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I am submitting herewith a thesis written by Diana Crisp Lopez entitled "Use of Test of English as a Foreign Language and Other Measures of English Proficiency as Predictors of Success for International Students at The University of Tennessee, Knoxville." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in English Education.

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USE OF TEST OF ENGLISH AS A FOREIGN LANGUAGE AND OTHER MEASURES OF ENGLISH PROFICIENCY AS PREDICTORS OF SUCCESS FOR INTERNATIONAL STUDENTS AT THE UNIVERSITY OF TENNESSEE, KNOXVILLE

A Thesis

Presented for the

Master of Science

Degree

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Diana Crisp Lopez

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ABSTRACT

International students need competence in the English language in order to complete successfully a graduate program. What level of competence is needed and does the level of competence vary with the field of study or the country from which the students come? These particular questions were investigated at The University of Tennessee, Knoxville, during a three-year period, from Summer 1974 through Spring 1977. Data were collected on 233 international students who had entered the University and had completed at least 12 quarter hours of graduate course work. The sample was divided into two groups, 181 students who had submitted TOEFL scores for admission and 52 students who had submitted other criteria. The Pearson product-moment correlation was computed on those with TOEFL scores. Those without TOEFL scores were compared in various categories. The two groups were then examined in total, by college/division, and by language/culture.

The results showed little correlation between TOEFL and grade point average and it was concluded that other measures of English proficiency were as acceptable as the TOEFL. The language/culture background of international students did show a correlation with English ability and academic success, but the field of study did not. Also concluded was that a single factor, i.e. English proficiency, cannot determine academic success of an individual student, but that many immeasurable factors influence achievement.

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CHAPTER I

INTRODUCTION

A. Problem

A problem has always been apparent in the admission of international students in relation to their academic success at American institutions of higher education. American colleges and universities should very carefully screen foreign applicants to insure that those students will not waste time and money but will profit from their academic experiences undertaken in the United States. Part of this problem relates to the degree of knowledge of the English language that international students must possess in order to receive an advanced degree in the United States. Do international students whose native language is not English need a knowledge of this language in order to study in the United States? What level of English should be achieved before they begin their studies? Is the needed level of English proficiency the same for all fields of study, i.e. engineering, business, education? "Competency in English . . . is generally considered to be the sine qua non for the academic success of foreign students in American collegiate institutions." (4) The chances of achieving a higher grade point average and receiving a master's or doctoral degree for international students who reach a sufficient level of English before entering graduate school should be greater than for those students who enter school without sufficient knowledge of English.

B. Assumptions

In order to investigate this problem, the investigator makes several assumptions:

1. The ability to communicate in English for foreign students whose native language is not English can be measured by the Test of English as a Foreign Language and other measures to be discussed in the following pages.
2. The cultural background of foreign students has an effect on their ability to communicate in English and on their academic success.
3. The grade point average in American colleges will differ according to students' particular field of study, i.e. English, mathematics, engineering.

C. Procedures

This study incorporated the use of documents and records from the Graduate Admissions and Records Office at The University of Tennessee, Knoxville on 233 international students who had entered the University since Summer Quarter, 1974. These files provided for each student the English test scores, grade point average, major field of study, degree goal, and home country. All international students had been screened for admission to The University of Tennessee, Knoxville, had presented measures of English proficiency before arriving in the United States, and had been tested for English proficiency after arrival on campus.

English proficiency was first examined by the use of a standardized test, the Test of English as a Foreign Language (TOEFL), which is administered by Educational Testing Service, Princeton, New Jersey. The TOEFL is required of all international students who apply from overseas for admission to The University of Tennessee, Knoxville. The minimum acceptable score was 475 on a scale of 200 to 700. (8) If students have studied in the United States, the investigator considered other measures of English proficiency such as English language schools they had attended and English taken at other American institutions.

The second means of determining English proficiency was the use of the English Proficiency Examination given by the English Department at The University of Tennessee, Knoxville to all entering international students. This test consists of an original written composition on an assigned topic and a section on the recognition and use of English grammar and sentence patterns in writing. The test determines whether students need further training in English or whether students have reached a sufficient level of English to take a full load of course work. By the use of these two measures, the investigator was able to determine the level of competence students have in English. After arranging the levels of English, the investigator classified the level of English of students by language/culture grouping and college/division grouping.

The investigator then examined the grade point average (GPA) of those students who had been enrolled for more than two quarters and had completed at least 12 quarter hours of course work at The University of Tennessee, Knoxville. The GPA of each student was

ranked according to the field of study by the various colleges/ divisions, i.e. Engineering, Education, Sciences, and by language/ culture classification, i.e. Chinese, Persian, Indian. The next step was to correlate the TOEFL with the GPA by using the Pearson product-moment correlation.

By examining the relationships between the TOEFL and English Proficiency Examination, level of competence in English and GPA with home country and field of study, and TOEFL and GPA, the investigator should be able to show a degree of relationship between the level of competence in English international students need to possess and academic success in graduate work at The University of Tennessee, Knoxville. For example, the GPA of students who scored high on the TOEFL could be expected to be higher than that of those students whose English proficiency was low when they entered school.

D. Definitions

At this point, a few terms need to be defined:

1. An international student is a person whose native language is not English. It is possible that some students may have spoken English at home or that the medium of instruction employed as part of their formal education was English, but English is not the mother tongue of the country in which they were reared.
2. The grade point average is that number found by dividing the total number of hours attempted into the total quality points where an A is equal to four points; a B+, three and a half points; a B, three points; a C+, two and a half; and a C, two. If a student has attempted 12 quarter hours and has obtained

three hours of A, three hours of B+, and six hours of B, the GPA is 3.37.

3. Different levels of English are determined by both the results of the Test of English as a Foreign Language and the English Proficiency Examination.

4. Academic success is defined as the grade point average of each student obtained after at least 12 quarter hours of graduate course work.

5. The Pearson product-moment correlation, designated r, is "employed to ascertain the magnitude of the relationship between two sets of measures." (9) The underlying assumptions are:

a. a linear regression;

b. an equal scattering of scores;

c. a symmetrical distribution around a central point;

d. continuous variables; and

e. a large sample.

E. Organization

The first chapter has presented the problem and procedures to be followed in this study, the assumptions underlying the problem, and some definitions. The investigator reviews the literature pertaining to this study in Chapter II. Various studies of the TOEFL and other English language tests are presented, as well as studies comparing English test scores and GPA done at other American institutions. In Chapter III, the data is presented in various tables showing the correlation of the TOEFL and GPA for the total sample, language/culture sample, college/division sample, and for the sample of those students

who had graduated or withdrawn. Also shown is the comparison of those who had presented other measures of English proficiency with the English course assigned in the various groups. Discussed in the last chapter are the results, conclusions, and recommendations of this study.

CHAPTER II

REVIEW OF LITERATURE

Several studies have been made on the validity of the TOEFL as a predictor as well as concurrent and construct validity. Clinton I. Chase, Professor and Chairman of the Department of Educational Psychology and Director of the Bureau of Educational Studies and Testing at Indiana University, wrote one of the two reviews of the TOEFL for the Seventh Mental Measurements Yearbook (2). He states that the purpose of the TOEFL is to assess the English language skills of those students whose native language is not English and who are applying to colleges in the United States. In the review the TOEFL is described as having five subtests (listening comprehension, English structure, vocabulary, reading comprehension, and writing) with a score for each subtest and a total score. The test results are reported by percentile ranks based on 114,000 people who took the test between 1964-69.

Chase reports that the reliability is .97 for the total score based on the Kuder-Richardson 20 and that the timing of the test is not a major factor as 90 percent of the students complete the test before the person who administers the test calls time. An intercorrelation between the subscores ranges between .54-.79 with a median correlation of .68. Reliability of the scores between the most and least reliable subtest is .60.

According to Chase, three types of validity are apparent: concurrent, predictive, and construct. The concurrent validity of TOEFL correlated with other English tests ranges between .70-.80.

The TOEFL measures the same as other English tests but the other tests are usually based on smaller samples than those used for the TOEFL. The TOEFL used as a predictor of grade point average shows a low correlation--.17 in a study at the University of California at Berkeley and .26 at the University of Washington. Therefore, the TOEFL has almost no value as a predictor of grade achievement. There is only a small amount of evidence of construct validity and therefore is not discussed in the review.

Chase summarizes by saying that the subtests assess important subskills in language behavior but that these tests overlap. The reliability is too low to be used for diagnostic purposes. The concurrent validity is acceptable, but the TOEFL is not useful as a predictor of grades. He suggests that the TOEFL be used for admission only in conjunction with other evidence.

The other review of TOEFL in the Seventh Mental Measurements Yearbook is written by George Domino, Associate Professor of Psychology and Director of the Counseling Center at Fordham University (2). He supports all that Chase has stated but adds that a breakdown by sex, undergraduate versus graduate status, and field of study is available from Educational Testing Service for the total scores. He also feels that the TOEFL is well constructed and is the most available English test in the world.

Two short studies have been done by Henry F. Dizney (5), one in conjunction with Kwo-Yann Hwang. The first involves testing the concurrent validity of TOEFL with a group of foreign students at Kent State University. He discusses the history of TOEFL begun by Educational Testing Service in 1964 and thinks that having testing centers in the

home countries is a plus factor. In reviewing studies made by others, he cites a memorandum from Educational Testing Service that indicates a sample of 512 students seeking admission to American universities who took the TOEFL in the fall of 1964. Of those total scores, the mean was 500 with a standard deviation of 85. Dizney states that estimates of reliability were unavailable but that correlations between TOEFL and institutional rankings on English proficiency tests at Columbia University, New York University, and the University of Michigan were .78, .87, and .76 with samples of 215, 91, and 45, respectively.

Following the procedures set forth for this study done during the fall of 1964, 20 foreign students at Kent State took the TOEFL, the Michigan Test of English Language Proficiency, and the ACT Board's English subtest. The students were also rated on English proficiency by the Foreign Student Advisor (FSA) at Kent State. The measures used were the total TOEFL score and the raw scores for the Michigan Test and the ACT. The reliability of the Michigan Test was measured by the split-half method at .96 and for the ACT at .84. The FSA ratings were done after six weeks of oral contact with the students and were ordered by rank without additional data.

The sample involved 20 foreign students (19 males and one female), all new students at Kent State representing 15 countries. The students had 5-17 years of English with a median of nine years and represented 16 major fields of study. The ages ranged from 19 to 38 with a median age of 23.5.

The results showed the mean of the TOEFL at 538.10 with a standard deviation of 106.19, the Michigan Test at 79.35 with a standard

deviation of 17.94, and the ACT English subtest at 30.70 with a standard deviation of 14.44. The Michigan Test correlated with the TOEFL at .97 and the ACT at .65; the TOEFL correlated with the ACT at .74, all significant at the .01 level. The rank order of correlation between the FSA ranking and the Michigan Test was .78; the TOEFL, .75; and the ACT, .62.

Dizney concludes that within the limitations of the study, the TOEFL and the Michigan Test have a degree of congruence (r=.97) and that both tests should not be used for the purpose of determining English proficiency. The TOEFL accounted for almost 13 percent more ACT-English variance than the Michigan Test, and the difference between the TOEFL and the Michigan Test with the FSA rankings was negligible.

In the second study by Dizney conducted with Kwo-Yann Hwang (7), the purpose was to investigate the validity of TOEFL as a predictor of first term GPA and of grades in English as a Second Language (ESL) for Chinese students at the University of Oregon. The procedures were to involve 63 students in the years 1966-68 who had taken the TOEFL prior to entrance to the University. The measure was the total score for the TOEFL by ETS. The subjects numbered 63 (32 males and 31 females) having had 7-13 years of English with the median of 10. The ages ranged from 22-36 with a median of 29. They were classified by fields into education, social and professional services, natural sciences, social sciences, and architecture numbering 21, 16, 11, 9, and 6, respectively. The students took the ESL course the first term.

The results were shown in a table of means and standard deviations of the total TOEFL score and the GPA. Correlations between the TOEFL and ESL grade for the 20 students was .66, significant at the .05 level.

The Pearson r's between the TOEFL and GPA was significant at the .05 level. They concluded that the TOEFL was a good predictor of grades for ESL for the Chinese students, but they were doubtful in its use of predicting academic success. The study could not be extended to other institutions either.

This same study was reproduced at The University of Tennessee, Knoxville in 1975 by the Office of International Affairs using 75 students from five major areas of the world in seven areas of study. The correlation of TOEFL with the first term GPA was .34, significant at the .01 level.

A major study was done by Donald K. Heil and Lawrence M. Aleamoni (6) on the assessment of the proficiency in the use and understanding of English by foreign students as measured by the TOEFL and the English Proficiency Examination (EPE). The five objectives were the following:

1. Determine the predictive validity of the TOEFL using first- or second-term grades for graduate students;
2. Determine the predictive validity of the EPE using the first- or second-term grades for graduate students;
3. Assess the concurrent validity of TOEFL and EPE;
4. Assess the predictive validity of TOEFL and EPE using grade in remedial English course as criterion; and
5. Estimate the magnitude of change in TOEFL scores after subjects had lived in an English speaking country and taken remedial English for one semester.

The test was conducted at Illinois University where foreign students must submit 80-89 on the English Language Inventory (ELI) or 480-569

on the TOEFL; then they must take the EPE. Students who score below the range on the TOEFL or ELI are denied admission and those who score above are placed in senior-level courses.

The results of EPE are used to place students in remedial English and also to limit the number of courses taken. There are four parts on the EPE: structure, aural comprehension, original composition, and pronunciation. There is no composite score.

The subjects were incoming foreign students accepted for the Fall 1970. One hundred fifty-four subjects were used for the initial sample, and 44 for the post-test in February 1971. The TOEFL was administered to 154 incoming foreign students in September of 1970. Scores were also presented from the initial TOEFL test taken in the native countries. The subjects were placed in English courses and their course loads limited. The students were then asked in February 1971 to retake the TOEFL, but only 44 responded.

The results were shown in numerous tables of correlations. The first was the subscores of TOEFL submitted prior to admission and after arrival. A significant difference in listening comprehension was shown but not in the other subscores. Between the TOEFL and EPE, the TOEFL correlations were significant beyond the .05 level except for vocabulary. No EPE correlations were significant. The total TOEFL scores were higher with the second semester GPA than the first term; however, there was no significant difference. Perhaps the larger number of courses influenced this significance. The predictive validity of the TOEFL and EPE with grades in English showed no correlation. The test/retest showed an increase in all means. Three subscore correlations were significant: listening comprehension, English structure,

and writing. Heil and Aleamoni thought that these increases should have occurred as the students had been in the country for six months using the English language. Motivation was probably also a factor. Students were aware that the tests in September and February were only for research.

In summary, Heil and Aleamoni concluded that the predictive validity of the TOEFL and EPE were similar to other admission tests given to American students. The correlations of the subscores could be better if they tested what the student would actually use in college work. They then described the problems of each subpart. In speculation and student feedback, they felt that there was a distinction between English and American English, that the TOEFL dealt too strictly with formal structures and was culturally bound, and that the TOEFL was no better or worse than other admission tests used to predict success. The TOEFL might be better if it measured the skills that students need for use in academic performance.

Another study was done by Clinton I. Chase in conjunction with William M. Stallings (3) to evaluate three tests of English language as predictors of success for foreign students. These tests were the Test of English as a Foreign Language (TOEFL), the University of Michigan Tests (Lado test), and the Pennsylvania State University English Language Proficiency Test (Pennstate). Using GPA as criterion, they correlated the various test scores of samples of students. For the Pennstate test, a sample of 52 foreign students was used; there were 50 subjects who had taken both the Lado and the TOEFL, so these were intercorrelated; and an additional 343 students who had taken the Lado test were used for analysis.

As the Lado sample was the largest, it was grouped by major, marital status, sponsorship, class standing, and language family. Summaries of the various tables showed no correlation between either sex being more predictable than the other, between successful and nonsuccessful students, between sponsored and unsponsored groups, or between married students accompanied by spouse and those not accompanied by spouse. Neither did the grouping of culture/language types show any significant correlation. A low correlation was found between the Lado tests and first semester GPA. The predictability of GPA for graduates was slightly greater than for undergraduate students, probably due to the greater homogeneity of ability of graduate students.

In the TOEFL sample, no significant correlations were found with the first and second semester GPA. Correlating the Lado test with the subtests of the TOEFL, correlations were significant at the .01 level, implying that the two tests are measuring the same abilities. Again, in the analysis of the Pennstate test, none of the subtests significantly correlated with the GPA.

Chase and Stallings commented that the GPA may not be a reliable criterion as professors may be influenced in their perception of a foreign student; therefore the validity of the entire study may be insignificant. However, using the GPA as a reliable criterion, the study showed only slight correlation between scores on English language tests and GPA. They concluded that academic achievement cannot be measured solely by the use of a language test. There are many variables which can better predict the GPA of foreign students.

CHAPTER III

PRESENTATION OF DATA

In investigating the problem of English proficiency for international students in comparison with their academic success, the investigator collected data from the Office of Graduate Admissions and Records at The University of Tennessee, Knoxville on 233 international students who had entered the University since Summer 1974 through Fall 1976 and had completed at least 12 quarter hours of graduate course work. These data consisted of the following:

1. home country;
2. TOEFL scores;
3. other measures of English proficiency used for admission purposes, i.e. GRE scores, English language schools, English taken at other American institutions;
4. course assigned to students according to grades on the English Proficiency Examination taken at the University;
5. major field of study;
6. degree goal;
7. grade point average through Spring 1977;
8. number of hours completed; and
9. date of graduation or withdrawal.

The investigator then divided the data into two groups, a sample of 181 subjects with TOEFL scores and 52 subjects for which other measures of English proficiency were used for admission. These data

were programmed on the Statistical Analysis System (SAS) (1) at The University of Tennessee in order to find the Pearson product-moment correlation between the TOEFL and GPA for the total number of students with TOEFL scores, the 10 language/culture groups, the eight college/division groups, the 65 subjects who had completed a degree, and the 12 subjects who had withdrawn after at least 12 quarter hours of course work. The investigator realizes that the correlations computed for the small samples are not as valid as that of those computed for the large samples.

The 52 subjects without TOEFL scores were compared by the criterion used for admission with the English course assigned to total sample, language/culture sample, college/division sample, and graduated or withdrawn sample. No correlations were produced on these samples because the data could not be numerically computed.

A. Level of Competence in English

The first step in observing the level of competence in English prior to enrollment was to compare the TOEFL with the English course assigned according to the English Proficiency Examination. The results of Table I showed a range from 398-672 with the mean at 538.44. The standard deviation was 58.88. Twenty-five point four percent of the students tested out of an English course; 42 percent tested into the advanced course (English 1221); and 32.6 percent tested into the beginning course (English 1211). The students testing into English 1211 showed a range from 398-648 on the TOEFL with a mean score of 505.59; the standard deviation was 49.66. For English 1221, the range was 424-644 with a mean score of 539.46; the standard

TABLE I

Distribution of English Course Assignment
for Students with TOEFL Scores

TOEFL	Total N	Total %	No English N	No English %	1221 N	1221 %	1211 N	1211 %
651-675	7	3.8	7	100.0	--	--	--	--
626-650	13	7.2	6	46.2	6	46.2	1	7.6
601-625	10	5.5	5	50.0	4	40.0	1	10.0
576-600	15	8.3	6	40.0	6	40.0	3	20.0
551-575	24	13.3	6	25.0	13	54.2	5	20.8
526-550	32	17.7	5	15.6	19	59.4	8	25.0
501-525	28	15.5	5	17.9	11	39.2	12	42.9
475-500	36	19.9	4	11.1	15	41.7	17	47.2
Below 475	16	8.8	2	12.5	4	25.0	10	62.5
TOTAL	181	100.0	46	25.4	76	42.0	59	32.6

deviation, 44.58. For the sample not required to take English, the scores ranged from 448-672 with a mean score of 579; the standard deviation, 61.98.

Figure I shows the distribution of the TOEFL scores and the percentage of students required to take an English course. The curvilinear distribution shows that students who score high on the TOEFL will have a greater chance of not being required to take an additional English course than those who score low on the TOEFL.

The sample of 52 subjects in Table II for which other measures of English proficiency were used, showed 44.2 percent testing out of English, 28.9 percent required to take English 1221, and 26.9 percent required to take English 1211. The students who had attended one of the English language schools operated by English Language Services (ELS), a profit-making corporation, scored the lowest on the Proficiency examination except the one who completed the entire course at Level 109. Those who left ELS at Levels 104, 105, and 106 scored poorly on the examination. Those students who had attended another American institution scored the highest. These students were required to have completed at least nine quarter hours of English with a grade of B or better. The other category included students for whom exceptions were made in admission based on GRE scores, letters of proficiency, or waivers requested by departments. Of the total sample of 233 students, 29.6 percent tested out of English, 39.1 percent tested into English 1221, and 31.3 percent tested into English 1211.

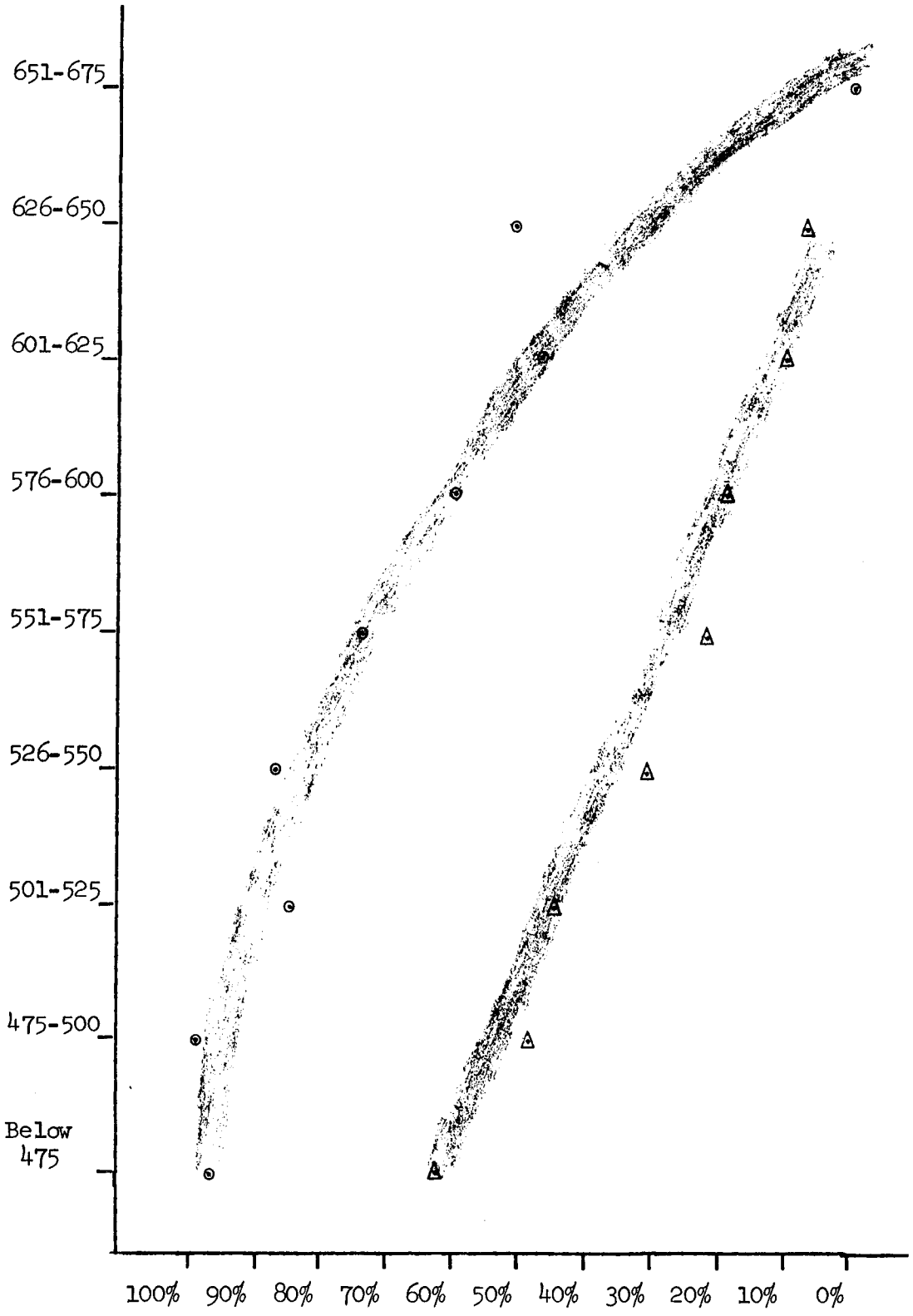

Figure I. Distribution of TOEFL Scores and Percentage of Students Required to take ⊙ English 1211 and 1221 and △ English 1211.

TABLE II

Distribution of English Course Assignment for Students with Other Measures of English Proficiency

English	Total N	Total %	No English N	No English %	1221 N	1221 %	1211 N	1211 %
ELS 109	1	1.9	1	100.0	--	--	--	--
106	3	5.8	--	--	--	--	3	100.0
105	2	3.9	--	--	--	--	2	100.0
104	1	1.9	--	--	--	--	1	100.0
American College	23	44.2	13	56.5	8	34.8	2	8.7
Other	22	42.3	9	40.9	7	31.8	6	27.3
TOTAL	52	100.0	23	44.2	15	28.9	14	26.9

B. Classification by Language/Culture

The investigator next divided the two groups by language/culture classification. Table III shows the total classification of the students' home countries by language/culture grouping. The majority of international students at the University come from the Chinese language group with 64 subjects. The next largest groups are Indian and Indonesian with 33 subjects each.

The distribution of English course assignment for students with TOEFL scores for this group is shown in Table IV. In almost all groups, the majority of students had to take an English course. The only major sample testing the majority out of English with 53.3 percent was the African group, and even then, the remaining students tested into the advanced English course. The next major sample was the Indian group testing 48 percent out of English. A large percentage of the Arabic, Persian, and Romance groups tested into the lower course.

Using the language/culture grouping, the investigator then correlated the TOEFL and GPA for this group. Table V shows the results. Excluding the Persian and Other groups because of the low number of subjects in the sample, the African group showed the highest mean TOEFL scores, but the Chinese group had the highest mean GPA. The African group showed a moderate positive association at .453, .09 significance level. The Chinese, Indian, Romance and Arabic groups showed a low positive association. The Indonesian group showed a negligible positive correlation and the Korean and Japanese, a low negative association. Although the sample in the Persian group was small, there was a moderate negative association.

TABLE III

Classification of Foreign Student Countries by Language/Culture

Chinese	Indian	Indonesian	African	Persian	Romance	Korean & Japanese	Arabic	Other
China Hong Kong	India Pakistan	Indonesia Malaysia Philippines Thailand Vietnam	Ethiopia Ghana Nigeria Sierra Leone Sri Lanka	Iran	Bolivia Brazil Colombia Costa Rica Dominican Republic Ecuador El Salvador Honduras Italy Mexico Panama Puerto Rico Switzerland Venezuela	Japan Korea	Egypt Iraq Lebanon Libya Saudi Arabia Syria	Germany Greece Israel Netherlands Turkey
N=64 or 27.5%	N=33 or 14.2%	N=33 or 14.2%	N=26 or 11.2%	N=9 or 3.8%	N=24 or 10.3%	N=19 or 8.1%	N=20 or 8.6%	N=5 or 2.1%

TABLE IV

Distribution of English Course Assignment for Students with TOEFL Scores by Language/Culture

Language/ Culture	N	Mean TOEFL	No English N	No English %	1221 N	1221 %	1211 N	1211 %
Chinese	57	552.98	10	17.5	29	50.9	18	31.6
Indian	25	544.24	12	48.0	9	36.0	4	16.0
Indonesian	29	520.72	5	17.2	11	37.9	13	44.9
African	15	564.53	8	53.3	7	46.7	--	--
Persian	6	518.33	--	--	3	50.0	3	50.0
Romance	17	530.94	3	17.7	4	23.5	10	58.8
Korean & Japanese	17	519.53	3	17.7	9	52.9	5	29.4
Arabic	10	484.80	3	30.0	1	10.0	6	60.0
Other	5	589.20	2	40.0	3	60.0	--	--
TOTAL	181		46	25.4	76	42.0	59	32.6

TABLE V

Correlation of TOEFL and GPA by Language/Culture

Language/ Culture	N	Mean	S.D.	Min.	Max.	r=	Sig. Level
Chinese	57					.234	.08
TOEFL		552.98	49.25	464	648		
GPA		3.56	.37	2.12	4.00		
Indonesian	29					.036	.85
TOEFL		520.72	41.32	448	672		
GPA		3.39	.18	3.00	3.75		
Indian	25					.166	.43
TOEFL		544.24	67.57	454	670		
GPA		3.33	.52	1.86	4.00		
African	15					.453	.09
TOEFL		564.53	54.34	474	660		
GPA		3.38	.39	2.63	3.97		
Persian	6					-.410	.42
TOEFL		518.33	78.63	408	640		
GPA		3.29	.35	2.93	3.75		
Romance	17					.279	.28
TOEFL		530.94	68.67	422	668		
GPA		3.39	.47	2.32	4.00		
Korean & Japanese	17					-.138	.60
TOEFL		519.53	49.87	398	630		
GPA		3.50	.41	2.40	3.98		
Arabic	10					.206	.57
TOEFL		484.80	74.54	408	662		
GPA		3.26	.91	.81	4.00		
Other	5					.028	.97
TOEFL		589.20	50.01	536	666		
GPA		3.58	.37	2.93	3.84		

For the group using other measures of English proficiency, in Table VI, the majority had attended other American institutions. Of the seven attending an English language school, six were Arabic and one was Japanese. The Japanese attended the entire ELS course and tested out of English. The Arabic students left the ELS course

TABLE VI

Distribution of Students with Other Measures of English Proficiency by Language/Culture

Language/ Culture	N	American College N	%	ELS N	%	Other N	%
Chinese	7	5	71.4	--	--	2	28.6
Indian	8	3	37.5	--	--	5	62.5
Indonesian	4	--	--	--	--	4	100.0
African	11	8	72.7	--	--	3	27.3
Persian	3	2	66.7	--	--	1	33.3
Romance	7	2	28.6	--	--	5	71.4
Korean & Japanese	2	1	50.0	1	50.0	--	--
Arabic	10	2	20.0	6	60.0	2	20.0
Other	--	--	--	--	--	--	--
TOTAL	52	23	44.2	7	13.5	22	42.3

early and all tested into the beginning English course. Table VII shows the distribution of language/culture group by English course assigned. Of these totals, the Chinese, African, and Korean and Japanese groups showed the best scores with the majority of students testing out of English. Eight out of 10 Arabic students tested into the beginning course.

TABLE VII

Distribution of English Course Assignment for Students with Other Measures of English Proficiency by Language/Culture

Language/ Culture	N	No English N	%	1221 N	%	1211 N	%
Chinese	7	5	71.4	1	14.3	1	14.3
Indian	8	4	50.0	4	50.0	--	--
Indonesian	4	2	50.0	1	25.0	1	25.0
African	11	7	63.6	4	36.4	--	--
Persian	3	--	--	2	66.7	1	33.3
Romance	7	2	28.6	2	28.6	3	42.8
Korean & Japanese	2	2	100.0	--	--	--	--
Arabic	10	1	10.0	1	10.0	8	80.0
Other	--	--	--	--	--	--	--
TOTAL	52	23	44.2	15	28.9	14	26.9

C. Classification by College/Division

The two groups were then divided by a college/division classification. Every student's major was listed under a college or division and then totaled in order to have workable size classification groups. A total of 56 majors were classified into eight college/division groups. Table VIII shows the classification that the investigator chose. The College of Engineering has the largest group of international students with 30.5 percent. The Sciences and Agriculture are the next largest groups with 20.2 percent and 19.3 percent, respectively. The smallest group is in the Humanities.

Taking the group with TOEFL scores first, the investigator shows in Table IX the distribution of those students by college/division in the English course assigned. In all college/division groups, the majority of students had to take an English course. Only one-fourth of all students with TOEFL scores were not assigned an English course; however, the largest percentage tested into the advanced class.

Table X shows the results of the correlation of TOEFL scores and GPA by college/division. Business had the highest mean TOEFL score; Education, the lowest. Engineering had the highest mean GPA; Home Economics, the lowest. The correlations show a low association in Agriculture, Business, Home Economics, and Social Science; a moderate positive association in the Sciences; a negligible negative association in Education and Engineering; and a very strong negative association in the Humanities.

For the group without TOEFL scores, Table XI shows the distribution by college/division with the measure of English proficiency used.

TABLE VIII

Classification of Foreign Student Majors by College/Division

Agriculture	Business	Education	Engineering	Home Economics	Sciences	Social Sciences	Humanities
Agricultural Economics	Accounting	Agricultural Education	Chemical Engineering	Crafts, Interior Design, & Housing	Biochemistry	Anthropology	Communications
Agricultural Engineering	Economics	Educational Psychology	Civil Engineering	Food Systems	Biology	Audiology & Speech Pathology	English
Agricultural Extension	Industrial Management	English Education	Electrical Engineering	Home Economics	Botany	Ecology	Library Science
Animal Science	Management Science	Foreign Language Education	Engineering Science	Nutrition	Chemistry	Planning	
Food Technology	Marketing	Public Health	Industrial Engineering	Textiles & Clothing	Computer Science	Political Science	
Forestry	Statistics		Mechanical Engineering		Geology	Psychology	
Plant & Soil Science	Transportation		Metallurgical Engineering		Math	Organizational Psychology	
Ornamental Horticulture			Nuclear Engineering		Microbiology	Sociology	
					Physics	Water Resources	
					Radiation Biology		
					Zoology		
45 or 19.3%	19 or 8.2%	17 or 7.3%	71 or 30.5%	14 or 6.0%	47 or 20.2%	14 or 6.0%	6 or 2.5%

TABLE IX

Distribution of English Course Assignment for Students with TOEFL Scores by College/Division

College/ Division	N	Mean TOEFL	No English N	No English %	1221 N	1221 %	1211 N	1211 %
Agriculture	37	525.43	8	21.6	15	40.5	14	37.9
Business	15	581.73	6	40.0	6	40.0	3	20.0
Education	11	490.91	2	18.2	2	18.2	7	63.6
Engineering	55	538.11	9	16.4	33	60.0	13	23.6
Home Economics	12	534.83	4	33.3	5	41.7	3	25.0
Sciences	38	544.58	12	31.6	12	31.6	14	36.8
Social Science	10	560.20	4	40.0	2	20.0	4	40.0
Humanities	3	526.67	1	33.4	1	33.3	1	33.3
TOTAL	181		46	25.4	76	42.0	59	32.6

TABLE X

Correlation of TOEFL and GPA by College/Division

College/ Division	N	Mean	S.D.	Min.	Max.	r=	Sig. Level
Agriculture	37					.168	.32
TOEFL		525.43	50.40	430	670		
GPA		3.36	.30	2.63	4.00		
Business	15					.191	.50
TOEFL		581.73	57.41	448	648		
GPA		3.41	.55	1.86	4.00		
Education	11					-.057	.87
TOEFL		490.91	48.41	408	584		
GPA		3.48	.17	3.07	3.68		
Engineering	55					-.018	.90
TOEFL		538.11	52.66	398	644		
GPA		3.57	.33	2.32	4.00		
Home Economics	12					.211	.51
TOEFL		534.83	60.08	424	638		
GPA		3.21	.56	2.12	3.86		
Sciences	38					.429	.01
TOEFL		544.58	66.63	408	672		
GPA		3.37	.61	.81	4.00		
Social Science	10					.261	.47
TOEFL		560.20	66.44	488	666		
GPA		3.53	.31	2.99	4.00		
Humanities	3					-.727	.48
TOEFL		526.67	42.39	488	572		
GPA		3.34	.36	3.10	3.76		

TABLE XI

Distribution of Students with Other Measures of English Proficiency by College/Division

College/ Division	N	American College N	%	ELS N	%	Other N	%
Agriculture	8	2	25.0	4	50.0	2	25.0
Business	4	2	50.0	--	--	2	50.0
Education	6	4	66.7	--	--	2	33.3
Engineering	16	7	43.8	3	18.8	6	37.4
Home Economics	2	2	100.0	--	--	--	--
Sciences	9	3	33.3	--	--	6	66.7
Social Science	4	2	50.0	--	--	2	50.0
Humanities	3	1	33.3	--	--	2	66.7
TOTAL	52	23	44.2	7	13.5	22	42.3

Students who attended ELS entered the colleges of Agriculture and Engineering. The Sciences had the largest number of students for whom exceptions were made by using other criteria for admissions. Engineering had the same number but a smaller percentage.

The English course assignment for these students by college/division is shown in Table XII. Only Agriculture, Engineering, Sciences, and Humanities had students who were required to take the beginning English course. Of this group, 44.2 percent tested out of English, the majority of these students having attended other American institutions.

TABLE XII

Distribution of English Course Assignment for Students with Other Measures of English Proficiency by College/Division

College/ Division	N	No English N	No English %	1221 N	1221 %	1211 N	1211 %
Agriculture	8	2	25.0	1	12.5	5	62.5
Business	4	3	75.0	1	25.0	--	--
Education	6	3	50.0	3	50.0	--	--
Engineering	16	4	25.0	5	31.3	7	43.7
Home Economics	2	1	50.0	1	50.0	--	--
Sciences	9	5	55.6	3	33.3	1	11.1
Social Science	4	2	50.0	1	25.0	1	25.0
Humanities	3	3	100.0	--	--	--	--
TOTAL	52	23	44.2	15	28.9	14	26.9

D. Correlation of TOEFL and GPA

The Pearson product-moment correlation was run on three additional categories for the 181 subjects with TOEFL scores. Table XIII shows the results. The correlations were done with the TOEFL and GPA for those who had received a degree, for those who had withdrawn, and for the total number of students. For the sample of 65 subjects who had received a degree, the TOEFL and GPA were correlated with a moderate positive association. A substantial positive association was shown for those who had withdrawn from the University. For the total number of subjects who had provided TOEFL scores, a low positive association was shown at .199 significant at the .01 level.

TABLE XIII

Correlation of TOEFL Scores with GPA

TOEFL with GPA	N	Mean	S.D.	Min.	Max.	r=	Sig. Level
Graduates	65					.344	.01
TOEFL		524.94	56.30	408	666		
GPA		3.48	.25	3.00	4.00		
Withdrawn	12					.515	.09
TOEFL		518.67	60.30	408	620		
GPA		2.93	.94	.81	3.88		
TOTAL	181					.199	.01
TOEFL		538.43	58.88	398	672		
GPA		3.44	.44	.81	4.00		

For the sample without TOEFL scores, 38 percent had received degrees with a 3.48 mean GPA, and only four had withdrawn having a 2.83 mean GPA. The mean GPA for the total sample of 52 was 3.41 with a standard deviation of .32.

E. Summary

A summary of the data shows that only 25.4 percent of the students with TOEFL scores were not required to take an English course, and the majority of the remaining students were required to take the advanced course. Of those students without TOEFL scores, the majority had attended other American institutions and were not required to take any additional English. The total sample was almost divided into thirds with 30 percent testing out of English, 39 percent testing into the advanced course, and 31 percent testing into the beginning course.

The data on the language/culture group shows the largest percentage of international students coming from the Chinese group. Only the African group tested the majority of students out of English. The Indonesian group tested the majority into an English course. The African group had the highest mean TOEFL score and the Chinese, the highest mean GPA. The only significant correlation between TOEFL and GPA was shown in the African group, having a moderate positive correlation. For the group using other measures of English proficiency, most students had attended other American institutions and tested out of English. The Arabic group had the largest percentage of students required to take an English course.

The classification by college/division shows that the largest percentage of international students study engineering, science, and agriculture. Of those with TOEFL scores, most had to take an English course. Business had the highest mean TOEFL score and Engineering had the highest mean GPA. The only significant correlation between the TOEFL and GPA was in the Sciences. For those without TOEFL scores, a large percentage tested out of English, most of these students having attended other American institutions. The students who attended ELS entered agriculture and engineering. The Sciences had admitted the largest number of students for whom other criteria were used.

The correlation between TOEFL and GPA for those who had graduated was .344 at the .01 significance level, a moderate positive association. Of those who had withdrawn, a substantial positive association was shown at .515, .09 significance level. For the total sample of 181 subjects, a low positive association was shown at .199, .01 significance level.

CHAPTER IV

RESULTS AND CONCLUSIONS

A. Problem and Procedures

International students need competence in the English language in order to complete successfully a graduate program. What level of competence is needed and does the level of competence vary with the field of study or the country from which the students come? These questions were investigated at The University of Tennessee, Knoxville, during a three-year period, from Summer 1974 through Spring 1977. Data were collected on 233 international students who had entered the University and had completed at least 12 quarter hours of graduate course work. The sample was divided into two groups, 181 students who had submitted TOEFL scores for admission and 52 students who had submitted other criteria. The Pearson product-moment correlation was computed on those with TOEFL scores. Those without TOEFL scores were compared in various ways. The two groups were then examined in total, by college/division, and by language/culture.

B. Results

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Level of Competence

In determining the level of competence in English, the investigator compared the TOEFL and English course assignment. The results showed that those students who scored low on the TOEFL usually scored

low on the English Proficiency Examination and therefore, were assigned an English course. The students with high TOEFL scores usually were not required to take any additional English as their levels of competence in English were judged to be sufficient to carry a full load of course work. There were a few exceptions in which students would score high on the TOEFL but low on the English Proficiency Examination or vice versa; however, the English Proficiency Examination taken at The University of Tennessee, Knoxville measures approximately the same level of English competence as the TOEFL.

Two facts were revealed for those students who had submitted other evidence of English proficiency. First, more students who presented other evidence tested out of English than those who presented TOEFL scores. One contributing factor was that most of these students had attended other American universities and had received instruction in English at those institutions. These students had also been in the United States from two to four years before arrival on this campus. Second, the English language schools could provide sufficient English training if the students were willing to remain throughout the entire course, Level 109 at ELS. Most students are too eager to begin their graduate studies and leave the English language school before they are fully prepared. This fact is shown in Table II, page 20. The students who did not complete Level 109 were required to take the beginning English course. Therefore, proficiency in the English language cannot necessarily be determined by the use of TOEFL alone. Other criteria, i.e. attendance at another American institution or English language school, other test scores, and letters of proficiency, can also determine English ability.

Language/Culture Classification

The results of the language/culture classification showed the African group as having the highest mean TOEFL score and the largest percentage of students testing out of English. Two contributing factors are that most of the African nations were at one time British colonies and that the language of instruction in most African schools is English; however, many of the countries in this study offer instruction in English. The mean GPA for the African group was 3.38. Therefore, the language/culture for the Africans does have some effect on their English proficiency and academic success. A majority in each of the remaining groups was required to take an English course. The Chinese group had the highest mean GPA even though 82.5 percent of the students had to take an English course. Therefore, the academic success is high for the Chinese group even though the language ability is low. For the sample without TOEFL scores, again the African and Chinese groups tested the largest percentages out of English, most of these having attended other American institutions.

College/Division Classification

For the classification by college/division, the results showed that Engineering had the largest group of international students with Science and Agriculture, second and third, respectively. The majority in all colleges and divisions tested into an English course with a high percentage required to take the advanced course rather than the beginning course. Business had the highest mean TOEFL score as this college has been requiring a minimum of 550 on the TOEFL and all students must also have acceptable scores on the Graduate Management Admission Test. The negligible negative correlation in Education

and Engineering (low TOEFL scores and high GPA) shows that there is no significant relationship between English proficiency and grade point average. The Sciences showed a moderate positive association, the only significant correlation in the college/division category. The negligible and low correlations in the other colleges and divisions showed that English proficiency as measured by TOEFL had no bearing on academic success.

For the sample without TOEFL scores, the largest percentage had attended other American institutions and were not required to take additional English, a factor again showing that the TOEFL is not the best criterion for determining English proficiency. When the various colleges/divisions were compared, there was very little correlation between GPA and ability to communicate in English.

Graduated Sample

The results of the study of the students who had received degrees showed a moderate correlation at .344, .01 significance level. All of these students, however, were required to have a minimum 3.0 GPA in order to graduate. The mean TOEFL score was only 525. Again, unknown factors contributed to students' abilities to achieve the goal of receiving an advanced degree.

Withdrawn Sample

A substantial positive correlation was shown for those students who had withdrawn from the University. This fact would indicate that these students had left the University because they felt that they could not complete their degree programs; however, some may have transferred to other universities or returned home because of financial difficulties, problems at home, or personal problems.

Total TOEFL Sample

The results for the sample with TOEFL scores showed a low positive correlation for the total group, proving that there is little correlation between English proficiency and academic success. There are several variables that contribute to this low correlation. First, The University of Tennessee, Knoxville, required a minimum TOEFL score. Based on this requirement, all international students have some competence in English before their arrival in the United States. Another consideration is student motivation. All of the students have succeeded academically in their native countries and feel that they must succeed now. Also one must take into consideration the fact that GPA is not the best criterion for academic success and that the TOEFL is not a perfect test measuring foreign students' English proficiency.

C. Conclusions

Several conclusions can be drawn from the preceding results.

1. One test cannot fully determine English ability, and as long as the University requires the English Proficiency Examination and offers remedial courses in English, other measures of English proficiency should be used for admission.
2. The use of both the TOEFL and the English Proficiency Examination can determine whether students need additional instruction in English.
3. The culture in which the students were reared, the native language, and the language in which the students were taught have some effect on their English language ability and on their academic

success in American institutions; however, English proficiency alone does not have any effect on academic success.

4. Even though a substantial association was shown between GPA and TOEFL for those students who had withdrawn, one cannot fully conclude that the reasons for withdrawal were academic- or language-related.

5. The TOEFL and other admission criteria for English proficiency cannot determine academic success as defined by GPA. Other immeasurable factors influence individual students in their achievements.

D. Problems for Further Study

Although disproving that English proficiency can be used as a predictor of academic success, this problem can be studied further. First, is there a point in time in which English proficiency can determine whether students will complete a degree program? For example, if The University of Tennessee, Knoxville, had not required a minimum TOEFL score or other measures of English proficiency, would the correlations have been significantly different? If English proficiency cannot determine success, what other criterion could be examined during admissions in order to determine whether students will succeed? Can academic success be determined by GPA or the receipt of an advanced degree? How many quarters did students take in order to complete 45 quarter hours of course work for a Master's degree? Perhaps those students with high grade point averages took only the minimum nine hours each quarter while those with a low GPA carried the maximum of 15 quarter hours. Also, those students whose

English scores were low may have had to study more than others in order to obtain satisfactory grades while those with high English scores were probably academically well-qualified. Lastly, how can other factors, i.e. motivation, ambition, industriousness, and conscientiousness, influencing individual students in their achievements be measured?

The investigator, supported by catalog statements of most American universities, believes that all international students who are receiving their education in the United States should include in their goals the ability to communicate effectively in the English language. According to the National Association of Foreign Students Affairs (NAFSA), all institutions should require the minimum proficiency in English that the school can accommodate. NAFSA suggests that if an intensive English program is taught at the institution, the requirement may be low; whereas, if the institution has no facilities for English instruction, the requirement must be high. The aim of every American institution should be to provide the international student with a quality education, including that of written and oral communication in the English language.

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