R E P O R T R E S U M E S

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HIGH VERBAL APTITUDE AND GRADE ACHIEVEMENT, A STUDY OF THE GRADE ACHIEVEMENT OF TWO HUNDRED FIRST-SEMESTER COLLEGE OF SAN MATEO FRESHMEN WHO RANKED HIGH IN VERBAL APTITUDE AS MEASURED BY THE SCHOOL AND COLLEGE ABILITY TESTS AND THE COOPERATIVE ENGLISH TESTS.

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DESCRIPTORS- *JUNIOR COLLEGES, *ABLE STUDENTS, *PREDICTIVE ABILITY (TESTING), *COLLEGE ENTRANCE EXAMINATIONS, ACADEMIC ACHIEVEMENT, *VERBAL ABILITY, SAN MATEO, SCHOOL AND COLLEGE ABILITY TESTS, COOPERATIVE ENGLISH TESTS,

GRADE DISTRIBUTIONS IN ENGLISH, SOCIAL SCIENCES, FOREIGN LANGUAGES, MATHEMATICS, AND NATURAL SCIENCES WERE COMPARED WITH SCORES ON TESTS GIVEN AT THE TIME OF ADMISSION. STUDENTS WITH SCORES BETWEEN THE 85TH AND 95TH PERCENTILES EARNED SUPERIOR GRADES I' HIGHLY VERBAL COURSES. AS A GROUP, STUDENTS ABOVE THE 74TH PERCENTILE PERFORMED NO BETTER THAN OTHERS IN ENGLISH 1A, AND, IN GENERAL, EARNED LOWER GRADES IN ENGLISH 1A THAN IN THEIR OTHER COURSES. FOREIGN LANGUAGE GRADES WERE GENERALLY NOT PREDICTABLE FROM THE TESTS, THOUGH THE SAMPLE MAY HAVE BEEN INADEQUATE. VERBAL APTITUDE WAS A STRONG PREDICTOR OF SUCCESS IN SOCIAL SCIENCES. PERFORMANCE OF STUDENTS WITH HIGH VERBAL TEST SCORES WAS DISAPPOINTING, ESPECIALLY IN AREAS WHICH ARE MOST DEMANDING OF VERBAL SKILLS. DIFFERENTIALS OF FEWER THAN 30 PERCENTILE POINTS BETWEEN HIGH VERBAL AND LOWER QUANTITATIVE SCORES DO NOT APPEAR RELATED TO GRADES. SUPERIOR QUANTITATIVE APTITUDE WAS INDICATIVE OF ONLY SLIGHTLY BETTER THAN AVERAGE PERFORMANCE IN MATHEMATICS AND SCIENCES. (WO)

HIGH VERBAL APTITUDE AND GRADE ACHIEVEMENT

A study of the grade achievement
of two hundred first-semester
College of San Mateo freshmen
who ranked high in verbal aptitude
as measured by the
School and College Ability Tests
and the
Cooperative English Tests

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July 7, 1966

INTRODUCTION

This study was undertaken to provide information on two questions: 1) To what extent can good or superior verbal aptitude as measured by the School and College Ability Tests and the Cooperative English [placement] Tests be depended upon to predict better than average grades in subject areas requiring primarily verbal skills? 2) Does the usual differential between high verbal aptitude and substantially lower quantitative aptitude predict a like difference between grades earned in subject areas demanding primarily verbal skills and those more demanding in quantitative skills?

Those who do not wish to cope with the entire study will find the gist of our work in our summary, beginning on Page 12, with specific references back to those parts of the study that may be of further interest.

Instructors mainly interested in a comparison of grades earned by our sample in the various subject areas with which we have concerned ourselves may find Tables III, II, and IV (in that order) of interest (Pages 5, 3, and 6).

A detailed explanation of how we chose our sample is given in Note 1, Page 14.

A discussion of superior and failing students can be found on Page 8.

Whatever part of the study may be of interest, it should be remembered that our data concerns a group of students who, we believe, are in verbal aptitude a fair sample of the top fifth of our first-semester freshman.

HIGH VERBAL APTITUDE AND GRADE ACHIEVEMENT

A study made during Spring 66 in Lieu
of three units of class instruction

July 1, 1966

I. Purpose Of the Study

The purpose of this study was threefold:

1. To investigate the grade achievement of first-semester College of San Mateo freshmen with high verbal aptitude in some of the subject areas requiring primarily verbal skills: namely the social sciences, foreign languages, and English la

2. To compare the grades earned by students under the study in the three subject areas under discussion

3. To determine whether the rather common differential between high percentile ranks in the verbal portion and the often substantially lower percentile ranks in the quantitative portion of the School and College Ability Tests (SCAT) predicts a similar differential between grades earned in subjects requiring mainly verbal skills and in those more demanding in quantitative skills: namely, mathematics and physical sciences.

II. The Sample of Students on Which the Study Is Based

For our study we chose the first two hundred students listed in the SCAT and Cooperative English Tests records for Spring 1965 who met the following qualifications:

1. The average derived from their percentile ranks on the verbal portion of the SCAT and on the Cooperative English Tests came to 74 or higher

2. They completed their first semester of college work at CSM in Fall 65 and earned grades other than W or Incomplete in at least six units, of which three units were in English la

On the basis of our data and calculations (Note 1, Page 14) we believe that the two hundred students whom we studied were in verbal aptitude as measured by the two tests referred to above a fair sample of the top fifth of the students who finished their first semester of college work at CSM in Fall 65.

III. What the Study Revealed

A) High verbal aptitude and grade achievement in subject areas requiring mainly verbal skills

1. Mean aptitude and aptitude range of the sample

Our sample showed the following mean percentiles on the SCAT and the Cooperative English Tests:

SCAT, Verbal Aptitude	87
Quantitative Aptitude	67
Cooperative English Tests	82
Reading	83
English Expression	74

Although the total sample showed a differential of only five percentiles (87-82) on the two tests that measure verbal aptitude, there were, of course, individuals who showed much greater differences, the outstanding example being a student who fell in the 95th percentile on the verbal aptitude portion of the SCAT and in the 56th on the Cooperative English Tests. However, no student in our sample fell below the 71st percentile on the verbal portion of the SCAT, and only thirteen students were found to be below the 71st percentile on the Cooperative English Tests. In other words, the percentile ranks shown by the students whom we selected for our sample were, on the whole, quite close to one another.

2. Mean grades achieved by the sample in subject areas requiring primarily verbal skills

The grades that the sample achieved at the end of Fall 65 in the social sciences, foreign languages, and English 1a are given in Table I, below. The fifty-nine students who took sixty-one foreign languages courses showed a mean percentile of 85 on the Cooperative English Tests. Since only some forty-three students in our sample did not take subjects in the social sciences, we assumed that the mean aptitude percentiles of those who did take courses in this subject area were approximately the same as those of the total sample.

Except where we have specifically given grade point averages on total programs, the mean grades given in the various tables are calculated on the basis of the number of courses involved, not on the number of units.

Table I

Grade distributions of the total sample in English 1a, social sciences, and foreign languages

English 1a			Foreign Languages			Social Sciences		
200 Students			59 Students			157 Students		
200 Courses			61 Courses			236 Courses		
A	10	5 %	A	6	9.8%	A	36	15.3%
B	71	35.5%	B	20	32.8%	B	96	40.7%
C	83	41.5%	C	25	41 %	C	82	34.8%
D	22	11 %	D	4	6.6%	D	17	7.2%
F	14	7 %	F	6	9.8%	F	5	2 %
Mean Grades								
2.2			2.26			2.6		

Table I shows that in terms of percentages the sample earned from two to three times as many A's and fewer than one-third as many F's in the social sciences as in English 1a and in foreign languages. In the social sciences 56% of the grades were A's and B's; in English 1a and in foreign languages 59% and 57% of the grades were C's, D's, and F's.

3. A comparison of grades achieved by the sample to those earned by more average groups

Table II, below, shows in terms of percentages how the grades of the sample compared to those of large numbers of "average" or "normal" students in the three subject areas under discussion. The groups on the left (A,E,H&I) represent the sample; the middle groups (B,F, and J) generally represent the students with whom the sample was in direct competition; the groups on the right (D,G, and K) are offered for a comparison between the grades earned by the sample during its first semester at CSM and the grades earned in the kinds of courses that are more generally taken during the second, third, or fourth semester of college.

Table II

A comparison in percentages of grades earned by the sample and those earned by large, more "average" groups in the social sciences, in English 1a, and in foreign languages

ENGLISH

Group A (Sample) English 1a 200 Courses	Group B English 1a 1129 Courses	Group C All English 4259 Courses	Group D Literature 421 Courses
A 5	A 3.5	A 3.5	A 7
B 35.5	B 22.5	B 19.4	B 24.5
C 41.5	C 47	C 51	C 48.5
D 11	D 18	D 16.8	D 14.5
F 7	F 9	F 9.3	F 5.5
2.2	Mean Grades 1.96	1.91	2.13

FOREIGN LANGUAGES

Group E (Sample) 61 Courses	Group F (First Year Courses) 580 Courses	Group G (All For. L 883 Courses Lang.)
A 9.8	A 12	A 14
B 32.8	B 31	B 30
C 41	C 31	C 33
D 6.6	D 13	D 13
F 9.8	F 13	F 10
2.26	Mean Grades 2.18	2.25

SOCIAL SCIENCES

Group H (Sample) 236 Courses		Group I (Sample) Hist. 17a (71 Courses)		Group J (All Social Sciences) 6615 Courses	Group K Philosophy 552 Courses
A	15.3	A	12.7	A 7.5	A 6.5
B	40.7	B	42.2	B 24.5	B 31.5
C	34.8	C	36.6	C 43	C 46
D	7.2	D	8.5	D 18	D 12
F	2	F	0	F 7	F 4
	2.6		2.6	Mean Grades 2.1	2.2

A perusal of Table II shows the following:

The highest differential between the mean grade earned by the sample and that earned by larger groups of students among whom the sample in many instances competed is shown in the social sciences, the overall differential being .50, or half a grade (Groups H and I compared to Group J). A comparison of Group H to Group J shows that the sample earned more than double the percentage of A's and less than one-third the percentage of F's than were earned by students in the social sciences generally. Whereas 32% of the grades earned overall in the social sciences are shown to be A's and B's, the sample earned 56% A's and B's. Apparently the substantially higher grade earned generally by the sample in social science courses does not reflect particularly the sample's superior performance in required courses taken by the most unselected groups: specifically, the sample earned precisely the same mean grade in History 17a (Group I: 71 courses) that it earned in all social science courses (Group H: 236 courses).

In the foreign languages the sample (whose mean percentile on the Cooperative English Tests was 85, as compared to 82 for the total group) did hardly any better than did either the students with whom they competed directly in most cases (Group E compared to Group F) or all foreign language students (Group E compared to Group G). The sample's slightly higher mean grade than that achieved by first-year foreign language students (Group F) seems to be largely accounted for by a smaller percentage of D's earned by the sample. We should point out again that the data on foreign language students in our sample involves only sixty-one courses and fifty-nine students.

In English 1a the sample earned a smaller percentage of D's and a larger percentage of B's than did all the English 1a students among whom the sample competed. We note that the sample's grade was .24 higher than that of all English 1a students. Failure, however, was almost as common among students in the sample as it was among English 1a students generally (7%--9%), and the superior grade of A occurred only slightly more often in the sample than it did among all English 1a students (5%--3.5%). Whereas 26% of all English 1a students earned A's and B's (as compared to 32% in the social sciences), 40.5% of the sample earned A's and B's in English 1a (as compared to 56% in the social sciences).

In crossing over from subject area to subject area, we note that the students in our sample earned in English 1a and in foreign languages approximately the same mean grade that was earned by all students in the social sciences (Groups A and E: 2.2 and 2.26 compared to Group J; 2.1) The closest comparison of grade distributions in Table II seems to be between the English 1a grades earned by the sample (Group A: 2.2) and grades earned by all philosophy students (Group K: 2.2); This comparison holds not only for mean grades but also for the percentages of the various grades earned.

4. Comparison of grades received in verbal subject areas to grades earned in other major subject areas.

Table III, below, offers an opportunity for a comparison between the grades earned by the sample in subject areas requiring primarily verbal skills and grades earned in other areas, some of which are more demanding in quantitative skills.

The subject area given as Mus-Drama-Art includes a few (but very few) courses in journalism, speech, and English other than English 1a. The area termed Voc-Rem-Term includes all courses taken by the sample that are numbered 50 or higher. On the far right we give aptitude percentiles for the students who took courses in the various subject areas. The aptitude of students who took courses in the areas shown as Social Sciences and PE--H-ED are assumed to be the same as those of the total sample (English 1a), since these areas involved most of the students.

The mean grades given for each subject area were calculated on the basis of the number of courses taken and not on the number of units involved; however the overall grade point average (last item in Table III) was figured on the basis of total number of units taken and total number of points earned and so reflects the sample's total performance.

Table III

The sample's total performance in terms of mean grades earned in various subject areas and in terms of the overall grade point average achieved

Subject Area	Mean Grade	Number of Students	Number of Courses	Aptitude Coop. Eng.	Aptitude Q-SCAT	Aptitude V-SCAT
Mus-Drama-Art	2.8	53	73	83	63.5	--
PE--H-ED	2.7	189	240	--	--	--
Social Sciences	2.6	157	236	--	--	--
Voc-Rem-Term	2.5	44	72	80	60	--
Science-Math	2.4	103	153	81.5	72	--
Foreign Languages	2.26	59	61	85	70	--
English 1a	2.2	200	200	82	67	87

Average number of units taken by the sample 14
Average number of plus points earned by the sample . 6

Grade Point Average 2.43

We note in Table III that the students in the sample, who were chosen on the basis of their above average and high verbal aptitude, earned their lowest grades in the two subject areas that are generally considered to be the most demanding in verbal skills.

5. Higher and lower aptitude (within the aptitude range of the sample) and achievement

To this point our concern has been with the mean student in the sample. To determine the extent to which grade achievement varied according to higher and lower verbal aptitude within the 74th--99th percentile range of the total sample, we separated the sample into five groups--Group I:95th-99th; Group II:90th-94th; Group III:85th-89th; Group IV:80th-84th; Group V:74th-79th--and determined the mean grades of each group in four major subject areas--namely, social sciences, math-science, foreign languages, and English 1a. For the purpose of grouping we derived the percentile ranges from both tests in question; in other words, these are percentile averages of the two tests. The units, plus points, and grade point averages given at the bottom of Table IV represent the total performance of each group.

Table IV

Grade distributions according to higher and lower verbal aptitude within the 74th to 99th percentile range

The Groups

Percentile Range (Average: Verb.Apt. SCAT & Coop. Eng.	I 95-99 20 Students	II 90-94 42	III 85-89 29	IV 80-84 52	V 74-79 57	Total Sample
English 1a	A 2	A 7	A 0	A 0	A 1	10
200 students	B 10	B 20	B 13	B 14	B 14	71
200 courses	C 6	C 12	C 11	C 26	C 28	83
	D 2	D 1	D 2	D 7	D 10	22
	F 0	F 2	F 3	F 5	F 4	14
Mean Grade	2.6	2.67	2.17	1.94	1.97	200
Foreign Languages	A 2	A 3	A 0	A 0	A 1	6
59 students	B 7	B 4	B 3	B 1	B 5	20
61 courses	C 2	C 5	C 4	C 10	C 4	25
	D 0	D 1	D 1	D 1	D 1	4
	F 1	F 1	F 0	F 2	F 2	6
Mean Grade	2.8	2.5	2.25	1.7	2.48	61
Social Sciences	A 3	A 16	A 2	A 11	A 4	36
157 students	B 12	B 17	B 18	B 19	B 30	96
236 courses	C 2	C 16	C 13	C 25	C 26	82
	D 2	D 3	D 3	D 3	D 6	17
	F 0	F 4	F 1	F 0	F 0	5
Mean Grade	2.8	2.67	2.46	2.65	2.48	136
Math & Science	A 2	A 2	A 1	A 5	A 5	15
103 students	B 8	B 12	B 8	B 11	B 17	56
153 courses	C 6	C 12	C 4	C 21	C 21	64
	D 0	D 3	D 1	D 6	D 2	12
	F 1	F 0	F 2	F 1	F 2	6
Mean Grade	2.6	2.45	2.3	2.3	2.4	153
Unit Load, Tot. Pro.	14.7	14	13.6	14.3	13	14
Plus Points	10.4	8.5	4	5	5	6
Grade Point Average	2.7	2.6	2.3	2.35	2.36	2.43

Table IV shows that the twenty students (10% of the sample) who ranked in the highest percentiles (Group I: 95th-99th) in verbal aptitude earned only seven A's in fifty-one courses taken in the social sciences, English 1a and foreign languages (14%) and that the small percentage of A's is consistent from subject area to subject area, including math and science. The largest percentage of A's was earned by students who ranked in the 90th to 94th percentile (23%), and the high percentage of A's is consistent from subject area to subject area (math and science excepted). A check revealed that five of the ten students in the sample who earned A's in English 1a ranked in the 89th percentile on the Cooperative English Tests. Only one student (71st percentile: Eng. Coop.) among the 138 in Groups III, IV, and V (74th to 89th percentile) earned an A in English, whereas twelve students in these three groups earned F's. The 109 students (55% of the sample) who ranked in the 74th to 89th percentile (Groups IV and V) earned twice as many C's as B's and almost exactly the same mean grade (1.94 and 1.97) that was earned by all the 1129 students (1.96, Table II) among whom they competed. The cut-off on the Cooperative English Tests for placement in English 1a is usually the 63rd percentile. A check revealed that Groups IV and V showed a mean percentile of 75 on the Cooperative English Tests. Data on the mean percentile of all students who qualify for English 1a are not immediately available. At any rate, the data in Table IV on these two groups suggests that students who fall below the 85th percentile (average of SCAT and Coop. Eng. Tests.) are rather average students when it comes to grade achievement: They earn considerably more F's than A's and Twice as many C's as B's and show a mean grade of C.

Coming back to the top group (95th to 99th percentile) we note a consistent grade of 2.6 to 2.8 in major subject areas, including math and science, a grade that seems primarily accounted for by a large percentage of B's, particularly in subject areas requiring primarily verbal skills, whereas in Group II the mean grades, which are much the same as those of Group I, are, to quite an extent, accounted for by a relatively large number of A's.

As for grade point averages (bottom of Table IV), we note that in Groups I and II, these are quite consistent with the grades received in all the subject areas under discussion, but that in Groups III, IV, and V the grade point average drops off somewhat and that this slight drop-off of grade point average seems to be to quite an extent accounted for by a considerable drop-off in grades earned in the language courses. Specifically, Groups III, IV, and V maintain a consistent grade point average of 2.3 to 2.36; their grades in the social sciences and in math and science run from 2.3 to 2.65, but in English grades fall off from 2.17 to 1.94 and in foreign languages from 2.25 to 2.16 and even to 1.7

6. Superior and failing students

The entire sample turned up only one student with a straight A average; He took twelve units (English 1a, Psychology 1a, Economics 1a, and History 4a). His aptitude percentiles were the following: Verbal aptitude, SCAT: 99; quantitative aptitude, SCAT: 35; Cooperative English Test : 89

Only seventeen students in the sample (8.5%) achieved over twenty plus points. Below, in Table V, we give some mean statistics on this "top" group in our sample.

Table V

Data on the seventeen students in the study who earned over twenty plus points

Aptitude

		Total Sample
Mean percentile	Verb. Apt. SCAT 91	87
	Cooperative English Tests . 88	82
	Q. Apt. SCAT 70	67

Grade Distribution

English 1a	Social Sciences	For. Lang.	Math-Science
A 7	A 18	A 7	A 4
B 6	B 5	B 8	B 4
C 4	C 0	C 2	C 0
Mean Grades			
3.2	3.8	3.6	3.5

Mean Number of Units: 16
Plus Points: 23.6
Grade Point Average : 3.5

As for failures, five of the two hundred students in the sample received F's in all courses; all together thirteen students were disqualified. Their mean aptitude percentiles were found to be the following: Verb. Apt. SCAT: 84, the range being 66 97; Coop. Eng. Tsts.: 77, the range being 63-96; Q. Apt. SCAT: 58, the range being 20-92.

The ten students who earned A's in English showed a mean percentile of 89.9 on the Cooperative English Tests, the percentile range being 71-99. The students receiving A's in the social sciences averaged in the 88th percentile (Coop. Eng. Tsts.), the range being 63-98; in the foreign languages the range was from the 71st to the 99th percentile, the mean the 89th.

Six of the fourteen students who received F's in English 1a received their only F in that subject, and three of these six earned plus points on their total program, in spite of the failure in English; none of the six students was disqualified. Three of the six students who received F's in the foreign languages received their only F in that subject area, and none of the three was disqualified. In the social sciences five F's were earned by three students, all of whom failed every subject they took.

B) The differential between verbal aptitude and quantitative aptitude and grade achievement

1. Mean quantitative aptitude and quantitative aptitude range of the sample

The total sample fell in the 67th percentile on the quantitative portion of the SCAT, as compared to the 87th percentile on the verbal portion. Further investigation turned up some sixty-five students, or one-third of the sample, who fell thirty or more percentiles lower in quantitative aptitude than in verbal aptitude. All together we found ten students who fell in the 20th percentile or lower in the quantitative portion of the SCAT. The outstanding example of wide differentials between verbal and quantitative aptitude was a student who ranked in the 89th percentile on the verbal portion of the SCAT and in the 10th on the quantitative portion. Although this student took no math or science courses, and hence is not pertinent to most of the discussion that follows, it may be of some interest to note that on 11.5 units he earned 2.5 plus points.

2. Grade achievement of students whose quantitative aptitude fell considerably below their verbal aptitude

Among the sixty-five students whose quantitative aptitude fell 30 or more percentiles below their verbal aptitude we found twenty-three who together showed a mean differential of 45 percentiles between the two portions of the SCAT but, nevertheless, took science or math courses. In Table VI we give some pertinent data on these twenty-three students.

Table VI

Aptitude and grade data on 23 students who took math or science courses with a mean quantitative aptitude that fell 45 percentiles below their verbal aptitude (differential range: 30 to 79 percentiles)

	Aptitude	
	23 Students	Total Sample
Mean percentile Q. Apt. SCAT. .	47	67
V. Apt. SCAT. .	92	87
Differential . .	45	20

Grade Distribution

English		Social Sciences (19 students)		Math-Science (23 Students)	
A	3	A	2	A	1
B	8	B	13	B	8
C	8	C	7	C	11
D	2	D	1	D	3
F	2	F	0	F	3
Mean Grades	2.2		2.6		2.04

Mean Unit Load: 13.3; Plus Points: 5; Grade Point Average: 2.37 (Compared to 2.43 for total sample)

We note in Table VI that the twenty-three students in question achieved the same mean grades in English 1a and in the social sciences that the total sample achieved, but that their math-science grade fell .36 of a grade below that of all 103 students in the sample who took math-science courses (compare Table VI to Table III).

This group included the student who earned the highest number of plus points in the sample. His verbal aptitude (SCAT) fell in the 96th percentile and his quantitative aptitude in the 61st. He received an A in Biology 10, as well as in English and Spanish. With a load of 16.5 units he earned 29.5 plus points.

2. Grade achievement of students whose quantitative aptitude fell in the 20th percentile or lower

Reference has already been made to the ten students who ranked in the bottom quartile in quantitative aptitude while ranking in the top quartile in verbal aptitude. Table VII, below, offers some data on these students.

Table VII

Data on 10 students who fell in the 20th percentile or lower on the quantitative portion of the SCAT

	Aptitude 10 students	Total Sample
Mean Percentile Verb. Apt. SCAT . .	83.4	87
Q. Apt. SCAT . .	16.7	67
Differential	66.7	20
Coop. Eng. Test. . .	75.6	82

Grade Distribution

English 1a		Social Sciences		Math-Science	
A	0	A	0	A	0
B	1	B	1	B	0
C	6	C	7	C	1
D	2	D	2	D	0
F	1	F	0	F	2

Mean Grades

1.7	1.9	.66

Mean Unit Load: 10.4; Mean Minus Points: -3

The data in Table VII, although it involves only ten members of the sample suggests that students with good verbal aptitude and a very minimum of quantitative aptitude can do average work in subjects that require mainly verbal skills. Only two of the ten students were disqualified.

3. Grade achievement of students whose quantitative aptitude was higher than their verbal aptitude

Whereas the study turned up sixty-five students who ranked thirty or more percentiles lower in quantitative aptitude than in verbal aptitude, there were only twenty-nine students who showed a higher rank in quantitative aptitude than in verbal aptitude. Data on these students is given below in Table VIII.

Table VIII

Data on 29 students who ranked higher in quantitative aptitude than in verbal aptitude

	Aptitude 29 students	Total Sample
Mean Percentile Verb. Apt. SCAT . .	85	87
Q. Apt. SCAT . .	92	67
Mean Differential	7	

Grade Distribution

English 1a	Social Science (19 Students)	Math-Science (21 Students)
A 2	A 3	A 2
B 10	B 9	B 19
C 10	C 8	C 20
D 3	D 1	D 1
F 4	F 2	F 0

Mean Grades

2.1	2.44	2.52

(Mean Grades of Total Sample)

(2.2	2.6	2.4)

Mean Unit Load: 14.6; Mean Plus Points: 6.6; Grade Point Average 2.45 (as compared to 2.43 for the total sample)

Table VIII shows that students with a quantitative aptitude that was higher than their verbal aptitude did not do quite as well in subjects requiring primarily verbal skills as did the total sample and that their grade achievement was only .12 of a grade higher in math-science than that of all 103 students in the sample who took math-science courses, even though in quantitative aptitude they ranked some twenty percentiles higher than did the 103. Finally, we note that on their total program, these students earned almost exactly the same grade point average (2.45) that was earned by the total sample (2.43)

IV. Summary and Conclusions

A) Our study shows virtually no evidence of a correlation between the very highest verbal aptitude percentiles (95th to 99th) and superior grades in subjects requiring primarily verbal skills. Superior grades were earned most often by students who ranked in the upper 80's and lower 90's on the percentile ranges of the School and College Ability Tests and the Cooperative English Tests (No. 5, Page 6 and Table IV; No. 6, Page 8 and Table V).

B) In English 1a and in foreign languages failure occurred almost as often among students with high verbal aptitudes (the sample) as it does among "average" groups of students (No. 3, Page 3 and Table II). In the social sciences, however, failure among students in our sample was all but nil: all together our sample showed five F's in the social sciences, and these five F's were earned by three students, all of whom failed every course they took.

C) The students in our sample who ranked below the 90th percentile were most likely to earn C's in English 1a; those who ranked between the 74th and 84th percentiles earned twice as many C's as B's and more than half as many D's as B's. As a matter of fact, we found no evidence that students ranking up to the 84th percentile perform any better in English 1a than do English 1a students generally (Groups IV and V in Table IV, Page 6 compared to Group B in Table II, Page 3); specifically the average grade for all English 1a students in Fall 65 was found to be the same (1.96) as that of 109 students (more than half our sample) whose verbal aptitude ranged between the 74th and 84th percentiles (1.94 and 1.97).

D) The students in our sample generally earned their lowest grades in English 1a. (Table I, Page 2; Table II, Page 3; Table III, Page 5; Table IV, Page 6; Table V, Page 8; Table VIII, Page 11). The exceptions to this generalization were students who ranked between the 90th and 94th percentile (Group II, Table IV) and students who ranked unusually low in quantitative aptitude and earned their lowest grades in math and science (Table VI, Page 9).

E) We hesitate to generalize on the performance of our sample in foreign languages, since only fifty-nine of our two hundred students took courses in this subject area, but as far as the fifty-nine are concerned, they generally earned their second lowest grades in foreign language courses (Table I, Page 2; Table II, Page 3; Table IV, Page 6). Generally the percentage of A's and B's earned by the sample was no larger than that earned by all foreign language students with whom the sample was in competition; the mean grade earned by our sample in foreign language courses was almost exactly the same as that earned by all foreign language students taking first-year courses (Groups E, F, and G, Table II, Page 3).

F) The sample earned its highest percentage of A's and B's (as far as the specific subject areas under discussion are concerned) in the social sciences (Table I, Page 2; Table II, Page 3; Table III, Page 5; Table IV, Page 6; Table V, Page 8; Table VI, Page 9; Table VII, Page 10), the only exception being those few students who were found to have a quantitative aptitude that was higher than their verbal aptitude (Table III, Page 11).

G) All in all our data suggests that if-there is any subject area that requires primarily verbal skills in which good or superior verbal aptitude predicts better than average, or at most better than "high" average grades for incoming freshman, it is the area of social sciences. Specifically, in the social sciences the sample earned a grade of 2.6, which was .50 of a grade higher than that earned by all social science students (2.1). whereas in English 1a the sample earned a grade of 2.2, which was .24 of a grade higher than that earned by all English 1a students (1.96). As has already been noted, in the foreign languages there was little to distinguish between the grades earned by the sample and those earned by foreign language students generally. The data on which these generalizations are based are found in Table II, Page 3 and in H, below.

H) Although the general grade distributions in the major subject areas at CSM were of interest to this study only for comparative purposes, they may be of some general interest and are repeated below, together with mean grades earned by students generally and those earned by the sample.

Grade Distributions in Percentages

Social Sciences 6615 Grades	Math-Science 4207 Grades	For. Lang. 883 Grades	All English 4259 Grades
A 7.5	A 7.5	A 14	A 3.5
B 24.5	B 21.4	B 30	B 19.4
C 43	C 44.6	C 33	C 51
D 18	D 16	D 13	D 16.8
F 7	F 10.5	F 10	F 9.3

Mean Grades

2.1	1.99	2.25	1.91

Mean Grades earned by the sample

2.6	2.4	2.26	2.2

I) On the basis of our data, our conclusion must be that the performance of our incoming freshman with good and superior verbal aptitude is disappointing and that high verbal aptitude as measured by the School and College Ability Tests and the Cooperative English [placement] Tests does not generally predict outstanding performance, especially not in those areas most demanding in verbal skills---namely English and foreign languages.

J) Concerning the usual differential between high verbal aptitude and a substantially lower quantitative aptitude, the study seems to show that unless this differential is one of over 30 percentiles, or even more, it does not affect grades to any really noticeable extent. If however the differential amounts to some 45 or more percentiles, the student involved is likely to earn grades in math and science that are lower, and sometimes considerably lower, than those he earns in the social sciences (Table VI, Page 9; Table VII, Page 10).

K) Students who were found to have a quantitative aptitude that was superior to their verbal aptitude performed just a bit better in math and science than did the students in the sample generally, whose quantitative aptitude fell on an average from 15 to 20 percentiles below their verbal aptitude on the SCAT. Except for the slightly better grade in science and math, the students with superior quantitative aptitude performed precisely as did the total sample (Table VIII, Page 11).

L) Concerning a differential between verbal aptitude and quantitative aptitude, our conclusion is that so long as the student concerned has good or high verbal aptitude and a quantitative aptitude that is within 30 percentiles (or perhaps even 40 percentiles) of his verbal aptitude, his grades are not likely to suffer appreciably in subject areas that are more demanding in quantitative skills than in verbal skills.

Additional Notes

1. The Sample

To get our sample of 200 students, we checked through the first 2220 names listed in the SCAT and Cooperative English Tests records for Spring 65 (April-July) and drew from among these 2220 the first 351 names of students who qualified for our sample on the basis of aptitude. Of these 351 students, sixty-seven (19%) showed no record for Fall 65; twenty-five (7%) were found to have withdrawn from all courses; twenty-seven (7.7%) had not taken English 1a in Fall 65; twenty-one (6%) were eliminated because they were transfer students, many of whom had not taken English 1a in Fall 65; eleven others were eliminated because they had withdrawn from or received an Incomplete in English 1a, or because they had not completed six units.

To get some idea of the standing of our sample among all students who finish their first semester of college at CSM, we assumed that some 40% of the 2220 students from among whom we had drawn our sample had not enrolled in Fall 65 or had enrolled and withdrawn; we then estimated our samples standing as follows:

Sample:	351-67 (didn't enroll) -25 (withdrew):	259	
Group from whom sample was chosen:	40%of 2220: 880; 2220-880:	1340	: 19%

2. Students Taking Terminal Courses

We note in Table II that some forty-four students in our sample took some seventy-two terminal courses. We also note (Table III) that the aptitude of these students did not vary substantially from that of the total sample, and with this high or better than average aptitude, these students performed about as well in terminal courses as the sample performed generally in transfer courses. Specifically, the sample earned a grade of 2.6 in the social sciences and one of 2.4 in math and science; students taking terminal courses earned a grade of 2.5 in such courses.

The sample turned up some nine students who took three or more terminal courses, and we assume that these students (some 5% of the sample) are engaged in two-year programs.

3. Predicting the English 1a Grade

While collecting our data we noticed that the percentile ranks of our sample were rather consistently lower in the English Expression test than they were on the two Cooperative English Tests combined. With respect to the five groups treated

in Table IV, we found that whereas the mean for the total of the three tests fell off to the 72nd percentile by the time we got to Group V, the mean on the English Expression test fell off to 63. Although the total sample showed an average rank of 74 or higher on a combination of the English Cooperative Tests and the verbal portion of the SCAT, and even though only thirteen students fell below the 71st percentile on the total of the Cooperative English Tests, there were some seventy-four students (37%) who fell in the 67th percentile or lower in the English Expression test; thirty-one of these students (15.5%) fell below the 55th percentile, and three below the 45th, of whom two were in the 35th and one in the 29th.

To determine how well the English Expression test might serve as a predictor of grades in English 1a, we placed our sample on a percentile scale of this test as shown below.

100
95
90
85 — Mean for students earning B's (82nd percentile)
80
75
70 — Mean for students earning C's (70th percentile)
65
60 — Mean for students earning D's (61st percentile)
55
50 The medians were found to be 87, 67, and 62

or from Table IV

100
95
90 — Groups I and II, 62 students; mean grade: 2.67 (89th percentile)
85
80
75 — Mean for total sample; mean grade 2.2 (74th percentile)
70
65 — Groups IV and V, 109 students; mean grades: 1.94 and 1.97 (69th and 63th percentiles)
60
55
50

Additional study of the English Expression test and grade achievement in English 1a might be of some value in placement of students.