THE PREDICTIVE VALUE OF AN ENGLISH ACHIEVEMENT TEST
FOR GRADES IN MODERN FOREIGN LANGUAGES

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THE PREDICTIVE VALUE OF AN ENGLISH ACHIEVEMENT TEST FOR GRADES IN MODERN FOREIGN LANGUAGES

THESIS

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

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By

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Denton, Texas
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CHAPTER I

INTRODUCTION

Purpose of the Study

There has been considerable controversy concerning the proper techniques and material best suited to making a valid prognosis of grades in a foreign language course. One of the first inquiries into this subject was by Glover in 1917 (4). He states that grades in English courses are the best available criteria for predicting success in foreign language courses. From that date, numerous avenues of approach have been explored by a multitude of investigators in search of a consistently reliable method of prognosis. Attempts have been made to relate grades in foreign language courses to scores on aptitude tests (5), adaptation to an artificial language (12), intelligence quotients (7), grades in general language courses (6), and even to guessing (9). Unfortunately, none of these methods have proved completely reliable, in that repeated testing has failed to show any consistent correlation. They were, furthermore, concerned with success in the study of only one foreign language, which limits the applicability of prediction for the general field of foreign language study.
Of continued interest to researchers in the foreign language prognosis field has been the relationship of achievement in the study of English to achievement in the study of foreign languages. This relationship has been investigated both directly and indirectly, and two methods for measuring achievement in the study of English have been used - teacher's marks and standardized achievement tests.

Numerous studies have been conducted in an attempt to determine the predictive value of course marks in English for course marks in individual foreign languages (1, 4, 8). These studies appear to show a definite relationship between the two criteria, but they fail in the attempt to establish English course marks as a reliable prognosticator beyond about fifteen per cent better than chance. Even with this lack of success, course marks in English do show a consistent relationship with continued application. Their lack of higher correlation is due to the lack of reliability in teacher's grades (3, 6).

Knowledge of the English language has been related to course marks in individual foreign languages in a number of studies through the use of English achievement tests (2, 10, 11, 13, 14, 15). These studies were conducted toward differing goals and met with varying success, reporting correlations ranging from .46 to .59. None of these studies used tests which measured the complete range of knowledge of the English language, and some were not conducted in such
a manner as to provide reliable cor relational data between the two criteria (11, 15).

Almost all of the studies that have been conducted have advanced on the premise that there is a distinct measurable aptitude for acquisition of a foreign language. If aptitude for the acquisition of languages does exist, then the question is, are the abilities which are required for achievement in the study of the native tongue the same as those used to learn foreign languages? That these abilities are the same is substantially corroborated by the studies relating course marks in English to course marks in various foreign languages.

For the average student, viewing him holistically, study of any subject holds the same amount of positive or negative valence. For this reason, the motivational forces operant in the acquisition of knowledge of the vocabulary, grammar, and usage of the native tongue should be operant in the study of foreign languages. Both the ability to grasp the intricacies of languages and the motivation operant in the individual in his study of languages should be reflected in his performance on an English achievement test.

For the purposes of this problem motivation is assumed to be a constant. Achievement in the study and understanding of English is determined by use of a standardized English achievement test, a measure which avoids the subjective nature of teacher's grades found in English courses. The
course marks used as a criterion of achievement in foreign languages continue to have this subjectivity, but until such time as course marks in foreign languages are based on the results of standardized achievement tests, such marks are the only feasible criteria which may be used. It is not the purpose of this study to evaluate the accuracy of the grading techniques of foreign language instructors.

Statement of the Problem

This study has as its objectives: (1) the determination of the degree of relationship between achievement in the study of English as measured by a standardized English achievement test and achievement in the study of foreign languages as measured by teacher's grades; (2) the determination of the amount of contribution to such a relationship of the achievement in various functional areas in the study of English as measured by the subtests of the English achievement test.

It is assumed that the abilities required for achievement in the study of the English language are accurately assessed by an English achievement test, and it is hypothesized that if these abilities are similar to those necessary for achievement in the study of foreign languages, then performance on an English achievement test will be highly correlated positively with achievement in the study of foreign languages.
Sources of Data

Measures of achievement in English are obtained through the use of The New Purdue Placement Test in English, Form D (16). This test is composed of seven subsections, each section reporting an individual score. The subsections are: Recognition of Grammatical Errors, Punctuation, Sentence Cleanness and Effectiveness, Reading, Vocabulary, and Spelling. These subsections, with the exception of Sentence Cleanness and Effectiveness, are presumed to give measures of achievement in the functional areas which comprise the study of the English language. Sentence Cleanness and Effectiveness is based upon adequate understanding of and achievement in these areas, and is excluded from the test for reasons later discussed.

Measures of achievement in the study of foreign languages are the numerical course grades reported by the teachers for one class each of elementary Spanish, French, and German. The three classes are considered as a combined group in order to have as a criterion success in the study of foreign languages.

Method of Procedure

The English achievement test was administered on the first day of the semester to all students enrolled in one class each of elementary French, German, and Spanish during the first summer semester of 1963 at North Texas State
University. The test was administered to each class by the same person and the directions to the students were those outlined in the test manual for the achievement test. This insured that each class had as nearly as possible identical instructions for the test.

The time required to complete the test was shortened by omitting from the test the subsection entitled Sentence Clearness and Effectiveness. Preliminary studies, conducted in preparation for this study, indicated that this section adds little or nothing to the over-all correlational indices. The time was further shortened by allowing less time than indicated in the test manual for four of the remaining subsections. The shortening of the test resulted in a total time of forty-eight minutes of timed application by the students.

Shortening of the test accomplished two purposes, i.e., allowing the test to be administered during one class period and giving a greater differentiation of the individual scores by spreading them over a greater range.

At the completion of the semester, numerical grades representative of each teacher's evaluation of his student's progress were obtained from the three teachers.

The stated objectives of the study were reached through determination of the degree of correlation between the sub-tests of the English achievement test and the course grades by multiple correlation procedure, and by determination of
the regression equation which depicts the degree of contribution of each subtest to that correlation.
CHAPTER BIBLIOGRAPHY


CHAPTER II

RELATED STUDIES

The problem which forms the central purpose of this study was formulated after extensive reading in the field of prognosis in foreign languages. The following studies were the principal contributors to the formulation:

An article by Glover in 1917 (12) compares success in English composition to future success in elementary foreign language. A correlation of .632 is reported between the two measures. This rather high correlation is considered to be a result of the conversational treatment used in studying foreign languages, a process which involves all the elementary principles usually found in the study of the native tongue. Glover concludes that English grades may be of some use in prognosis, but that they should be combined with other measures for more exact prediction.

In 1922 Briggs (5) attempted the formulation of a prognostic test of ability for foreign languages. The learning of a foreign language was analyzed as including the operations of memorization of a vocabulary, memorization of paradigms, and translation and other activities. Briggs determined that such a prognostic test should test for free association, extent of vocabulary, memory of nonsense syllables, analogies, completion test items,
substitution of words, and word opposition. The test formulated was correlated with term marks in foreign language and showed a correlation of .47.

Intelligence test scores were advanced in 1925 by Jordan (15) as being superior to marks in English. He proposed that an I. Q. of 100 be used as a cut-off point in determining who might most profitably study foreign languages.

Bertime (1), in 1928, also found some validity in the use of intelligence scores. He found a sufficiently high degree of relationship between Thorndike total scores and grades in beginning German and Spanish to warrant using the intelligence scores as predictors of successful study. The relationship did not hold, however, for scores in beginning French.

Kaulfers (18) did not share this enthusiasm for the use of intelligence scores as predictors. He believed that achievement in foreign language study was determined to a large degree by factors other than intelligence.

The prognostic value of grades in a general language course was discussed in 1928 by Kaulfers (21). Such grades could be used to classify students into homogenous groups but could not validly predict individual grades. Kaulfer's study showed a correlation of .442 between grades in a general language course and foreign language course grades. He concluded that "teacher's marks in general language are
no more certain predictive measures for foreign language than ordinary intelligence quotients, and appreciably less accurate than simple grades in English" (21, p. 664).

Kaulfers also reflected the doubts current at that time about "language talent." He felt that potentiality could only be measured by present performance, and that capability could only be measured through accrued ability. "An aptitude test then, is to reveal a body of expectations and can be no more general than a battery of tests of special abilities or skills" (21, p. 664).

Kaulfers believed that an aptitude test for foreign language talent should meet the following requirements:

Each element of the special aptitude test should be as nearly as possible homogenous. . . .

Each homogenous element should correlate as highly as possible with some objective measurement of the general trait or aptitude. . . .

Another requirement for a valid battery of aptitude tests is that it show a poor transfer to other fields of testing (21, p. 664).

A study reported by Todd (33) in 1928 investigated the possibility of there being a language aptitude. Measurements included tests of memory capacity, comprehension, extent of English vocabulary, range of general information, and intellectual level. As a battery these measurements correlated highly with achievement in foreign language study. They also correlated highly with achievement in other fields of study. The report concluded that no distinct language ability had been differentiated from all others.
In 1929 Kaulfers (17) made another attempt to relate intelligence scores to foreign language achievement. He concluded that:

The I. Q. has a significant influence upon pupil achievement in Spanish, as measured by teacher's grades (which is not always very valid.)

Boys in general require 10% more intelligence than girls to achieve on the same level in Spanish.

Boys as a group achieve less in terms of mental ability than girls - a condition pointing to inferior habits of study and application, such as might readily be induced by a sex difference in language interests, or by a lack of appeal of Spanish courses to masculine tastes (17, p. 164).

Patter (27) listed the Wilkins Prognosis Test in modern foreign language and the Iowa Placement Test for foreign language aptitude as being available in 1929 for foreign language prognosis.

Also in 1929 Henmon (14) discussed problems of prognosis in foreign language learning. One of the most pressing needs at this time was still one of finding a reliable measure for prognosis, the problem being "who should and who should not study a foreign language." He states that the testing of linguistic aptitude rests on a complex of abilities and gives the following steps which should be followed in formulating a battery of tests to measure these abilities:

2. Choice of a preliminary battery of tests designed to measure traits which seem to be most significant from the aptitude analysis.
3. Administration of the tests to a large number of individuals who are about to begin training.
4. Securing a criterion score with which the results of the tests may be correlated.
5. Technical analysis of the correlation with the criterion and the intercorrelation on a basis of which the final selection of tests may be made.

He also states that:

Evidence given shows that special prognosis tests are more effective instruments than general intelligence tests and that these together with objective measurements in a trial period furnish in the present state of our knowledge the best bases of prediction and classification (14, p. 125).

The relationship of scores in English courses to achievement in foreign language study is explored again in 1929 by Kaulfers (22). Although English grades have been generally considered to be the best predictors of foreign language achievement, little objective proof has been offered to support this belief. Kaulfers' study shows a predictive value of fourteen to eighteen per cent better than chance for such measures. He concludes that prediction from such a low correlation could only be used validly in forming homogenous groups for study.

In 1931 Kaulfers (19) shows some doubt in the existence of a special language aptitude. He feels that emphasis has been placed on testing for languages aptitudes when it should have been placed on fitting the course to the student. Warshaw (35) is in agreement with Kaulfers.

One of the better prognosis tests of 1930 was constructed by Symonds (32) and is described as follows:
Description of form A:
Test 1 - English inflection
Test 2 - Word translation - English to Esperanto
Test 3 - Sentence translation - Esperanto to English
Test 4 - Related words

Description of form B:
Test 1 - Word translation
Test 2 - Artificial language
Test 3 - Sentence translation - Esperanto to English
Test 4 - Formation of parts of speech in English

Symonds reports a correlation of .60 for Form A, .61 for Form B and .71 for a total score. He felt that the predictive value of the test was greater than was indicated by the correlational coefficients because:

Neither the prognosis test nor the achievement test is perfectly reliable.
Achievement at the end of the year is conditioned by other factors than ability, such as studiousness, school attitude, outside activities, interest and the like (32, p. 555).

Kaulfers (16) in 1930 and Oxley (26) in 1931 reported on interesting comparative studies. Oxley's study substantiated Kaulfers' findings about the relative level of the average student I. Q. in various courses of foreign language. It was found that students in Spanish courses had the lowest I. Q. of all foreign language students. German, French and Latin students followed in that order.

In 1933 Richardson (29) reported a study conducted to weigh the relative merits of several predictive agents. He correlated first semester foreign language grades with a prognostic test percentile rank, placement rank, a mental test score percentile rank, and intelligence quotient percentile rank. The best predictor of successful achievement
was the prognostic test, the Symonds Foreign Language Prognostic Test, Forms A and B. The correlation was determined to be .64 between the test and the final language grades. This figure was a little lower than that reported by Symonds himself (32).

After considerable experimentation Eaton (8) supported the use of a general language course linked with measures of ability to use an artificial language to help in prognosis of a language aptitude. Another study, by Finch and Floyd (10), showed that chronological age had no predictive value for success in a beginning French course.

Feder (9), in 1935, surveyed the work done in prognosis in foreign languages and concluded that "the best basis for prediction is the student's previous record of achievement . . ." and that "prognostic tests, designed specifically to meet certain subject matter requirements, have more power for such prediction than do tests of general ability" (29, p. 169).

In a study on prognosis in study of German, Sister Virgil (31) in 1936 compared the predictive abilities of the Iowa Foreign Language Aptitude Test, the Symonds Foreign Language Prognosis Test, and an author constructed test. She reports relatively low correlations but concludes in part:

. . . . all such coefficients of correlation are spuriously low as a result of the lack of complete
reliability to be found always in marks. The highest corrected coefficient is .62 secured from each of two multiples; that for first-quarter marks, Iowa Foreign Language Aptitude Test scores, and German Prognosis Test scores. These, though high enough to be of limited value in the prediction of success in individual cases, are yet high enough for a very serviceable comparison of groups (31, p. 286).

Blanke (2), in 1939, investigated again the value of a general language course as a predictive agent. He supported Kaulfers' conclusion that such an orientation course was prognostic only to the extent that it might help in grouping students into homogenous classes. Kaulfers (20) stated that "all the evidence from objective investigation tends to show that nothing can be depended upon to predict success or failure as reliably as an actual try-out in the foreign language" (20, p. 84).

In 1944 Wittenborn and Larsen (36) conducted an extensive factorial study of achievement in college German. Their study isolated two factors associated with success in language study, a language factor and a rote memory factor. All measures of achievement loaded heavily on the language factor and showed no correlation to the rote memory factor. The highest correlation shown was for .55 between the English Training Test and first semester scores. Unfortunately, this study was "not designed to yield weights for the purpose of predictions" (36, p. 46).

Bovee and Froehlich (4) again studied the relationship between mental ability and foreign language achievement in
1946. They report a correlation of .46 between the 1937 Binet, Form I, and the French Cooperative Test. They conclude that "factors of motivation are probably more important than, or at least as important as, native mental ability" (4, p. 336).

A test of both oral and aural aptitude for foreign languages was reported in 1949 by Bottke (3). The test included measures of inference understanding, sound differentiation, assimilation and understanding of vocabulary in sentences, vowel timbre, word fluency, general hearing, ability to mimic, and transfer of rules of pronunciation to unknown material. No further reports of this test have been found.

An attempt was made in 1950 by MacNaughton and Alenheim (23) to construct a prognostic test for German. The highest correlation reported was .80 with the grades of students who had been raised in homes where German was spoken. This high correlation is partially explained by the fact that the prognosis test which was developed included several measures of knowledge of German itself.

In 1951 Wallace (34) reports the results of a battery of tests used to predict specific courses at the University of Michigan. The predictive measure used for foreign language courses was the Iowa Foreign Language Aptitude Examination, Form M. It is shown to have correlated .404 with French courses, .556 with Intermediate French, .423 with
Spanish, .449 with Intermediate Spanish, and .458 with German. These coefficients are all relatively low, ranging from nine to seventeen percent better than chance.

Two separate investigations by Manuel (24) and Peters (28), in 1953, studied the relationship between ability in the native tongue and achievement in study of a foreign language. They used as prognostic agents measures of vocabulary and comprehension in English. They again showed the high degree of relationship between achievement in English and achievement in study of a foreign language.

In 1955 Carroll and Sapon (6) report correlations of .75 and .84 between a newly developed aptitude test and achievement in a trial language course for two groups of students. In their investigation of various possible sub-tests they found that the most useful measures were of verbal knowledge, sound-symbol association ability, immediate rote memory for foreign language vocabulary, grammatical sensitivity, and inductive learning of artificial language structure. This test has since been published but no corroborative studies of the high correlations have been found.

Also in 1955 Sapon (30) discusses the use of a work-sample as a prognostic instrument. He states that the difficulty in applying it to prognosis in a foreign language may be overcome by the use of an artificial language.
The use of an artificial language in this measure of prognosis will:

Level any possible differentials of language experience of the student that might tend to distort the value of his scores, as well as to avoid the equivalent danger of employing a language possessing similarities of structure or vocabulary to the language or languages already known to the student (30, p. 98).

Cox (7), in 1955, offers some hope for the use of tests in prediction. He states that:

The ability to learn a foreign language . . . does not appear to be a specific aptitude; rather it seems to be related to general verbal proficiency. Consequently, it is possible to make reasonably accurate predictions about individuals' course performances on the basis of their scores on conventional psychological tests (7, p. 556).

He also believes that the efficiency of such testing can be markedly increased when the factors of motivation and emotional stability are also considered.

An attempt is made by Harding (13) in 1958 to resolve the question of the efficiency of an aptitude test vs. the efficiency of a trial course in the language. The Carroll-Sapon Psi Lambda Foreign Language Aptitude Battery yields correlations of .72 and .64 with the final examination and the course grades respectively. He concludes that the aptitude test is as good a predictor for success in a foreign language course as grades in a four-week trial course in the language.

Gardner and Lambert (11) in 1959 explored the effect of motivational variables in foreign language learning. Their
factorial study included measures of linguistic aptitude, various attitudinal and motivational characteristics, and verbal intelligence. Both a "linguistic aptitude" and a "motivational" factor were isolated and they contend that "achievement in a second language is dependent upon essentially the same type of motivation that is apparently necessary for the child to learn his first language" (11, p. 270).

One final note on aptitude tests is delivered in 1962 by Milholland and Fricke (25). After a careful review of the published studies relative to special aptitude test development, they state:

The distinction between aptitude and achievement tests probably has broken down because achievement tests have been found to provide generally better predictions of future achievement than have aptitude tests. A variety of studies have used multiscore tests, but usually no more than one criteria was involved - over-all academic success. Research has shown conclusively that for most such criterion-prediction problems, it rarely is necessary to employ more than a single general-aptitude measure (25, p. 39).

This, essentially, is the field of research into prediction of achievement in foreign language study. In general, the field of research into prognosis of foreign language grades has been varied, and, to this time, somewhat inconclusive. Special aptitudes have been investigated and their presence or absence has been supported equally well. Research into the prognostic value of achievement in other areas has been directed toward numerous related fields, such as
English study and intelligence quotients, with the reported studies alternately verifying and disproving other studies. The effect of motivation has been brought forth as a primary cause of variance in predictor performance, but without development of a measure of motivation. Each area of exploration has come full circle at least once, and very few positive aspects of the field exist.
CHAPTER BIBLIOGRAPHY


2. Blanke, W. W., "General Language as a Prognosis of Success in Foreign Language Study," German Quarterly XII (March, 1939), 71-80.


32. Symonds, P. M., "A Foreign Language Prognosis Test," *Teacher's College Record*, XXXI (March, 1930), 540-556.


CHAPTER III

ANALYSIS OF DATA AND CONCLUSIONS

The total number of students completing the elementary foreign language courses, and upon whom complete data could be gathered, was forty-eight. Sixty-two were originally tested, but fourteen failed to complete the semester. For the forty-eight, ages ranged from seventeen years to forty-three years, with a mean age of twenty-two years. The achievement test range was 65 to 166, with a mean score of 121.5 and a standard deviation of 23.

Although the foreign language courses were elementary ones, the age ranges and means indicate that a number of the students enrolled in the summer semester had progressed beyond their first or second college years.

A multiple R of $0.48 \pm 0.08$ between scores on the English achievement test and achievement in foreign languages was obtained by the method of multiple correlation as described by Garrett (3, pp. 420-432). Achievement in foreign language study is defined as achievement in each of three separate language courses, Spanish, French, and German, considered as a group or field of study.

This correlation is within the range reported by other studies which used English achievement tests as predictive
measures (1, 4, 5, 6, 7, 8). There is one difference between this study and the cited studies, however. This study is concerned with the value of an English achievement test as a predictive measure for foreign language study as a field, represented by the combined achievement of students in three different foreign languages, and not with predicting grades in a specific foreign language.

In predicting grades in any course there are always a number of uncontrollable variables, such as the manner of presentation of the subject by the instructor, the method of testing, the ability of the instructor, and the various environmental variables influencing both the student and the instructor. When predicting grades for a field of study, with more than one teacher and a group of students relatively heterogeneous as to level of education, the effect of these variables is somewhat increased. Even with this increase in the effect of the uncontrollable variables, correlation is shown to be within the range of previously reported studies which were concerned with prediction of grades in only one subject.

The multiple R obtained substantiates the hypothesis that the abilities necessary for achievement in the study of the native tongue are the same abilities necessary for satisfactory achievement in the study of foreign languages.

Table I shows the means and standard deviations for the seven variables used, including the criterion variable
of course grades. Variables two through seven are subtests of the achievement test. The numbers assigned to each variable are used in later tables as a code to prevent unnecessary repetition of variable names.

TABLE I
MEANS AND STANDARD DEVIATIONS OF VARIABLES

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<td>Course Grades</td>
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<td>2</td>
<td>Grammar</td>
<td>19.4</td>
<td>4.6</td>
</tr>
<tr>
<td>3</td>
<td>Punctuation</td>
<td>29.5</td>
<td>5.8</td>
</tr>
<tr>
<td>4</td>
<td>Reading</td>
<td>8.7</td>
<td>4.3</td>
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<tr>
<td>5</td>
<td>Reading</td>
<td>10.1</td>
<td>3.7</td>
</tr>
<tr>
<td>6</td>
<td>Vocabulary</td>
<td>28.9</td>
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<td>7</td>
<td>Spelling</td>
<td>25.2</td>
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Table II shows the zero order correlations between the criterion variable and the six English achievement subtests, and the intercorrelations between the subtest scores.

TABLE II
ZERO ORDER CORRELATION

<table>
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The zero order $r$'s show a degree of positive correlation between the criterion variable and the subtest measures of Grammar, Punctuation, and Spelling. A small positive correlation is shown between the criterion variable and Vocabulary, and a small negative correlation with the two Reading subtests. As could be expected there is considerable intercorrelation between the subtests of the English achievement test.

A better measure of the contribution of each subtest to the overall prediction of foreign language course grades is contained in the information presented in Table III.

**TABLE III**

**FIFTH ORDER PARTIAL CORRELATIONS AND REGRESSION COEFFICIENTS**

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<th>Variable Order</th>
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</tbody>
</table>

The partial correlation coefficients, that is, the correlation of the criterion variable with each of the predictive variables while holding the remainder of the predictive variables constant, shows the Grammar and Punctuation subtests to have the highest positive correlation with course grades.
It is interesting to note that the second highest correlation is a negative one, that of number five, Reading, with course grades. It will be noted that the regression coefficient of subtest five is also negative, and is the largest by far of these coefficients. This becomes particularly important in the understanding of the contribution of each of the achievement subtests to the overall prediction of foreign language course grades. The regression equation which gives the best prediction of foreign language course grades using the English achievement subtests as predictors is:

\[
\text{Course Grades} = .63X_2 + .63X_3 - .23X_4 - 1.03X_5 \\
+ .02X_6 + .23X_7 + 53.6,
\]

where \(X\) denotes the score of an English achievement subtest and the particular subtest is identified by the numerical subscript, with 53.6 being a derived constant. The P. E. of this predicted score is \(\pm 5.21\).

The constant is derived by subtracting from the mean of the criterion variable a percentage of the mean of each subtest, equal to the regression coefficient of that subtest times the mean of the subtest, for each subtest which adds to the predicted grade. Conversely, this percentage is added to the criterion variable mean for each subtest which subtracts from the predicted grade. This results in persons scoring at the mean on subtest number five, Reading, having their predicted scores neither lowered nor raised. Those scoring high on this subtest have their predicted
score lowered, those scoring low have their predicted score raised.

To score high on either reading test one must be able to retain fine points and draw conclusions, a process which necessitates careful and methodical reading techniques. It seems that those persons who read quickly, for context and not for specific content, are apt to achieve somewhat higher in the study of foreign languages. Subtest number four, also a reading test, shows this same relationship as can be seen by inspection of its mean and regression coefficient.

The Grammar and Punctuation variables contribute almost two-thirds of their subtest scores to the predicted grade, and Spelling almost one-fourth. The most surprising result is that the Vocabulary subtest correlates so low, and contributes so little to the predicted score.

Vocabulary tests have been used as indicators of intelligence level, and have been considered generally to be good predictors of school achievement (2, p. 220). It would seem that extent of vocabulary, or perhaps level of intelligence, matters little in achievement in the study of foreign languages.

This study shows that the abilities necessary for achievement in the study of English are the same as those required for achievement in the study of foreign languages. Course grades in foreign languages can be predicted using an English achievement test, the best prediction being made
through use of the calculated regression equation. Verification of these facts can only be made through further investigation.

Future studies of this nature should employ larger numbers of subjects, and should include some measure of the motivation operant in the subjects in their studies. It is also recommended that in attempting to understand better the influence of the several abilities demonstrated through the various English achievement subtests, studies should be made on prediction of grades in only one foreign language. This may lessen the influence of the uncontrollable variables whose effect is magnified when using more than one foreign language for prediction.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

SUMMARY

This study is concerned with prognosis of grades in the general field of foreign language study. Numerous studies have dealt with the problem of consistent prediction of such grades, using as possible predictors: aptitude tests, artificial languages, intelligence quotients, general language course grades, grades in English courses.

Previous studies have pointed to the fact that grades in English courses and on English achievement tests have shown a consistent relationship to achievement in foreign language study. The fact that this relationship is no higher is attributed to the unreliability of teacher's grades, and the failure to use achievement tests measuring the full range of knowledge of the English language.

It is hypothesized that if the abilities necessary for achievement in English study are similar to those necessary for achievement in foreign language study, then grades on a standardized English achievement test will correlate highly with course grades in foreign language study.

A standardized English achievement test was administered to students in one class each of elementary Spanish, French and German at the beginning of the first summer semester of
1963 at North Texas State University. Forty-eight of these sixty-two students completed the semester's study and provide criterion data of course grades. Grades in the foreign language courses, considered as a group, are compared through use of multiple correlational procedures with six of the seven subtest scores of the English achievement test, and a regression equation is computed which gives the best prediction of course grades with these measures.

The hypothesis is supported. The abilities required for achievement in English study are similar to those required for achievement in foreign language study. The multiple correlation coefficient is \( .48 \pm .08 \). The highest positive correlations are for the Grammar and Punctuation subtests. The Reading subtests correlate negatively, but contribute significantly in an inverse relationship to the prediction of course grades.

It is recommended that in further study of this relationship larger samples be used, and that measures of motivation be included in the predicting variables. It is also recommended that prediction studies be made for only one foreign language in order that the role of each subtest in the prediction of grades be better understood.
BIBLIOGRAPHY

Books

Bohan, J. E., "Relation of Course Marks in English to Course Marks in Foreign Languages and of Both to Intelligence," Summary of Reports on the Modern Foreign Languages, edited by R. H. Fife, New York, MacMillan Company, 1931.


Articles


Blankes, W. W., "General Language as a Prognosis of Success in Foreign Language Study," German Quarterly, XII (March, 1939), 71-8.


Kaufers, W. V., "A Comparative Study of Intelligence of Beginners in College Foreign Languages," School and Society, XXXI (March 31, 1930), 749-754.

Kaufers, W. V., "A Guessing Experiment in Foreign Language Prognosis," School and Society, XXXII (October 18, 1930), 535-536.


"Prognosis and Its Alternatives in Relations to the Guidance of Students," *German Quarterly*, XII (January, 1939), 81-84.


Symonds, P. M., "A Foreign Language Prognosis Test," Teacher's College Record, XXXI (March, 1930), 540-556.


Tests