

A COMPARISON OF THE VOCABULARY LEVELS OF SECONDARY SCHOOL STUDENTS HAVING LATIN AND NOT HAVING LATIN

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Problem

The purpose of this study is to determine if secondary school students who study Latin achieve significantly higher English vocabulary scores than do comparable students who do not study Latin.

Relevant Literature

Speculation as to the value to be received from the study of the so-called "dead" language is making the headlines. One finds numerous references to it in newspapers, professional journals, and wherever educators meet to discuss the school curriculum and educational counseling. When reviewing the literature, much evidence is found to support the claim that a knowledge of Latin is of much help in understanding the meaning of English words derived from Latin. W. L. Carr (1942) relates in his article "By Their Fruits", that when researchers used test batteries to measure the achievement of students over a ten year period from 1928 to 1938, at the same point in the course, they learned that a reliable difference of -3.7 score points had developed in English vocabulary. The researchers explained the drop by the corresponding drop of 9 percent in the number of students studying Latin during the same years.

Other studies (Thorndike and Ruger, 1923; Pond, 1938; Douglas and Kittelson, 1935) have been made which reveal significantly higher scores on English vocabulary achieved by Latin students when matched with non-Latin students of the same sex, age, school achievement, etc. More recently, a study (Skelton, 1955) which compared the freshman performance of students entering the Alabama Polytechnic Institute revealed what the researcher called a "highly significant superiority of students presenting high school foreign language study over their non-foreign language counterparts in each of six achievement tests whether as groups or on intelligence level." To provide still further evidence which a school counselor could use in approaching the problem of whether the study of Latin is of real, practical value, this study was undertaken.

Method of Analysis

Thirty-four students who had completed a minimum of one year of high school Latin were compared with thirty-four students who had not. The subjects were matched on the basis of grade level in school, previous courses in English, number of semesters in the high school, and mental maturity scores from the California Test of Mental Maturity, Short Form. Some Latin students had completed two semesters in the study of the language; others had completed four. The Cooperative Vocabulary Test was administered to all sixty-eight.

The authors of the Cooperative Vocabulary Test indicated that they constructed the test from a careful sampling of the words in The Teacher's Word Book of Twenty Thousand Words (Thorndike, 1932), arranging them in seven equivalent scales of thirty items each. In taking the test, the student is instructed to select one of five words which most nearly corresponds in meaning to a sixth word at the head of the group. A study of test items revealed that they range from some easy items, in which only one response is close in meaning to the word being tested, to difficult items in which all responses approach closely the meaning of the control word. Difficulty is thereby obtained by requiring fine discrimination of meaning while uncommon words of little practical value are omitted. Only completed scales were counted in the final score; this cancelled out the advantage which would otherwise accrue to the student who worked at a faster pace than others. The test authors did not indicate that any attention was given to the derivation of words in making their selection, so it is assumed that the test contains no larger percentage of words derived from Latin than would be found in the English language as a whole.

It was decided to approach the problem from the standpoint of a null-hypothesis, that there will be no difference between the mean achievements of the two groups, requiring a t ratio of 2.724 to justify rejection at the one percent level of confidence.

Conclusions

A comparison of the vocabulary scores obtained by testing the two groups revealed that the group having Latin generally did better. However, in some grade levels this was not so. This can be seen from Table 1.

Table 1 Differences in Mean Scores on Vocabulary
Obtained by Two Groups According to Grade
Level and Mental Maturity

California Test of Mental Maturity -- Percentile Scores							
	50	60	70	80	90	95	99
10th Grade							
Latin		56	50	52	55	55	51
Non-Latin		<u>41</u>	<u>43</u>	<u>48</u>	<u>40</u>	<u>51</u>	<u>49</u>
Difference		15	7	4	15	4	2
11th Grade							
Latin	53	1..	56.0	59	70	50	...
Non-Latin	<u>45</u>	...	<u>49.5</u>	<u>27</u>	<u>48</u>	<u>51</u>	...
Difference	8		6.5	12	22	-1 ^a	
12th Grade							
Latin	47.5	46	56	57.5	58.5	55	...
Non-Latin	<u>45.5</u>	<u>43</u>	<u>47</u>	<u>53.5</u>	<u>54.0</u>	<u>64</u>	...
Difference	2.0	3	9	4.0	4.5	-9 ^a	

^a Negative differences occurred in three instances. The two shown here represent one instance each. The third, which was a difference of -1, became positive when averaged with others in the same category.

A correlation of the two sets of scores obtained was .53. The t ratio of the difference between the means determined by the formula for obtaining a t ratio on correlated data was 5.0. Further statistical data as shown in Table 2 indicated that a t ratio of 5.47 was obtained by comparing the standard error to the mean difference which came directly from the differences. The discrepancy in the two ratios is believed due to the fact that the standard deviations were obtained by using the procedure for "grouped data". By either method such a difference, according to Edwards (1946), is of sufficient size to more than offset any criticism of the size of the sampling. The size of the ratio obtained indicates that we must reject the null-hypothesis since the difference between the mean scores would be caused less than one percent of the time by chance. (Edwards, 1946, Appendix, Table C).

Table 2 Vocabulary Test Scores of Thirty-four Latin and Thirty-four Non-Latin Students and the Differences Between Matched Pairs of Them

Matched Pairs	Score of Latin Pupil	Score of Non-Latin Pupil	Difference
	69	48	21
	53	43	10
	46	31	15
	52	44	8
	47	44	3
	69	49	20
	37	38	-1
	45	43	2
	54	50	4
	51	50	1
	51	50	1
	49	46	3
	48	44	4
	43	42	1
	63	53	10
	55	51	4
	55	40	15
	51	49	2
	53	45	8
	52	49	3
	58	50	8
	59	47	12
	70	48	22
	50	51	-1
	50	49	1
	45	42	3
	46	43	3
	56	47	9
	62	56	6
	53	51	2
	63	59	4
	54	49	5
	55	64	-9
Mean	53.50	47.43	5.97 ¹
Standard Deviation	7.50	5.85	6.28

1. The t ratio is 5.47.

Plotting the frequency of the scores of both groups on a graph revealed an interesting parallel in the general shape of the polygons. Though differences were larger at the extreme high end of the scale, they tended to rise and fall in more or less the same general pattern, making it appear that though the two groups had had a common experience of some kind, one of them had been influenced by a factor which the other had not shared. This bears out the procedure by which the two groups were matched.

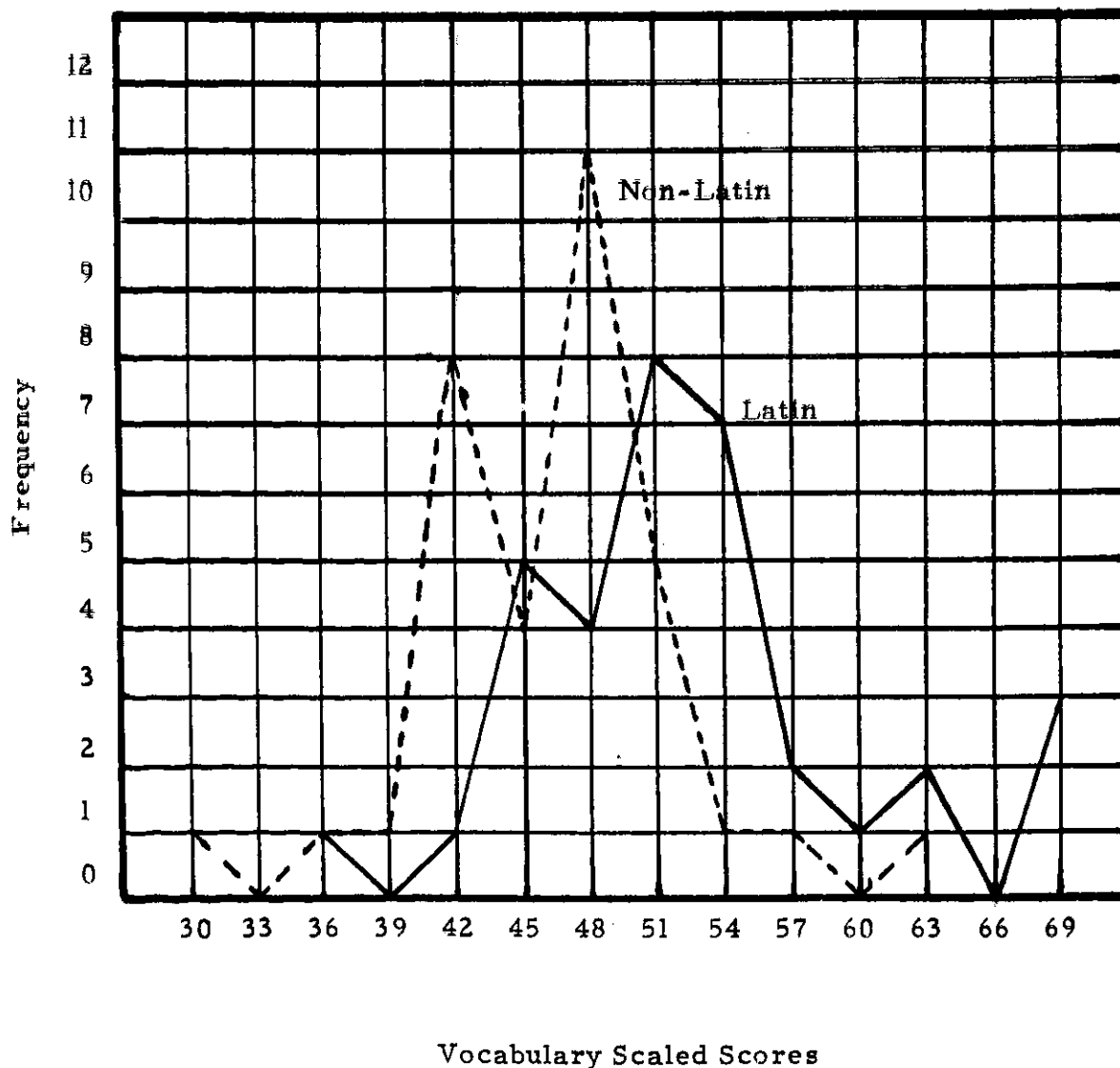


Figure 1. Comparative Distribution of Vocabulary Test Scores Obtained by Thirty-Four Latin and Thirty-Four Non-Latin Students

Implications

Herbert Sanborn in his article on the function of language study in a liberal education (Sanborn, 1957), has suggested that one of the main advantages to be derived from the study of any foreign language is that in translating from one language to the other the student learns to use words precisely and thus exercises the function of judgment. This claim is substantial to some extent by the performance of the thirty-four Latin students on a test which was designed to measure the student's power of discrimination between words. If developing this mental function is an objective of our school instruction, the study of Latin may contribute directly to its achievement.

The test manual for the Cooperative Vocabulary Test gives no evidence of comparisons between scores on a vocabulary test and those obtained on a mental ability test. However, the shapes of the polygons in Figure 1, indicating a general rise and fall which parallels, and recognition of the fact that the subjects were paired on the basis of grade level and mental maturity, suggest that a study of this nature might reveal the usefulness of the test as a measure of intelligence.

It is perhaps well to recognize that other variables than grade level, mental maturity, and courses in English or Latin enter into the development of vocabulary by students. It is impossible to include in this report such factors as the cultural influences of the homes from which the students came, their natural interests, personality traits, or motivation to learn.

Sydney J. Harris (1959), columnist for the Florida Times Union, has written an editorial about an inquiry he received from a high school student in Pennsylvania. He asked whether Harris' study of Latin had been valuable to him. Mr. Harris, using the "arm chair" approach supplemented by his personal experience, counseled his young inquirer to continue his study with diligence. The data obtained from this study may be assumed to provide further statistical evidence that students who have had some experience with Latin have somewhat of an advantage over those who have not in understanding the meaning of English words. This being true, it can be assumed that they are better prepared to achieve in other areas of learning on which vocabulary skills depend.

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