationship between low grades the first semester and student's origin in an underdeveloped country. Thus in general students from underdeveloped countries as compared to those from developed countries were at a disadvantage in United States universities.²

Social science research provides evidence that persons usually become anxious upon finding themselves in an environment in which they have inadequate knowledge about what is expected of them and how to meet their daily needs. Stress anxiety, when pronounced, usually impairs the individual's ability to learn, to

¹The difference in the fall was significant at $P > .01$ and in the spring at $P > .05$. No systematic attempt was made to show that the relationship was explainable because of other intervening characteristics. For example, one could hypothesize that those who have previously traveled are more intelligent than those who are traveling for the first time, or that those who have traveled extensively are also those from developed countries.

²Influence of development status was tested while systematically controlling on other variables which confirmed that development status of country of origin does affect academic and personal adjustment in United States universities.

organize his thinking and activities, and to function effectively in the strange environment or situation. The literature also supports the theory that inability to communicate effectively will lead to a similar state of stress anxiety and inability to function in the new environment. Since foreign students usually do not know the "rules" of the new culture and university and usually have some communication difficulties, it can be expected that without orientation, some degree of stress anxiety will often, if not usually, occur. Some anxiety may be experienced by all students involved in transcultural education just as most persons going on a stage before a large audience will experience some stage fright. Experiencing anxiety is not invariably a disabling experience and may in fact cause an increase in constructive activity by some students. However, under some circumstances high anxiety can be a disabling factor. There is some evidence that for highly routinized tasks some anxiety can improve performance, but for more difficult and complex tasks anxiety inhibits effectiveness particularly for those which require creative spontaneity and flexibility.¹

Thus the effects of anxiety may depend on the context, the psychological make-up of the individual experiencing it, and the type of task that is to be executed. In this research cross-cultural adjustment anxiety is used primarily as an index of the degree of difficulty experienced by the students in adjusting to graduate work in the United States. Past research and theory leads to expectations that anxiety increases as number and severity of

¹R. S. Lazarus, et. al., "The Effects of Psychological Stress Upon Performance," Psychological Bulletin, Vol. 49, 19, pp. 293-317.

difficulties increase. Since the consequences of increased anxiety differs for individuals, and other factors¹ also affect academic achievement, it is not expected that a high association will necessarily exist between anxiety and grades achieved. It is expected that what association does exist between anxiety and grades will be in the direction of lower grades for those with high anxiety. From theory in support of orientation it is expected that students who receive orientation will experience less difficulty adjusting and therefore less anxiety and higher grades than matched students not given orientation.

¹Such as development status of the country of origin and amount of prior cross-cultural experience of the students.

DESIGN AND METHODOLOGY

The general design and methodology is discussed in this section; but, much of the detailed information on methodology is reported with discussion of the findings. This procedure is followed since the methodology, as well as theory and past research findings, are important to and a part of interpretation of results.

Population of Students Studied

There were 85 students surveyed as students registering for the first time in the fall of 1963.¹ These 85 were composed of 14 students who had taken the Rockefeller Summer Orientation Program and 71 who had not taken that orientation program. Nine of the 14 who took the orientation program were registered at other universities, while five entered Cornell with the 71 non-orientees. All graduate students newly registered in Colleges of Agriculture and Veterinary Medicine were included in the survey in the fall of 1963. These same students were included in the resurvey at the end of the second semester in the spring of 1964. Because six left Cornell during the first semester, and two never responded to the spring survey, 77 cases were obtained in the spring survey.

¹There were a total of 85 newly registering students at Cornell. However, nine of these did not respond to the survey. This left a total of 76 students entering Cornell, and the addition of the nine entering other universities gives a total of 85.

Design

The design emphasized the matching of orientees with control students who were also beginning graduate work in the United States. The intent of matching is to have all things equal other than the orientation program which was given the orientees but not the control students. Students were matched on the variables of development status of country of origin, English language test scores, general classification of major subject matter, degree candidacy, rural-urban background, marital status (including whether family is with them), age, occupation of father, occupation of the student, and length of prior trip to the U.S., if any.¹

The orientee and control students were judged as matched on seven of the 10 matching variables. English language tests was one of the three variables not well matched. The students were adequately matched on one of the English tests used but not on the second. The difference in English language test scores was favorable (higher scores) for the control students. They were also not matched on whether they came from rural or urban backgrounds, but since tests of influence of rural and urban backgrounds generally showed little if any effect, this difference is

¹The results of matching are presented in detail in Appendix A.

not considered important.¹ The third variable on which a match was not achieved was that of major field of study. Failure to match on this variable, if giving an advantage to either group, would probably have given some advantage to the control students who had fewer students in such fields as the biological sciences considered by some to be more difficult for achieving high grades. In general, the direction of the differences that occur on the variables of English test scores, rural or urban backgrounds, and major field of study weight the chances for better performance in favor of the control students. Therefore, in order for the orientees to perform higher than the matched controls, the orientation must be effective enough to overcome some of the initial handicap which results from the failure to match on these variables, particularly English language proficiency.

The orientees were given pre- and post-orientation tests on transcultural adjustment anxiety, English language proficiency, and subject matter knowledge of the orientation program. The control students were also given English language tests shortly after first registration. The orientees and control students were all given questionnaires in the fall which tested for such variables as transcultural adjustment anxiety, national status loss score, and cultural, social, economic and occupational background characteristics of the students. In the spring semester, fall semester grades were obtained and just after the second semester ended,

¹Somewhat more control students were from rural backgrounds. The analysis of differences according to whether from a rural or urban background revealed that students from rural backgrounds appeared to have a slight advantage over those from urban backgrounds.

spring semester grades were obtained for all students. Grades were converted to sten grades for all courses taken by any of the students and were then reduced to a 5 point scale. Converting raw grades to sten grades made it possible to compare grades in different universities as well as in different courses in the same university. An interview with the students in late spring included the transcultural adjustment anxiety test, IPAT anxiety test, and perceptions of academic, social, and personal experiences and problems. In addition, the major adviser of each student was interviewed to ascertain the counseling given each student and the adviser's knowledge of the student's progress.

Because only fourteen orientees received the orientation, the matched cases are too few to consider adequate for evaluation. Therefore, this report will utilize results of the analyses of the personal adjustment and academic performance of all students (although not reported in detail here) rather than relying solely on analysis of the 14 orientees and the 14 matched control group students.

Major Variables

The variables utilized most will be those measuring personal adjustment and academic performance and those background and situational factors which affect them. Some of these variables are as follows:

Background and personal characteristics variables

1. Development status of country of origin.
2. Reared in rural or urban setting.
3. English language proficiency.

4. IPAT general anxiety.

Personal adjustment variables

1. Transcultural adjustment anxiety.
2. Nonacademic adjustment problems.

Academic performance

1. Average 'sten' score grades for each semester and for total first year.¹
2. Academic adjustment problems.

Instrumentation

When possible, existing tests were used. For example, the IPAT Self-Analysis Form² was used for testing general anxiety. The English language tests³ were those being used by the English staff in testing the orientees.

¹A. A. Canfield, "The 'Sten' Scale - A Modified C - Scale," Educational and Psychological Measurement, Vol. XI, No. 2, 1951, pp. 295-297. The converting of grades in this manner allows grades given in different institutions to be compared when in their original form they could not be so compared.

²By R. B. Catell, and published by the Institute for Personality and Ability Testing, 1602-04 Coronado Drive, Champaign, Illinois, 1957, 1963.

³These were "English Language Test for Foreign Students" by Robert Lado and "An English Reading Test for Students of English as a Foreign Language" by Harold V. King and R. M. Campbell.

When a standard test did not exist as for transcultural adjustment anxiety, a measure of or indexes of such variables were constructed. In the case of transcultural adjustment anxiety a test was constructed to attempt to measure the stress anxiety produced by the transcultural experiences. The development and some validation of this test is reported in the Cornell University Ph.D. thesis by Gerald M. Shattuck, Transcultural Adaptation: A Study of Foreign Graduate Students at Cornell University, 1964.

Statistical Tests

Chi square tests followed by "F" tests, "t" tests of means, product moment correlations and tests of differences in percentages are the major statistical tests applied. The different tests are used according to the nature of the data and the logic of the hypotheses involved.

Statistical tests are applied in most cases as an aid in interpretation of the strength of the associations that exists rather than as an all or none test of significance. The probability levels are reported and in some cases the results of other analyses in this and other research are used in interpreting the results reported in this manuscript.

The one tailed test of significance is applied in testing the differences in performance of the orientees and matched students and the changes made by the students given the orientation. The two tailed test was used in testing differences for whether the two groups were adequately matched on such factors as language facility.

THE ORIENTATION PROGRAM

The Orientation Program was sponsored by the Rockefeller Foundation and administered by the staff of the International Visitors' Office and a faculty committee of the College of Agriculture at Cornell University. The program evaluated was conducted in the summer of 1963. It began the first part of July and terminated around the end of August.

The content and philosophy of the orientation program can be given by quoting material related to the conduct of the program. The following is a quote from the letter sent by Mr. Donald Green, Assistant Director of the Rockefeller Orientation Program in 1963, to professors who were to give lectures to the orientees.

This is the third year of operation for the Orientation Program. This program is for graduate students in agriculture from foreign countries. It is designed to give the students instruction in English and to familiarize them with agriculture, the educational system, some of the institutions, and the culture of the United States. A sequential list of the topics is enclosed. Approximately 20 to 25 students from various parts of the world are expected to participate in the nine-week program. There is one full week of English instruction followed by six weeks of English and general orientation, one week during which the students live with farm families, and the final week for tours, evaluation, and 'graduation.'

As these students have been selected partially on the basis of their need for English instruction, it is suggested that the speed and the level of presentations be gauged accordingly. The content of the afternoon lectures serves as a basis for oral discussion in the next day's English sessions. Comprehension is important. Feel free to limit your subject to a few important points discussed in depth;

to be repetitious; and to make your delivery slowly and clearly. These suggestions will, of course, be more important at the beginning of the program than during the latter portion. Past students have also suggested that it is very helpful to them to have a topical outline and a brief summary available prior to the presentation.

The following materials were included with the letter and are presented here to more fully illustrate the philosophy and content of the program. These are labeled as "Exhibits" 1 through 4.

Exhibit 1:

SUMMER ORIENTATION PROGRAM--1963
GENERAL INFORMATION FOR LECTURERS

An intended purpose of the Orientation Program beyond English instruction and general orientation to the United States is to prepare the students for their more formal roles as graduate students in an American university. To this end every effort is being made to expose them to the academic aspects of graduate life within the relatively informal atmosphere of an orientation program.

Thus they are expected to do some supporting reading on the topics presented, to take notes during lectures, to be quizzed on the content of lectures, to be able to discuss the content of lectures in their oral English sessions, and to prepare and present a formal paper in their field during the program. Past experience has indicated that most of the students will have a difficult struggle with English during most of the program. This has a direct bearing on their comprehension of and performance in the rest of the program as well as on their attitude and confidence about it. While we do not want to make the program 'easy' for them, we do want to ensure that the students experience some definite accomplishments and gain confidence in their ability to face the realities of graduate study in a totally new environment and culture.

The topic titles as presented are in many instances very general and very broad. It is perhaps impossible to do the topic justice in an hour--a semester or more would be more appropriate. It is therefore suggested that the guest lecturers select a few facets of the topic which they feel are important to a better understanding of this particular aspect of the United States--especially for the foreign visitor. Where the lecturer's knowledge and experience permits, he may wish to make general comparisons which would be helpful. Countries represented to date are Chile, Colombia, Taiwan, Indonesia, Finland, and Iraq.

Exhibit 2:

SUMMER ORIENTATION PROGRAM--1963
SUGGESTED MATERIALS FROM LECTURERS

Although it is recognized that you are undoubtedly very busy, we would like to impose upon each of our guest lecturers to supply us with certain materials which we feel will be of great benefit to the students and the staff.

1. Topical outline of lecture and a very brief summary

Purpose - to orient students to the topic and help them formulate questions about the topic prior to the presentation. Also for use of subsequent lecturers where desired.

2. Recommended readings--one or two short reading assignments, if any

Purpose - to further expose students to material relevant to the lecture topic and to acquaint them with specific reference sources.

3. Two or three pertinent questions about the topic

Purpose - to be used by the English staff to examine the comprehension of the students the following day and to serve as a basis for discussion during the oral English sessions. The English staff will attend the lectures to get background material for the oral sessions.

Exhibit 3:

SUMMER ORIENTATION PROGRAM--1963
SEQUENTIAL LIST OF LECTURE TOPICS

- | | | |
|------|----|---|
| July | 8 | Education in the United States |
| | 9 | Teaching Methods in United States Universities |
| | 10 | Using the Library (includes tour) |
| | 11 | The Mechanics of Studying |
| | 12 | The Family Farm Concept |
| | 15 | Tompkins County Farm Tour |
| | 16 | The Mechanics of Writing a Formal Paper |
| | 18 | Philosophy and Regulations of Graduate Schools |
| | 19 | Historical Overview of the United States with emphasis on Agriculture |
| | 22 | The Economics of Farming |
| | 23 | American Agricultural Policies |
| | 25 | Marketing Agricultural Products |
| | 26 | Types of Farming in the United States |
| | 29 | Taxation |
| | 30 | Government in the United States |
| Aug. | 1 | United States Foreign Policy |
| | 2 | The Land-Grant College System |
| | 5 | The Research Function of a College of Agriculture (includes tour) |

.6	Research Methods
8	Art Forms in the United States
9	The North American Heritage
12	Understanding North American Culture
13	Family Life in the United States
14)
15) Student presentation of their formal papers
16)
18 to 24	Farm Family Living Experience
26 to 30	Tours, Evaluation, Presentation of Certificates

Exhibit 4:

The assistant director (Mr. Green) concluded his report on the 1963 program with the following comments:

The merit of this orientation program rests in the opportunity it provides the students to adjust to a new environment relatively free from the competitive stresses of academic work. As one student said this summer, "I would hate to think of having to make adjustments while taking regular courses because the first three weeks here were very miserable ones for me." Yet the staff was agreed at the end of the program that this was the most well-adjusted member of the group. In the same vein another student thought that the lectures were the most important part of the program. The reason--they provided the opportunity to listen and to comprehend English; to adjust to listening to a different language most of the time. The content seemed to be incidental and perhaps it is much of the time.

However, it was gratifying to hear the students suggest that the lectures about American values and norms were so valuable to their understanding of and adjustment to American life that these lectures should come earlier in the program. While the merit of the suggestion is questioned, the important fact is that

the content of the lectures was apparently very meaningful to them which is what was desired.

While there are many important elements in a successful orientation program, adjustment is seen as the key factor. Each facet of a program should be viewed with the adjustment process in mind.

Summary

The orientation program was designed to help the foreign graduate student adjust to academic life in United States universities. Since the students selected for the program were in need of English instruction, a strong emphasis was placed on language instruction and adaptation to lectures in English, reading in English, and writing English in a simulated but informal academic routine. In addition to English instruction, the subject matter content dealt with familiarizing the students with United States societal, agricultural, and university norms, values, and procedures in the culture of the United States and its governmental structure.

EFFECTS OF ORIENTATION

Major objectives of the orientation program were to improve the orientees' English language ability and their knowledge of United States culture and university standards and procedures. It was expected that the giving of such orientation would lead to their experiencing fewer social and academic problems and thereby less cross-cultural anxiety than if not given orientation to the United States and its universities. The end result expected from all such effects of orientation was better academic performance and grades.

Change in English Language Proficiency

English language proficiency was measured by the Lado and the King and Campbell English tests. The tests were administered both before and after the orientation program in which they were given instruction in English and practice in usage. Both the English language scores before orientation and the judgment of the language instructors indicated the orientees needed to improve their English proficiency in order to pursue graduate studies in the United States.

Orientation language instruction and practice did bring about a significant change¹ in the average test scores of the orientees (Table 1). It was also the judgment of the orientation program staff, including the English instructors, that the students

¹The one-tail test is used in testing change in the orientees in this section.

had improved substantially in their ability to use English.

Table 1
Change of Orientees' Average English
Tests Scores During Orientation

Language test	Mean Scores		Significance of mean difference ^a
	Before orientation	After orientation	
Lado	60	68	S P > .025
King and Campbell	68	82	P > .025

^aS=t test of mean difference significant at .05 or less level.

The orientation program achieved the objective of improving the English language competency of the orientees. Analyses of the relationship of English language proficiency and grades, in this research and that of others¹, shows a persistent relationship between the two. In general, other things equal, as language competency increases so do grades, or more descriptive perhaps, is that English language deficiencies depress grades below what otherwise would be achieved. Thus the increase in language proficiency will probably allow the orientees to perform closer to

¹For a review of a number of researches reporting a relationship between English proficiency and grades see Ivan Putnam, "The Academic Performance of Foreign Students," The Annals, The American Academy of Political and Social Science, Philadelphia, Vol. 335, May, 1961, pp. 42-53, particularly pp. 48-49.

their ability potentials throughout their sojourn rather than have "subnormal" grades until language proficiency increases sufficiently for "adequate" performance.

Change in Knowledge of United States
Culture and Universities

As indicated above, the orientation program placed considerable emphasis on giving the students adequate knowledge of cultural and university norms in order to prepare them to function without undue frustration and problems.

From the texts of the lectures or advance knowledge of the content of the lectures, a test of the orientation program's content was constructed. The orientees were then asked to take this test both as a pre- and post-orientation test.

The orientees average score on the post-orientation test was significantly higher than the pre-orientation test score had been (Table 2).

Table 2

Orientees' Before- and After-tests Scores on the Content
of Orientation Lectures

Type of data	Test on lectures contents	
	Before orientation	After orientation
Mean scores	55.5	68.7 ^a
Range	35-72	54-76

^a"t" test of mean difference significant at $P > .0005$.

The orientation program by this criteria achieved its objective of orienting the students to the United States' cultural and university norms, expectations, and procedures. At least the increase in scores indicates considerably more knowledge than they would have had if not given the orientation lectures.

While research results on the effectiveness of orientation vary considerably, there is general agreement that foreign students do experience a period of adjustment; and that a part of that adjustment involves becoming acquainted with university requirements such as that dropping a course, or from a university, in good standing requires more than simply not attending classes.

A part of the theory for giving orientation and language instruction is that failure to give such orientation may cause more of the students to not meet requirements and find themselves involved in academic or social problems. The involvement in academic or social problems is believed to be reflected in level of anxiety expressed. Thus, if oriented students experience lower levels of anxiety, the inference is that they are not experiencing as many anxiety producing problems.

Change in Transcultural Anxiety

Prior to being given orientation the students were given the transcultural anxiety test. They were also tested again early in the fall semester and again late in the spring semester.

Administering this test at these times was designed to ascertain what changes, if any, occurred in the orientees' levels of transcultural anxiety during their first year in United States universities.

The level of anxiety decreased from before orientation to the early part of the fall semester and then only slightly more by late in the spring semester (Table 3). These decreases from the before orientation levels were substantial enough to be significant at .20 and .10 probability levels respectively but not at the .05 level. Whether all, or what portion of this decrease, can be attributed to the orientation cannot be answered until the changes in matched control students are compared to the orientees' changes as discussed here. At this point all that can be reported is that the anxiety levels decreased from pre- to post-orientation testing and that orientation and/or time in the United States must have allowed this change to occur.

Table 3

Before and After Orientation Transcultural
Anxiety Test Scores

Type of data	<u>Test scores by time given</u>		
	<u>Before orientation</u>	<u>After orientation</u>	
	Early Summer	Fall (Oct.) Semester	Late in Spring Semester
Average percent scores	29.2	24.4	22.4
Probability level of t test of M difference			
Before orientation and Fall after orientation.....	P > .20		
Before orientation and Late Spring after orientation.....	P > .10		

Summary

The orientees' proficiency in English language and knowledge of orientation program content increased significantly from before the orientation program to the after orientation tests. A decrease in transcultural anxiety also occurred from before to after orientation. Thus the orientation program appears to have achieved its major objectives of increased language proficiency, knowledge about United States' cultural and university norms, expectations and procedures, and as indexed by a lowering of transcultural anxiety, some degree of adjustment to their new academic environment in the United States. Whether the lowering of anxiety can be attributed to the increase in language proficiency and knowledge of the United States' culture and university systems or simply to spending time in the United States is somewhat irrelevant to achieving the purpose irrespective of the inability to infer or prove the cause for it. The students were beginning their first semester's work with a lower level of anxiety than they had prior to the orientation program. If the theory that less anxiety about functioning in the new environment will allow the students to function more effectively is valid then the lowering of the levels of anxiety may be reflected in part in grades achieved. The analysis of grades achieved will be made in comparing the orientees and the matched control group students.

PERFORMANCE OF ORIENTEE AND MATCHED STUDENTS:
Does Orientation Help?

Interpretation of the differences, if any, between the performance of orientees and matched students needs to be tempered with several considerations. The theory for matching is that the matched students provide results that would have been achieved by orientees had they not been given orientation. Less than a good match on any of the variables raises the question of the effect of that failure to match and secondly, whether that effect is to be ignored or considered in interpreting the differences found. In this analysis the effect of such differences in matching will be reported and the interpretations will be tempered accordingly. For example, English language scores for one of the English tests were not matched. A good match on this variable required that the average scores of the control students be the same as those of the orientees prior to orientation instruction. Actually, the control students' scores were nearly identical to the after orientation scores of the orientees rather than the before orientation scores. Therefore the effect of English scores as low as those of the orientees prior to instruction in the orientation program did not affect the differences between orientee and control students. Low English proficiency in this and other research depressed grades.¹ Therefore, if the control students had been matched on English proficiency, they would likely have had somewhat lower grades than those which were achieved under the influence of their higher English proficiency utilized in these results.

¹Putnam, loc. cit.

Other factors to be considered are: (1) since in this analysis there are a small number of cases, (14 orientees and 14 matched students), and it is well established that the magnitude of the level of significance achieved is dependent on the number of cases, within limits, as well as the magnitude of the difference between the groups,¹ caution needs to be applied in interpreting differences that achieve a level of .20 or lower as showing no relationship simply because they are not at the .05 or lower level; (2) the consequences of an error of type I or type II in interpretation of results of a project such as this may be equally serious.² That is, stating that there is no effect of orientation on academic performance when in fact there is, if it were to lead universities to not give orientation, could be deemed as serious an error, or more so, than attributing some effect of orientation on grades when in fact there was no such relationship. Attributing some effect to orientation might cause universities to systematically impart, via orientation programs, much of the information and knowledge that the students must acquire in some manner in order to function effectively.³ Imparting

¹See for example M. Tate and R. Clelland, Nonparametric and Shortcut Statistics, Interstate Printers and Publishers, Inc., Danville, Ill., 1957; "Nearly all methods of inference get better with increasing sample size; in fact, in very large samples nearly any method will detect differences between sample and hypothesis large enough to be practically important." p. 45, see also p. 31.

²See for example James K. Skipper, A. Guenther, and G. Nass, "The Sacredness of .05: A Note Concerning the Uses of Statistical Levels of Significance in Social Science," The American Sociologist, American Sociological Society, February, 1967, Vol. 2, No. 1, pp. 16-18.

³It would seem reasonable to hypothesize that without group

the information via an orientation program could do no great harm but not giving orientation could lead to students making serious errors which would reflect negatively on them and in some cases also on the university. Because of the more serious consequences of attributing no influence, if in fact there is influence, relationships that are strong enough to be reflected by about a .25 level or less will be discussed as a meaningful relationship. In all cases the probability level of the relationship will be reported so that the reader may formulate his own estimate of "significance" as more or less than the interpretation given if he desires to do so.

Comparison of Grades

The grades of all students were converted to "sten" scale grades in order that grades of students from different courses and universities could be compared.¹ They were then placed on a 5 point scale.

The fall semester grades of the orientees were somewhat higher than those of the matched control students. The difference was significant at a probability of .20 (Table 4). Since failure to match on English language scores provided the control students with a potential for higher grades than they would have had if matched, the magnitude of the difference in fall semester grades

orientation the faculty's professors would have to give the students more individual guidance, which would be a more expensive way of giving it, or the students would suffer the consequences.

¹Canfield, loc. cit.

does not overstate the effect of the orientation but probably understates it somewhat. This coupled with the fact that a .20 probability level is reasonably significant for so few cases, provides justification for theorizing that orientation did provide for higher fall semester grades than would have been achieved without orientation.

Table 4

Comparison of Fall and Spring Average Semester Grades of The Orientees and Matched Students

Type of data	Orientees (N=14)	Controls (N=14)
Fall semester grades	3.0	2.7
Probability level of t test of difference		P > .20
Per cent with low grades (1.0 - 2.9).....	50.....	57
Spring semester grades	3.2	3.3
Probability level of t test of difference		P > .40
Per cent with low grades (1.0 - 2.9).....	14.....	29

There was essentially no difference in the average grades of the control students and the orientees in the spring semester. The magnitude of the probability level is due to the variation in grade distributions which is also indicated by the differences in percentage of students with low grades. The difference in grade performance of the orientees and matched controls leads to the

conclusion that the orientation program helped the orientees perform essentially at peak performance beginning with the fall semester, while the matched controls required the fall semester to adjust before they could reach their peak in academic performance. Apparently a period of adjustment or orientation is needed and taken by most foreign students regardless of whether the period is looked upon as adjustment or orientation time. However, the consequences of using the first semester as an orientation time, but not recognized as such, is that students could find themselves on probation at the end of the first semester not because of low ability, but because they were having difficulty adjusting to the new culture. The conclusion that the first semester in the United States is needed for adjustment is supported by the answers that advising professors interviewed in this research gave to the question of how long they felt it took foreign students to adjust to the new culture. Other research projects which specifically studied when academic problems occurred found most academic problems and probation occurred in the first semester of enrollment.¹ Thus differences in orientees and matched student grades the first semester, the judgment of advising professors, and results of other research agree that foreign students face a period of adjustment and that the first semester is the period in which most of the adjustment takes place. The difference in the grades of the orientees compared to those of the matched students indicates that orientation did apparently

¹Two of these were: Peter T. Hountras, "Academic Probation Among Foreign Students," School and Society, Vol. 84, September, 1956, pp. 75-77; and Ivan Putnam, Jr., Admission Data and The Academic Performance of Foreign Graduate Students at Columbia University, unpublished dissertation, Columbia University, 1952.

help the orientees adjust quickly to United States' university life. These results are consistent with the theory that orientation would speed adjustment and provide for better academic performance early in the student's sojourn. The theory also predicts that because orientation results in fewer and less severe adjustment problems, less transcultural anxiety will be experienced and that this lower anxiety in part will explain why the orientees have somewhat better grades than the matched students.

Comparison of Other Criteria of Adjustment Transcultural Adjustment Anxiety

The orientees' level of anxiety was lowered from before to after orientation. The orientees began the fall semester with a lower level of anxiety than that of the matched students who had an average anxiety level nearly the same as that of the orientees prior to orientation. The matched students did not achieve an equally low level of anxiety until sometime between the fall and spring administrations of the anxiety tests (Table 5).

The orientees also began the fall semester with significantly more knowledge of the United States' culture and universities than they had prior to orientation. Although the control students were not given a similar knowledge test, it is reasonable to assume that since they were matched with the orientees, they began the semester with about the same knowledge level as the orientees had had prior to orientation.

Thus the requirements of the theory for lower anxiety and higher knowledge level were apparently fulfilled and the lower grades of the control students the first semester were therefore

in the direction of that predicted by the theory for giving orientation. Also, as pointed out above, had the control students' English scores been as low as those of the orientees prior to instruction, there would probably have been an even greater difference in the grades of the orientees and control students in both semesters but particularly in the first semester.

Table 5
Changes in Transcultural Adjustment Anxiety Scores
of Orientee and Matched Students

Type of data	Orientees			Matched Students	
	Before orientation summer	After orientation Early fall	Late spring	Early fall	Late spring
Mean per cent scores	29.2	24.4	22.2	30.1	24.1
Probability level of t test of difference before to after orientation.....	P > .20			P > .30 ^a	
Early fall to late spring.....					
N		14		14	

^aTwo-tail test

Students' Views of Difficulty of Study in
United States Universities

In addition to actual grades, students were asked their perception of the difficulty of study in the United States compared to back in their home countries. When asked the question in the early fall semester a slightly higher percentage of the orientees than of the matched students rated study in the United States as more or much more difficult (Table 6). However, by late in the spring semester a lower percentage of the orientees were rating United States study as more difficult than they had in the fall or than the matched students were. In contrast, a somewhat higher percentage of the matched students were rating U.S. study as more difficult in the spring than they had in the fall. The fact that the orientees' fall grades were higher and their level of anxiety lower after orientation may help to account for their somewhat improved perception by spring of the difficulty of study in the United States.

Table 6

Comparison of Change in Percentage of Orienteer and Matched Student's Rating Study in the United States Compared to Back Home as More or Much More Difficult

Orienteer or Matched Students	Percentage rating U.S. study More or Much More Difficult		Percentage points changed
	Fall	Spring	
Orientees	86	64	-22
Matched students	79	86	+ 7

Summary

The higher grades of the orientees than of those of the matched students the first semester, the judgment of Cornell professors advising foreign students, and the results of other research agree that foreign students face a period of adjustment and that in the absence of an orientation program the first semester is the period in which most of the adjustment takes place.

The results in comparing the orientees and matched students on grades, transcultural adjustment anxiety, and perceptions of difficulty of study in the United States support the theory that orientation would speed adjustment and provide for better academic performance early in the student's sojourn.

FACULTY ADVISERS' TRANSCULTURAL
EXPERIENCE AND OPINIONS

Sixty-eight professors¹ were advisers for the students included in the project. These professors were interviewed in the spring semester of the students' first year in order to obtain their relevant experience as background for advising foreign students and their opinions and attitudes about foreign students' adjustments and need for orientation.

Faculty Advisers' Experience
in Foreign Countries

Advisers who have had some professional experience in foreign countries could be expected to have a better understanding of the kinds of adjustment required and difficulties met by foreign students entering a strange culture. They, therefore, in general, might be able to give their advisees more assistance than professors who had not had such experience. In addition, some students were associated with a United States professor when he was in their country and select him as their adviser when they come to the United States for graduate studies. In such cases, the professor has knowledge and experience of the student and his background culture. In a few instances the professor and student had worked cooperatively on research in the student's country and are planning to do likewise in the United States. For these

¹All but nine of these were Cornell professors; the other nine were in various universities in the U.S. where nine of the orientees were registered for their graduate work.

reasons it was felt important to know how many professors have had experience in a foreign country.

Thirty-one per cent of the advising professors had not visited a foreign country in a professional, academic, or technical capacity; 35 per cent had spent over a year in foreign countries in such capacities, and 12 per cent had spent over six months to a year (Table 7). Thus, almost half (47 per cent) of the advisers had spent over six months in foreign countries in a professional, academic, or technical capacity.

Table 7

Amount of Time Faculty Advisers Had Spent in
Foreign Countries in a Professional,
Academic, or Technical Capacity

Amount of Time	Number and Per cent of Advisers	
	Number	Per cent
Two weeks or less	1	2
Over 2 weeks to 1 month	4	6
Over 1 month to 2 months	2	3
Over 2 months to 6 months	7	11
Over 6 months to 1 year	8	12
Over 1 year	23	35
No outside visits	20	31
Total	65	100

Number of Foreign Students Ever Advised

Experience in advising foreign students is another variable which can be expected to influence the quality and type of advice given by faculty advisers to foreign students.

This experience was indexed by the number of foreign students ever advised. The median number of foreign students these professors had advised was 9.8. Thirteen per cent of them had advised more than 25 foreign students. Almost half of the professors (46 per cent) had advised from 11 to over 100 foreign students (Table 8).

Table 8

Distribution of Professors According to Number of
Foreign Students Ever Advised

Number of Students ever Advised	Number and Percentage of Advisers	
	Number	Per cent
1 - 2	11	16
3 - 4	11	16
5 - 10	15	22 (54)*
11 - 15	10	15
16 - 20	9	13
21 - 25	3	5 (33)*
26 - 50	4	6
50 - 100	4	6
Over 100	1	1 (13)*
	Total	68
	Median	9.8

*Cumulated percentage for 1-10, 11-25, and 26+ students advised.

Faculty Advisers' Opinions About
Foreign Graduate Students

The faculty advisers were asked their opinions on whether students experienced a period of adjustment and a number of questions concerning orientation and academic guidance of foreign students. These questions were designed in part to determine whether or not the professors were in agreement with principles in the theory for giving orientation.¹

Period of adjustment

Central to the rationale and theory supporting the giving of orientation is the idea that there is a period of adjustment for all foreign students.

All advisers thought the foreign students went through a period of adjustment. As high as 38 per cent of them thought this period was over one semester and up to two semesters (Table 9). Almost an equal per cent (34) thought the students underwent a period of adjustment but did not know for how long. For those professors answering 1-2 semesters, as the number of students whom the professors had advised increased, the per cent who answered 1-2 semesters rose continuously from 32 per cent for those who had advised from 1-4 students to 43 per cent for those who had advised from 16-100+. On the other hand, the per cent of faculty advisers who had no idea of how long the adjustment period was, declined continuously as the number of students ever

¹Since this section was prepared primarily as a descriptive statement of faculty opinion, no attempt has been made to test the data for significance of relationships.

advised increased.

Table 9

Percentage of Professors Who Subscribe to Different Lengths for the Period of Adjustment Needed by Most Foreign Students

Length of Period of Adjustment	Percentage of Professors by Number of Students Advised			Percentage of all Professors
	1-4	5-15	16-100+	
Don't know how long	45	36	19	34
One month to one semester	14	16	33	21
Over one to two semesters	32	40	43	38
Over two semesters	9	8	5	7
Total	100	100	100	100
N	22	25	21	68

The professors, therefore, agree with the theory that there is an adjustment period. Also, in general the more experienced the advisers the higher the percentage of them that believed the adjustment period would be about 1-2 semesters in length (Table 9). The more experienced advisers also more often stressed during the interviews that, although for the average student 1-2 semesters were required, some students adjusted more rapidly than others. They often indicated that factors such as language proficiency and development status of home country accounted for variations from student to student.

Eighty-three per cent of the advisers agreed or strongly

agreed that foreign students should be given orientation to United States' culture, higher education, and developments in their major field (Table 10). There was no great difference in the percentages of advisers according to number of foreign students ever advised who agreed or strongly agreed with this view.

Table 10

Percentage of Professors Who Agreed or Disagreed that Foreign Students Should Be Given Orientation to U.S. Culture, Higher Education, and Developments in Their Major

Amount of Agreement or Disagreement	Percentage of Professors by Number of Students Advised			Percentage of all Professors
	1-4	5-15	16-100+	
Strongly Agree	10	16	33	19
Agree	76	68	48	64
Disagree	14	16	14	15
Strongly Disagree	--	--	5	2
Total	100	100	100	100
N	21	25	21	67

Rules for courses, types of examinations, and professors' expectations should be carefully and specifically explained

Ninety-three per cent of the faculty advisers agreed that rules for courses, types of examinations and the professors' expectations should be carefully and specifically explained to foreign students (Table 11). During interviews professors often indicated that these procedures should be followed for all students,

but that it was even more important for foreign students.

Table 11

Percentage of Professors Who Agreed or Disagreed That Foreign Students Should Have Rules for Courses, Types of Examinations, and Professors' Expectations Carefully and Specifically Explained

Amount of Agreement or Disagreement	Percentage of Professors by Number of Students Advised			Percentage of all Professors
	1-4	5-15	16-100+	
Strongly Agree	9	20	43	24
Agree	77	80	47	69
Disagree	14	--	5	6
Strongly Disagree	--	--	5	1
Total	100	100	100	100
N	22	25	21	68

English instruction should be provided foreign students during their first semester

Eighty-four per cent of the faculty advisers agreed or strongly agreed that English instruction should be provided foreign students during their first semester (Table 12). The faculty advisers who advised 1-4 students had the highest (90) per cent who agreed or strongly agreed with this view. A number of professors qualified their answers to indicate that although this would be their recommendation for most foreign students, there were a number of exceptions as when the foreign students were highly proficient in English.

Table 12

Percentage of Professors Who Agreed or Disagreed That
Foreign Students Should Have English Instruction
Provided During Their First Semester

Amount of Agreement or Disagreement	Percentage of Professors by Number of Students Advised			Percentage of all Professors
	1-4	5-15	16-100+	
Strongly Agree	27	20	33	27
Agree	63	56	53	57
Disagree	5	16	14	12
Strongly Disagree	5	8	--	4
Total	100	100	100	100
N	22	25	--	68

Foreign students should take a reduced course load at least during first semester

Consistent with the theory that there is an adjustment period, a need to become accustomed to functioning academically with English as the medium of communication, and often different academic procedures to learn, is the response of the professors that foreign students in most cases should take a reduced course load their first semester in the U.S.

Ninety-two per cent of the advisers agreed or strongly agreed that foreign students should take a reduced course load at least during their first semester (Table 13).

Table 13

Percentage of Professors Who Agreed or Disagreed That
Foreign Students Should Take a Reduced Course
Load At Least During First Semester

Amount of Agreement or Disagreement	Percentage of Professors by Number of Students Advised			Percentage of all Professors
	1-4	5-15	16-100+	
Strongly Agree	32	36	52	40
Agree	64	48	43	52
Disagree	4	16	--	7
Strongly Disagree	--	--	5	1
Total	100	100	100	100
N	22	25	21	68

Foreign students should be given no consideration not given to U.S. students

Although a majority (55 per cent) of advisers agreed or strongly agreed that foreign students should be given no consideration not given to United States students, the advisers were divided on this issue (Table 14). Forty-five per cent of them disagreed or strongly disagreed with the statement. Advisers who had advised 16-100+ students were the ones with the highest per cent (65) who agreed or strongly agreed that no difference should be made between the two groups of students. Answering in this way is consistent with many experienced professors' beliefs as expressed in interviews that although students can and should be given help in adjusting and meeting expectations, they should be

required to meet the standards for satisfactory academic performance.

Table 14

Percentage of Professors Who Agreed or Disagreed That Foreign Students be Given No Consideration Not Given to U.S. Students

Amount of Agreement or Disagreement	Percentage of Professors by Number of Students Advised			Percentage of all Professors
	1-4	5-15	16-100+	
Strongly Agree	5	8	5	6
Agree	54	36	60	49
Disagree	36	56	20	39
Strongly Disagree	5	--	15	6
Total	100	100	100	100
N	22	25	20	67

Foreign students should be given extra time on examinations

Sixty per cent of the faculty advisers agreed or strongly agreed that foreign students should be given extra time on examinations (Table 15). Those faculty advisers who had advised 5-100+ foreign students had much higher percentages who agreed with this view than did those who had advised only 1-4 foreign students.

Assuming that professors are not interested in testing foreign students on speed of test completion or on language facility, the fact that they would often give more time to foreign students on examinations is consistent with the philosophy of giving extra help and considerations to them while maintaining

academic expectations and standards.

Table 15

Percentage of Professors Who Agreed or Disagreed on Giving Foreign Students Extra Time on Examinations

Amount of Agreement or Disagreement	Percentage of Professors by Number of Students Advised			Percentage of all Professors
	1-4	5-15	16-100+	
Strongly Agree	--	21	14	12
Agree	45	54	43	48
Disagree	45	21	29	31
Strongly Disagree	5	4	14	8
Total	100	100	100	100
N	22	24	21	67

Foreign students should be graded by the same standards as United States students

While 54 per cent of the professors indicated above that they would not give the foreign students considerations not given to United States students, a slightly higher, or 62, per cent of them indicated that foreign students should be graded by the same standards as United States students (Table 16). Sixty-seven per cent of the professors who had advised 16-100+ students agreed that they should be graded by the same standards (Table 16). Thus the professors tend to be consistent in their belief that standards should be maintained but help should be given to meet the standards. Some of the professors, however, make a

distinction between maintaining standards for learning of subject matter and standards for adequacy of expression of the subject matter knowledge. Therefore, while many, or most, professors will maintain standards of grading subject matter knowledge, they may not require as high a standard for adequacy of expression of the ideas by foreign students as they do of U.S. students. As indicated above, they may take the position that they test foreign students for subject matter knowledge but not for English language facility. However, making a distinction between whether the inadequacy of an answer related to the lack of language facility or lack of knowledge is not always easily accomplished and professors may tend to give the students the benefit of their doubts and attribute much of the inadequacy to the lack of language facility. This is one of the many ways in which professors may inadvertently apply a double standard in grading the performance of foreign students versus United States students, even though their intent and goals are to maintain standards.

Summary

Professors' opinions about foreign students' adjustment and need for orientation tended to agree with the principles included in the theory for giving orientation to foreign students. The more foreign students advised by the faculty members, the more they tended to agree with the major components of the theory.

All advisers believe that foreign students experience a period of adjustment and most of the more experienced advisers believe that period will extend from 1-2 semesters in length. Over eighty per cent of the advisers agreed that foreign students

Table 16

Percentage of Professors Who Agreed or Disagreed That
Foreign Students be Graded by Same Standards
as United States Students

Amount of Agreement or Disagreement	Percentage of Professors by Number of Students Advised			Percentage of all Professors
	1-4	5-15	16-100+	
Strongly Agree	5	8	5	6
Agree	68	40	62	56
Disagree	27	52	19	34
Strongly Disagree	--	--	14	4
Total	100	100	100	100
N	22	25	21	68

should be given orientation to the United States' culture, higher education and developments in their major field.

Most advisers indicated they want to maintain the same standards for foreign students as for United States students, but would agree to give foreign students extra help and consideration in meeting those standards. In grading foreign students, allowance is often given by professors for such factors as inadequacy of language facility. Because such handicaps are often difficult to distinguish from inadequate subject matter comprehension and advisers may tend to give the student the benefit of any doubts, professors may often inadvertently apply a double standard in grading foreign students.

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Total	100	100	100	100
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SUMMARY

Central to the theory of giving orientation is the hypothesis that foreign students experience a period of adjustment and that orientation helps the student adjust more quickly, with less difficulty and therefore with less transcultural adjustment anxiety. The anticipated results are fewer academic problems reflected by the student's achieving his grade level potential more quickly than he would have without orientation.

Results of this research indicate that foreign students do experience a period of adjustment. Based on the opinions of advising professors, the period of adjustment is one to two semesters in length. The results of other research on foreign students also indicate that more problems occur during the first semester in the United States than for subsequent ones. Over 80 per cent of the Cornell advisers felt that an orientation to United States' culture and higher education expectations and norms should be given to foreign students. After orientation at Cornell the orientees had (1) lower transcultural anxiety scores, (2) significantly higher knowledge of the United States and its universities' requirements, (3) significantly higher English language test scores and (4) compared to the control students in the first semester of study in the United States, lower transcultural anxiety and higher grades. The control students' grades did not match those of the orientees until the second semester of study in the United States.

The effect of English language proficiency and other background characteristics, such as origin in an underdeveloped country, on grades and other adjustment variables for all students

entering Cornell in the fall of 1963 were used in interpreting the results in this study. Because those findings are important to a full understanding of the conclusions and of the recommendations a brief summary of them is included here: (1) English language scores in this and other research show a persistent positive relationship to grades achieved, (2) students from an underdeveloped country will experience significantly lower first semester grades, more adjustment problems, and higher transcultural anxiety than students from developed countries, and (3) considerable prior transcultural experience is significantly related to higher grades in the first two semesters in the United States.

SUGGESTIONS FOR FUTURE ORIENTATION PROGRAMS

The suggestions given here are made on the basis of a review of a great deal of research, formal and informal interviews with foreign students and faculty advising foreign students, analysis of the extensive data involved in this research project, and close association with the staff and faculty who conducted the orientation program. Many of the suggestions have already been adopted at Cornell because of the immediate feedback of research results which in some cases served to confirm inclinations arrived at through experience in orienting foreign students.

The suggestions are as follows:

1. From the point of view of the host universities and most students the summer orientation programs appear unfeasible for the following reasons:
 - a. Students frequently overestimate their readiness for study in the United States until after they are enrolled and find themselves in trouble. Because of this and the extra costs involved, most students will not come to the United States two to three months early for orientation. Funding agencies also are usually reluctant to finance the "extra" time for orientation. In addition, most of the students are employed prior to coming for study and their employers are reluctant to release them early for orientation.

- b. Summer orientation for a relatively few students has a high cost per student and still leaves the task and cost of orienting the bulk of the foreign students during the fall term.

This is not to deny the value of the summer orientation programs to those who participate and for other reasons such as developing and evaluating orientation materials and methods as well as evaluating the effectiveness of well-conducted orientation programs.

2. Universities can most realistically plan to give orientation to foreign students in the two weeks prior to the semester and during the first semester for those most in need of it. (Cornell College of Agriculture has gone to essentially this type of program and believe it to be effective.)
3. During the first semester of adjustment a reduced scholastic load made up primarily of courses in the student's major in which his motivation and familiarity could be expected to be high might be a reasonable procedure for most foreign students and particularly those from underdeveloped countries.
4. Each institution should consciously plan how best to orient the new foreign students. Typically, general orientation and English instruction can be given at the university level, but curriculum, thesis, etc. orientation may most logically be given at the departmental level and by the individual advisers. As a general rule the more orientation that can be given at the departmental and adviser level the

better it will be since it can be given at the times when most applicable to the students' needs. However, it should be possible for the international students' office staff to assist the departments and advisers on what, how, and when to orient foreign students. A faculty foreign students advisers council would in many major universities assist in obtaining proper communications and coordination linkages between the international students' office staff, the faculty, and the foreign students.

5. A foreign students advisers' handbook would be useful even for the more experienced advisers. Enough is now known about the needs of the students and the advisers that it should be possible to produce such a handbook.

8

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APPENDIX A

Results of MatchingComparison of Orientees and Control Groups on
Variables Used in Pair Matching

Matching variables	Orientees N=14	Controls N=14	Judgment as to group matching
<u>1. Developmental status of country of origin</u>			
Developed	3	3	Perfect match
Underdeveloped	11	11	
<u>2. Rural or urban background</u>			
Rural	3	6	Not matched
Urban	11	8	
<u>3. Student's occupation before coming to U.S.</u>			
Professional, technical and kindred workers	13	11	Good match
Managers, officials, and proprietors (except farm)	0	1	
Sales workers	1	0	
Students	0	1	
No information	0	1	

APPENDIX A Continued

Matching variables	Orientees N=14	Controls N=14	Judgment as to group matching
4. <u>Father's occupation</u>			
Professional, technical and kindred workers	4	5	
Farmers and farm managers	6	4	
Managers, officials, and proprietors (except farm)	3	3	Good match
Clerical and kindred workers	0	1	
Craftsmen, foremen, and kindred workers	1	0	
Service workers	0	1	
5. <u>Age</u>			
21 - 24	4	3	
25 - 29	4	2	Good match
30 - 34	4	6	
35 - 41	2	3	
6. <u>Marital status</u>			
Married	11	9	Good match
Single	3	5	

APPENDIX A Continued

Matching variables	Orientees N=14	Controls N=14	Judgment as to group matching
<u>Of those married accompanied by family</u>			
Accompanied	10	8	Good match
Not accompanied	1	1	
7. <u>Degree sought</u>			
Master's	12	11	Good match
Ph.D.	2	3	
8. <u>English language tests</u>			
	<u>Mean scores</u>		
Lado English test for orientees, pre- orientation test, summer, 1963; for controls, tested in early fall, 1963	60	57	Good match $P > .60^a$ ("t" test)
King and Campbell English test for orientees pre- orientation test, summer, 1963; for controls tested in early fall, 1963	68	81	Not matched $P > .05^a$ ("t" test)

^aTwo-tail test

APPENDIX A Continued

Matching variables	Orientees N=14	Controls N=14	Judgment as to group matching
9. <u>Length of prior visit to U.S.</u>			
No visit	13	9	
Less than 4 weeks	0	2	Fair match
4 - 8 weeks	0	1	
9 - 12 weeks	0	1	
1/2 year - 1 year	1	1	
10. <u>Major field of study</u>			
Agronomy and plant science	7	4	
Animal husbandry and dairy science	2	0	Not matched
Agricultural economics	2	8	
Rural education	0	2	
Veterinary medicine	3	0	