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PREDICTING SUCCESS IN SHORTHAND I

by

Meredith Cragun Bell

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

1968

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The patience and guidance of my husband, Jeffery, made my achievement possible.

Meredith C. Bell

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ABSTRACT

Predicting Success In Shorthand I

by

Meredith Cragun Bell

Utah State University, 1968

Major Professor: Dr. Glendon Casto
Department: Psychology

The purpose of this study was to find the best predictors and the best combination of predictors of shorthand success. Those used were the Educational Research Corporation Stenographic Aptitude Test and its subtests, I.Q. scores, a Self-Success Rating, and the Digit Symbol subtest taken from the Wechsler Adult Intelligence Scale.

Students enrolled in Shorthand I at Sky View High School were the subjects used in this study.

The criteria of shorthand success were the final dictation speed and the final grade.

The best single predictor of shorthand dictation speed was the total E.R.C. Stenographic Aptitude Test. The best combination of predictors were the total E.R.C. Stenographic Aptitude Test, and E.R.C. Phonetic Spelling.

The best single predictor of final grade was the E.R.C. Phonetic Spelling subtest. The best combination of predictors of final grade were I.Q., total E.R.C. Stenographic Aptitude Test, E.R.C. Word Discrimination, E.R.C. Phonetic Spelling, and E.R.C. Dictation.

INTRODUCTION

Need and Motivation for Study

Shorthand I seems to be a difficult subject for many students. Every school year school administrators, counselors, and teachers are faced with the problem of deciding which students should be advised to enroll in it. If a student really wants to learn shorthand but has only an average I.Q., should that student be permitted to enroll in shorthand; or would it be better for him if he were not permitted to take shorthand? Are I.Q. scores good indicators of shorthand success? If so, are they better indicators than a shorthand aptitude test? Can shorthand success be determined by a student's ability to associate symbols with numbers and write them rapidly; or is it possible to predict how well a student will do by the knowledge he has of his own abilities and limitations?

The answers to these questions would be very useful in helping to predict the chances a student has of excelling in shorthand. This, in turn, would aid in properly advising him.

Statement of Problem

The purpose of this study in the area of shorthand prognosis was to find the best predictors and the best combination of predictors of shorthand success.

There have been many articles written and studies conducted in the area of shorthand prognosis. Yet, no two articles have agreed on a factor or combination of factors as being good predictors of shorthand success. In many of these articles the term "shorthand success" has been very loosely defined. Some authors have indicated that the final grade obtained by a student is shorthand success, and in some articles it has not even been defined.

Several articles felt that the grades a student receives in English are the best predictors of shorthand success, while other studies indicated that English grades were unreliable as a basis for predicting shorthand success. Some writers believe that the student's motivation or desire to learn shorthand is the most indicative factor in predicting shorthand success. Others believe I.Q. scores, shorthand aptitude tests, or parts of aptitude tests indicate shorthand success to a larger degree than anything else. In general, there is much controversy in this area.

It was evident from a review of the literature that there are questions as to what are the best predictors

of shorthand success. Heemstra (1966) and Pauk (1963a) both made the observation that there is a definite need for more study in the area of shorthand prognosis. This study will attempt to shed more light on the subject.

The objectives of this research were to compare the following variables in predicting success in Shorthand I:

1. The Educational Research Corporation Stenographic Aptitude Test which includes five subtests.
2. The Digit Symbol subtest from the Wechsler Adult Intelligence Scale.
3. I.Q. scores from the Otis-Lennon Mental Ability Test.
4. A student Self-Success Rating.

I.Q. scores and the Stenographic Aptitude Test have been used in other studies. However, in this study the subtests from the Stenographic Aptitude Test, as well as the total, were used as separate variables.

The Digit Symbol subtest was employed to determine the effect of motor skills on shorthand success; and the Self-Success Rating, which was constructed by the author, was used in order to find out whether a student's own expectation of his future success is a valid predictor of his success.

Two criteria of shorthand success were incorporated in this study. One was the final shorthand dictation speed obtained. The other was the final grade.

REVIEW OF LITERATURE

Early Studies

Interest in the area of shorthand prognosis seems to have started as early as the 1920's. A study conducted by Elvin S. Eyster began in the school year 1927-28 and covered a five year period (Eyster, 1938). Included in his study were the following factors:

1. Mental Rating.
2. Average English grade during the time the pupil had been in high school.
3. Average of all grades, excluding English, during the time the pupil had been in high school.
4. Score of "Hokes Prognostic Test of Stenographic Ability."
5. Subjective personal trait rating: (a) composite average on work habit traits; (b) composite average on character traits; and (c) composite average on personality traits. (Eyster, 1938, p. 31)

Eyster (1938) concluded that using these factors in prognosis was accurate to a remarkably high degree, and that the plan had been favorably received by pupils and their parents.

In 1937 Louis A. Leslie wrote an article entitled, "Picking the Losers." He pointed out that as the man at the race track is interested only in "picking the winners," teachers of shorthand should be interested in "picking

the losers" (Leslie, 1937).

Leslie (1937) believed that the most general cause of failure in shorthand is a student's lack of skill in the use of English, not his lack of shorthand skill or his lack of typing skill. He further believed that the most effective prognostic test for success in shorthand is the dictation of a letter or a series of letters carefully constructed so that there will be many opportunities for the student to make typical transcription errors in spelling, punctuation, and word usage. Such a letter should be dictated slowly and written in long-hand by those who wish to be admitted into the shorthand course.

Imogene Pilcher Bell (1938) made a plea to business educators for an effort in the direction of prognostic testing. She agreed with Leslie that the use of a specially constructed letter dictated to those students who are interested in enrolling in a shorthand course may be able to give a fair indication of a student's probable success.

Bell concluded her article by asking, "As a developing individual, should not the student be saved from the complex which accompanies any effort that results in failures instead of in success?" (Bell, 1938, p. 40).

Paul L. Turse (1938) found that leading commercial educators express the need for some reliable method of selecting shorthand pupils. "An aptitude test should be

constructed in accordance with a definite scientific technique," stated Turse (1938, p. 18). He also explained that the first principle in an aptitude test requires an analysis of the mental and motor activities of the skill involved.

In Turse's opinion, I.Q. scores and grades in English were as good as any predictive instruments at that time (Turse, 1938).

Throughout the early studies of shorthand prognosis teachers and counselors were cautioned in their use of aptitude tests so as not to deprive capable boys and girls the opportunity of studying the subject.

Recent Studies

Because transcription of shorthand requires a thorough knowledge of punctuation, spelling, and sentence structure, Selden believed that the grades a student receives in the grammatical phase of English probably indicates shorthand success (Selden, 1961). He said that "tests in the area of English are now being used to a limited extent to predict success in shorthand, and thus far the results have been encouraging" (Selden, 1961, p. 105).

He further believed that the pupil should be informed that his chances for success are poor unless he has an I.Q. of at least 95, because studies have indicated that between

80 and 90 percent of the pupils with an I.Q. below 100 drop out sometime during the two-year period.

Selden (1961) felt that it is desirable to get the opinion of a business education teacher who may have taught a student in another subject, such as general business. He believed that the opinion of the teacher with regard to the pupil selecting shorthand is significant.

In conclusion Selden (1961) felt that a student's desire to learn, his ability to write fairly rapidly, his work habits, good hearing, and concentration should also be considered as factors contributing to shorthand achievement.

Truman M. Cheney and Naomi Goodish (1963) conducted a study to determine which variable might be significant in encouraging students to take shorthand and discouraging those who have the least chance to succeed, in order that counselors and administrators may group those who enroll in shorthand according to their abilities. Cheney and Goodish (1963) recommended that business teachers and advisors use a 3.5 (c-) in English and in General Scholastic Average, and a score of 35 on the Differential Aptitude Tests (DAT) in spelling as cutoff scores in the selection of students for beginning shorthand. It is their opinion that in using these three scores only failures would be eliminated.

For a more selective selection of students, Cheney and Goodish (1963) recommended that the next step would be cutoff scores of 3.0 in English and General Scholastic Average, 45 in Spelling, and 35 in Sentences; however, they believed that at each of these cutoff scores about two-thirds of the persons at that interval fail and one-third are successful. It was also pointed out that advisors and business education teachers might use cutoff scores on these variables which would reject those students whose total record on the variable indicates that they would be a poor risk in beginning shorthand. They believed that these time-saving and practical aids to teachers and counselors can be used to reject those students who are not likely to succeed, to classify those who are more apt to succeed into ability groups, and to reclassify certain students into groups where they will have a greater chance of success. "Very few of the 'poor risk' students object to being shown that their chance of success is low in shorthand," stated Cheney and Goodish (1963, p. 25).

In 1964 the United States Army was concerned about the failures in Stenography; therefore, Robert L. Jones and Major Virgil R. Teigland (1964) conducted a study to determine student deficiencies that contribute to failures. They believed that the acquisition of skill in stenography is a complex process, requiring the combination of knowledge in typing, shorthand, English construction, phonetics,

and spelling, with keen digital manipulative skills. They also believed that these skills and abilities must be developed to the point where they can operate almost instantaneously and continuously at high speed.

With few exceptions, all U. S. Army and Air Force Military stenographers are trained at the U. S. Army Adjutant General School (USAAGS) (Jones and Teigland, 1964). The official criteria for admission to the stenographic course at USAAGS included a beginning typing speed of 35 words a minute, a minimum Army Classification Battery CL (clerical aptitude area) score of 100, high school graduation, and two years of high school English.

It was found that no single instrument proved to be an accurate predictor of stenographic course success by itself; but when used in combinations, the instruments did a much more effective job of predicting stenographic course success. The results of Jones and Teigland's (1964) study seemed to indicate that success in stenography instruction is not so much dependent upon the degree of student ability in any one contributing subject or skill area, but rather requires consideration of the sum total of the student's ability in all such areas.

It was concluded that the instruments collectively seemed to do an excellent job of describing an individual's background, and based upon this background the instructor can provide remedial assistance to the student.

Percentile scores from the DAT for Verbal Reasoning, Numerical Ability, Abstract Reasoning, Space Relations, Mechanical Reasoning, and Clerical Speed and Accuracy were used in a study conducted by Rosanne C. Henderickson (1964), as well as the average shorthand grades. Correlation coefficients between the respective DAT scores and the attained average course grades were computed.

This study indicated that the DAT should not be used for predicting shorthand success, as all of the correlation coefficients indicated a poor relationship between the respective test scores and the average course grades (Hendrickson, 1964).

The general null hypothesis proposed by Casey and Heemstra (1965) was that success in shorthand, as indicated by letter grade rank in class, was not related to rank on Iowa Tests of Education Development, Correctness in Writing test; I.Q.; English letter grades; and total grade point average.

The statistical analysis used in their research study indicated that the evidence regarding relationship between rank in class on the ITED Correctness in Writing test and shorthand was inconclusive and did not justify the use of the ITED as a predictor of success in shorthand (Casey and Heemstra, 1965).

Since there was a relationship among rank in shorthand and rank in English grades and total grade point average

in Casey and Heemstra's study, it was concluded that these two factors showed promise as predictors of shorthand success at Sheldon High School, Sheldon, Iowa (Casey and Heemstra, 1965).

Expectancy tables have been used in an attempt to reduce the number of unsuccessful students in shorthand at North Tonawanda Senior High School, North Tonawanda, New York (Melone, 1968). Melone (1968) found that the grades in Shorthand I varied least when compared with freshman English and Introduction to Business grades. He asserted that the problem of interpreting predictions to teachers and students can best be done with expectancy tables.

"The expectancy table organizes the material for interpretation of an individual's chances of success," stated Robert A. Malone (1968, p. 207). He further believed that these tables enable teachers and counselors to be objective and consistent in predicting success in shorthand.

The expectancy table has limitations, but if it is skillfully employed and wisely read Malone (1968) believed that it can contribute much to a better understanding of the predictive process. Malone (1968) concluded by stating that the expectancy table can be a useful device for analyzing predictive data, and for communicating their meaning to students, teachers, and counselors.

Mary Jane Lang (1964, 1967) studied factors pertinent to success in the study of shorthand dictation achievement, and modern foreign languages. The factors related to shorthand achievement were aptitude for modern foreign languages, vocabulary, linguistic ability and general scholastic aptitude. She found a substantial relationship, .52 coefficient of correlation between the total score achieved on the Iowa Foreign Language Aptitude Examination and shorthand dictation and transcription achievement. However, she believed it is inadequate to justify using the examination as a single predictor of dictation and transcription achievement of elementary shorthand students.

It was found that when relating shorthand dictation and transcription achievement to the combined effect of the Language Construction and Grammar subtests these two subtests were as efficient in predicting shorthand achievement as was the entire Iowa Foreign Language Aptitude Examination. However, it was not of sufficient importance to justify using the degree of relationship as the sole predictor of shorthand achievement at the elementary level.

Lang (1964, 1967) recommended that teachers of elementary shorthand should make an effort to conduct studies similar to the investigation she presented in order to assist in identifying those factors which are

highly predictive of shorthand achievement at the elementary level.

Walter Pauk (1963a) believed that if business departments of high schools are interested in administering a test that will predict shorthand success, using the entire Turse test is very inefficient, because the correlation coefficients showed that the combined four verbal tests predict as well as the total Turse itself. Pauk (1963b) indicated that the total administration time of the test is approximately 60 minutes with at least 15 minutes required to score each test by hand. He felt that a great savings of time would result if the verbal tests alone were used and the three mechanics-of-shorthand subtests were omitted.

Pauk (1963a) found that as far as predicting shorthand is concerned, any one of the verbal subtests can predict almost as well as the entire Turse test. He believed that the four verbal subtests of the Turse predict shorthand success no better than an ordinary linguistic test.

If teachers and counselors are to do a better job of predicting shorthand success, it was Pauk's feeling that there is a need to exert ingenuity in designing a new kind of test--one that will measure the unique skills necessary for success in taking and transcribing shorthand (Pauk, 1963a).

Rose Anne Davis (1966) agreed with Pauk that it is possible to give only the four verbal subtests and predict shorthand success better than by giving the whole Turse test. She found that I.Q. has a definite bearing on shorthand success to the same degree as does the total of the four verbal subtests, and that using the two together should be a better measuring device than the Turse test alone. She believed that English grades cannot be used to predict shorthand success, and that there would be a great saving of time by giving just half the Turse test.

Davis (1966, p. 12) answered the question "Will half a Turse do just as well?" with a firm "No--it will do better!"

Paul L. Turse (1966), author of the Turse test, defended his test by saying that each of the subtests in the Turse Stenographic Aptitude Test warrants a place in the battery, as each is placed there to test a specific aspect of shorthand skill.

Joyce J. Heemstra (1966) conducted a study using shorthand dictation rate, the English grade, the total grade average, and the scores on the E.R.C. Stenographic Aptitude Test total score, and the Turse Aptitude Test total score as the criteria.

Heemstra's study showed that the E.R.C. Stenographic Aptitude Test is a better predictor of shorthand success

than the Turse Shorthand Aptitude Test, but that both tests are better predictors of shorthand success at the high school level than at the business college or college level. Her study also showed that the English grade average is a better predictor of shorthand success at the business college level, and that the total grade average is a better predictor of shorthand success at the college level (Heemstra, 1966). She believed that teachers should not rely solely on any one factor as a determinant of a student's possible success in shorthand.

It was concluded in her study that a combination of factors should be considered including such things as English grade average, total grade average, as well as any special aptitude test scores that may be available.

"The student's motivation and desire to learn appear to be very important factors to consider in attempting to determine the probable success of a student in shorthand," stated Joyce J. Heemstra (1966, p. 26).

On the basis of the findings of Heemstra's study it was recommended that students should not be prevented from enrolling in a shorthand class on the basis of any of the factors which she considered. However, she recommended that further research be conducted in the area of shorthand prognosis.

Elsie D. Palmer and Sally Bulkley Pancrazio (1967) believed that research in predicting achievement in

beginning shorthand for purposes of selection has not indicated valid and reliable measures. They also believed that motivational factors are indicative of a student's ability to achieve in shorthand.

Palmer and Pancrazio suggested that until valid shorthand predictive measures are devised the best predictor of future success in shorthand is performance in the initial course (Palmer and Pancrazio, 1967). They further suggested that it is imperative that we switch our attention from "screening out" students to meeting their individual needs.

Palmer and Pancrazio (1967, p. 14) concluded their article by stating, "the role of the shorthand teacher is to devise methods which will meet the needs of all students."

Summary

The literature indicated that there is a strong interest in the area of shorthand prognosis. The main variables studied in trying to predict shorthand success are I.Q., average grade, English grade, phonetics, spelling, and shorthand aptitude tests. The literature was inconclusive, and there was much controversy. However, it was generally agreed that no one test or cumulation of tests is a sure predictor. Some authors indicated that further research be done.

METHODS OF PROCEDURE

Procedure

This study was conducted at Sky View High School, Smithfield, Utah, in the 1967-68 academic year. Two beginning shorthand classes, consisting of 60 students, were originally chosen as subjects. However, only 46 remained in the classes throughout the year and thus were actually subjects of this study. Thirty-eight of them were juniors while eight were in their senior year.

All tests were administered to the subjects during the first three days of class, before any formal shorthand instruction or theory was introduced to them.

Scores obtained from the measurements were analyzed using correlational methods.

Test Administration

All testing was done by the author of this thesis with the exception of I.Q. testing. This was obtained from school records. The E.R.C. Stenographic Aptitude Test was administered according to the instructions outlined in the manual for that test. The Digit Symbol subtest was used alone, and it has limited validity when not used in connection with the other subtests. It was administered

according to the directions in the Wechsler Adult Intelligence Scale manual, except that it was administered as a group test. The tests were all scored by the same individual, who has had considerable training in testing.

Instruments and Criteria Used

E.R.C. Stenographic Aptitude Test

The E.R.C. Stenographic Aptitude Test was used to determine the students' ability to learn and transcribe shorthand. This test contains five subtests, which were also used as determinants of shorthand success. They are Speed of Writing, Word Discrimination, Phonetic Spelling, Vocabulary, and Sentence Dictation.

Speed of Writing is a test in which the subjects were tested on their speed of writing longhand. Since none of the subjects knew shorthand, longhand was used for the test because it was easier to decide when the material written had been executed so poorly as not to count.

The Word Discrimination subtest is designed to test the subjects' ability to choose the right word for the context from two or three choices with the same or similar pronunciation.

Phonetic Spelling tests the students' ability to recognize words from their phonetic spelling and to spell

them correctly.

In the Vocabulary subtest, words are arranged in order of increasing difficulty.

The Sentence Dictation subtest is a test of the ability to write in longhand from dictation as the individual gets farther and farther behind the dictator. This test parallels very closely the situation of taking notes in shorthand from dictation, the only difference being that in the test the student is writing in longhand instead of shorthand.

In regard to the validity of the E.R.C. Stenographic Aptitude Test, the author of that test stated:

The subtests of the E.R.C. Stenographic Aptitude Test yield a multiple correlation of .68. This multiple correlation is the correlation between the criterion of shorthand achievement and the score of accuracy of transcription of material dictated at 80 words per minute or less at the end of two years of shorthand study as predicted from the Stenographic Aptitude Test battery to weighting the subtest scores in order to produce the highest possible multiple correlation. . . . The total score correlates .70 with accuracy of transcription of material dictated at more than 80 words per minute at the end of two years of shorthand study. (Deemer, 1947, p. 3)

Deemer (1947) also stated that there are no reliability coefficients for this test because they add nothing to the reported validity coefficients. He believed that the value of an aptitude test should be assessed by its validity coefficients, not by its reliability.

Digit Symbol Subtest

The Digit Symbol subtest of the Wechsler Adult Intelligence Scale is a performance test which measures the students' ability to associate unfamiliar symbols with familiar numerals under the pressure of a time limit. Both motor and visual functions are involved in this test. The coordination of visual and motor activities results in smoothness of performance.

Self-Success Rating

In order to give the students an idea of what happened in the Shorthand I classes during the year before, the dictation speeds obtained and a breakdown of the grades received by the students in those classes were given in this rating as introductory information. The students participating in this study were asked to rate themselves on how fast they believed they would be taking dictation and what they expected their final Shorthand I grade would be. This test is found in Appendix A.

I.Q. Scores

The I.Q. scores were taken from the school records. The test used was the Otis-Lennon Mental Ability Test.

Final Grade and Final Speed

The students' final Shorthand I grade and their final three minute dictation speed with 95 percent accuracy or

better served as the criteria of success for this study. The students' final grade was determined mainly by their final speed, which was approximately one-third of the grade, as well as their knowledge of shorthand theory and principles.

The final speed factor in this measurement was based upon the students' ability to take dictation for a period of three minutes and transcribe it with at least 95 percent accuracy.

RESULTS AND DISCUSSION

Findings

The correlation coefficients between each of the predictors and the two criteria of shorthand success were calculated. They are presented in Table 1. The E.R.C. Phonetic Spelling subtest was the best predictor of both final grade and final speed. The second best predictor of each was the total E.R.C. Stenographic Aptitude Test. However, I.Q. was almost as good a predictor of final grade as the total E.R.C. Stenographic Aptitude Test. The poorest predictor of both final grade and final speed was E.R.C. Speed of Writing.

Table 1. Correlation coefficients between variables used to predict shorthand success and criteria of success

Predictor	Final Speed	Final Grade
Total E.R.C. Stenographic Aptitude Test	.52	.68
E.R.C. Speed of Writing	.15	.23
E.R.C. Word Discrimination	.27	.53
E.R.C. Phonetic Spelling	.54	.71
E.R.C. Vocabulary	.27	.46
E.R.C. Dictation	.44	.50
I.Q.	.28	.67
Digit Symbol Subtest	.15	.24
Own Predicted Speed	.23	--
Own Predicted Grade	--	.43

In order to choose the best combination of predictors from those employed in this study a multiple regression formula was used. The best predictors and the coefficients for both the final speed and final grade are found in Tables 2 and 3. The best combination of predictors of final speed included E.R.C. Phonetic Spelling and the total E.R.C. Stenographic Aptitude Test and the best single predictor was total E.R.C. Stenographic Aptitude Test. The best combination of predictors of final grade were I.Q., total E.R.C. Stenographic Aptitude Test, E.R.C. Word Discrimination, E.R.C. Phonetic Spelling, and E.R.C. Dictation; and the best single predictor was E.R.C. Phonetic Spelling.

Table 2. Multiple regression coefficients of the best combination of predictors of final speed

Predictors	No. of Predictors	Coefficient
Total E.R.C. Steno. Aptitude Test E.R.C. Phonetic Spelling	2	.33
Total E.R.C. Steno. Aptitude Test	1	.29

Table 3. Multiple regression coefficients of the best combination of predictors of final grade

Predictors	No. of Predictors	Coefficient
I.Q. Total E.R.C. Steno. Aptitude Test E.R.C. Word Discrimination E.R.C. Phonetic Spelling E.R.C. Dictation	5	.65
I.Q. Total E.R.C. Steno. Aptitude Test E.R.C. Phonetic Spelling E.R.C. Dictation	4	.65
I.Q. E.R.C. Phonetic Spelling E.R.C. Dictation	3	.64
I.Q. E.R.C. Phonetic Spelling	2	.62
E.R.C. Phonetic Spelling	1	.51

Discussion

As is shown in Table 1, there were significant correlation coefficients of .52 and .68 between the total score from the E.R.C. Stenographic Aptitude Test and both the final speed and final grade respectively. These coefficients tend to emphasize that the total E.R.C. Stenographic Aptitude Test is valid in helping to predict shorthand success. However, the correlation coefficients of .54 and .71 between E.R.C. Phonetic Spelling and both final

speed and final grade respectively tend to indicate that E.R.C. Phonetic Spelling alone is a better predictor than the total E.R.C. Stenographic Aptitude Test. The fact that phonetic spelling is the very basis of shorthand is probably the reason for E.R.C. Phonetic Spelling being such a good predictor.

The I.Q. correlated significantly with final grade yielding a coefficient of .67. This result agrees with Turse (1938), Selden (1961), and Davis (1966) that I.Q. does have a bearing on shorthand success. Nevertheless, the correlation between I.Q. and final speed turned out to be insignificant.

The Digit Symbol subtest and Self-Success Rating both showed a slight correlation with final speed, which indicated that motor and visual skills have little bearing on shorthand success. Only the Self-Success Rating showed a correlation with final grade which is significant. This showed that a student can, with very limited accuracy, predict his own final grade.

The best combination of predictors of final speed were the total E.R.C. Stenographic Aptitude Test and the E.R.C. Phonetic Spelling. However, they yield a multiple regression coefficient of only .33. The single best predictor of final speed was total E.R.C. Stenographic Aptitude Test with a multiple regression coefficient of only .29.

The five best predictors of final grade were I.Q., the total E.R.C. Stenographic Aptitude Test, E.R.C. Word Discrimination, E.R.C. Phonetic Spelling, and E.R.C. Dictation. They yielded a coefficient of .65, as seen in Table 3. However, the four best predictors showed a coefficient also of .65; and the three best, a coefficient of .64. The three best predictors were I.Q., E.R.C. Phonetic Spelling, and E.R.C. Dictation. This showed that the two subtests E.R.C. Phonetic Spelling and E.R.C. Dictation are both more useful as predictors of final grade than is the total E.R.C. Stenographic Aptitude Test. Thus, part of the E.R.C. Stenographic Aptitude Test is better than the whole. This is so, not only because better correlation coefficients are obtained, but because time and effort are saved in giving only part of the test.

The two best predictors of final grade were I.Q. and E.R.C. Phonetic Spelling. They yielded a multiple regression coefficient of .62. Thus, just the I.Q. and E.R.C. Phonetic Spelling tests are for all intents and purposes just as good at predicting final grade as the five best predictors. The single best predictor is E.R.C. Phonetic Spelling.

SUMMARY AND CONCLUSIONS

Summary

Many students of Shorthand I find it a difficult course. Educators are therefore faced with the problem of trying to properly advise students in regards to enrolling in shorthand. This naturally leads to the question of how to predict the success a prospective student is likely to have in shorthand. This study was an attempt to help shed light on the subject of shorthand prognosis.

There is much interest in this area, as indicated by the literature. However, the literature is inconclusive. Some authors have suggested that more research be done.

This study was carried out at Sky View High School, using 46 Shorthand I students. The E.R.C. Stenographic Aptitude Test, I.Q. scores, Digit Symbol subtest and a Self-Success Rating were used in trying to predict shorthand success. Two criteria of success were used: final speed and final grade. Correlational methods were used to ascertain which of these tests are the best predictors of shorthand success.

Conclusions

This study led to the following conclusions:

1. The total E.R.C. Stenographic Aptitude Test is useful as a predictor of shorthand success. In fact it is the best single predictor of shorthand dictation speed. The best combination of predictors of final speed are the total E.R.C. Stenographic Aptitude Test and E.R.C. Phonetic Spelling.

2. The best combination of predictors of final grade were I.Q., total E.R.C. Stenographic Aptitude Test, E.R.C. Word Discrimination, E.R.C. Phonetic Spelling, and E.R.C. Dictation. However, the two best predictors were I.Q. and E.R.C. Phonetic Spelling which were, for all intents and purposes, just as good as the above five. The study indicated that the E.R.C. Phonetic Spelling and E.R.C. Dictation subtests were more useful in predicting final grade than the total E.R.C. Stenographic Aptitude Test.

3. As one might expect, I.Q. was a good predictor of final grade. However, it was not very useful in predicting final speed.

4. Neither the Digit Symbol subtest nor the Self-Success Rating was very useful in predicting shorthand success.

Although this study led to the above conclusions, it is not suggested that these are sure predictors.

Therefore, it is not recommended that students be prevented from taking shorthand upon the basis of these predictors. Nevertheless, they can be useful to educators in helping students to make the proper choice regarding enrollment in shorthand.

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APPENDIX

Appendix A. Shorthand I Self-Success Rating

During the school year 1966-67 78 students were enrolled in Shorthand I.

22 students (28%) received a final grade of "A"
 30 students (38%) received a final grade of "B"
 14 students (18%) received a final grade of "C"
 8 students (10%) received a final grade of "D"
 4 students (5%) withdrew at the end of the first semester receiving a final semester grade of "F"

Letter grades were determined mainly by the students knowledge of shorthand theory and principles, as well as his speed and accuracy in writing and transcribing shorthand.

By the end of the school year these same students were able to take dictation for three minutes and transcribe from their shorthand notes with 95 percent accuracy or above at the following speeds:

1 student (1%) achieved a speed of 110 words a min.
 7 students (9%) achieved a speed of 100 words a min.
 10 students (13%) achieved a speed of 90 words a min.
 19 students (24%) achieved a speed of 80 words a min.
 18 students (23%) achieved a speed of 70 words a min.
 13 students (17%) achieved a speed of 60 words a min.
 2 students (3%) achieved a speed of 50 words a min.
 2 students (3%) achieved a speed of 40 words a min.
 2 students (3%) did not pass any three min. dictation tests

Self-Success Rating

I predict that my final Shorthand I grade will be:
 (Check one)

_____ A _____ C _____ F
 _____ B _____ D

I predict that by the end of the year I will have obtained a three minute dictation speed with 95 percent accuracy or better of: (Check one)

_____ Above 110 _____ 80 _____ 40
 _____ 110 _____ 70 _____ Below 40
 _____ 100 _____ 60
 _____ 90 _____ 50

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