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## ABSTRACT

Research was conducted to study possible alternatives to ACT and SAT for admission and placement purposes. A survey of California community colleges revealed that the information desired about students is how well they can write, how well they can read, and how well they can apply basic mathematics skills and that the test should not exceed \$3.00 in cost and should run about two hours. ETS's offer of a free trial administration of the Comparative Guidance and Placement Program was accepted to provide the opportunity to compare the results with prior ACT scores. CGP component plan eleven, which includes sentences, reading and mathematics, was administered to 26 Reedley College first-semester freshmen and 137 Reedley High School seniors. The scores of the freshmen were compared with their ACT scores, and those of the latter group were compared with the ACT scores of the 1972 entering freshmen. Results revealed, for practical purposes, no significant differences, indicating that CGP can be used to screen for placement as effectively as ACT or SAT. In actual use, the cost of this CGP plan would be about \$2.00, with a testing time of two hours and fifteen minutes. It is recommended that the CGP be considered for adoption for admission and placement. It is also suggested that ETS work on improving the answer sheet and the explanation of the math portion. (KM)

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A TRIAL ADMINISTRATION OF THE COMPARATIVE GUIDANCE  
AND PLACEMENT PROGRAM

BY

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December, 1973

JC 740 046

## A TRIAL ADMINISTRATION OF THE COMPARATIVE GUIDANCE AND PLACEMENT PROGRAM

### PURPOSE OF STUDY

Approximately a year ago the investigator was given the assignment of studying possible alternatives to A.C.T. and S.A.T. for admission and placement purposes. The community colleges in California were surveyed with the conclusion that information desired about students is how well they can write, how well they can read, and how well they can apply basic mathematics skills.<sup>1</sup> It was recommended that these three skills be tested at a cost not to exceed three dollars in a testing time of somewhere around two hours. Dr. Nathaniel Allyn of the College Board responded with an offer to make a free trial administration of the Comparative Guidance and Placement Program using component plan eleven which includes sentences, reading, and mathematics. If this plan were adopted, the cost would be approximately \$2.50 to the student. The total administration time would run about two hours and fifteen minutes.

The trial administration would give the opportunity to compare the results with prior A.C.T. scores. Negotiations continued, and the arrangements were made to administer the C.G.P. to from 100 to 150 Reedley College first-semester freshmen who had taken A.C.T. and compare scores. The Reedley College freshmen were reluctant to take another test, so the 26 who volunteered (25 of whom had previous A.C.T. or S.A.T. scores), and the 137 Reedley High School seniors who indicated they may attend Reedley College for the Fall Semester, 1974, as freshmen were tested. The high school senior scores would be compared with A.C.T. scores of the 1972 entering freshman class. The Z statistic, the test involving two proportions will be used, with the 5% level of significance (Z statistic less than 1.96). The null hypothesis will be assumed.

The test was given the latter part of October and the first part of November. Completed answer sheets were mailed the afternoon of November 19, 1973. These dates included two weekends; if answer sheets were mailed the early part of the week, the return should be sometime during the following week.

Tables of comparison follow: (Statistical analysis was provided by Walter A. Koch, Reedley College instructor.)

<sup>1</sup>Clark, Robert M. California Community College Testing Survey. Reedley College, California, May, 1973. (ERIC - ED 075 027 JC 098).

ENGLISH TEST

QUALIFYING FOR ENGLISH 1A

Reedley College currently requires a standard score of 20 or higher on the English or composite portion of A.C.T., or a score of 460 or higher on the verbal portion of S.A.T. to qualify for English 1A. A student may also qualify by getting 18 or 19 on A.C.T., or 430 on S.A.T. with a "B" average in high school English. As a comparison the 60th percentile was used for the Sentences portion of C.G.P.

Reedley College Students N=25

A.C.T. 20+	-4	A.C.T. 18+ H.S. Eng.	-5	C.G.P.	-8
S.A.T. 460+	-3	S.A.T. 430+ H.S. Eng.	-4		
Totals	7 (28%)		9 (36%)		8 (32%)

In the above comparison, two students failed on S.A.T. but qualified on C.G.P.; one of those qualified on the basis of S.A.T. plus high school grades. One student qualified on A.C.T. but failed on C.G.P.; one qualified on the basis of A.C.T. plus high school grades, and qualified on C.G.P. The other 21 students had the same status on both tests.

1. The statistical comparison was made with the total qualifying on A.C.T. and S.A.T. with high school grades (9) and those qualifying on C.G.P. The Z statistic is 0.611, therefore, the null hypothesis is not rejected.

Reedley High School Seniors

At Reedley College A.C.T. English or Composite scores (whichever is higher) of 14 to 17 are placed in English A; those below are placed in English 50, hence, the more detailed breakdown of scores is listed.

Reedley College Freshmen N=483

Reedley High Seniors N=137

	<u>English</u>	<u>Composite</u>		
A.C.T. 20+	78 - 16%	106 - 22%	C.G.P. 60%ile	27 - 19%
18 - 19	75 - 15%	51 - 10%	50 - 59%ile	30 - 22%
14 - 17	116 - 24%	135 - 28%	40 - 49%ile	11 - 8%
0 - 13	2114 - 44%	191 - 39%	0 - 39%ile	69 - 50%

Statistical comparisons were made as follows:

2. A.C.T. 20+ (78) and C.G.P. 60%ile (27) - the Z statistic is 0.988, therefore, the null hypothesis is not rejected.
3. A.C.T. 20+ Composite (106) and C.G.P. 60%ile (27) - the Z statistic is 0.554, therefore, the null hypothesis is not rejected.

4. A.C.T. 18-19 (75) and C.G.P. 50-59%ile (30) - the Z statistic is 1.769, therefore, the null hypothesis is not rejected.
5. A.C.T. 18-19 Composite (51) and C.G.P. 50-59%ile (30) - the Z statistic is 3.48, therefore, the null hypothesis is rejected.

PASSING THE A.A. AND A.S. DEGREE REQUIREMENT

Reedley College currently requires an English A.C.T. score of 17 or a Verbal S.A.T. score of 400 to meet the degree requirement. The 50%ile on the Sentences portion of C.G.P. was used.

Reedley College Students N=25

A.C.T.	7 pass 11 fail		C.G.P.	11 pass 14 fail
S.A.T.	4 pass <u>3 fail</u>			
Totals	11 pass 14 fail			11 pass 14 fail

6. In the above comparison 21 students did not change but retained the same pass/fail classification. Two students failed to qualify on ACT-SAT but qualified on C.G.P., whereas, two failed to qualify on C.G.P. but qualified on ACT-SAT. Since the totals are exactly the same, the Z statistic was not computed, but the null hypothesis is not rejected.

Reedley High School Seniors

Reedley College Freshmen N=483

Reedley High Seniors N=137

A.C.T. 196 pass - 40.6%

C.G.P. 57 pass - 41.6%

7. The Z statistic is 0.217, therefore, the null hypothesis is not rejected.

MATHEMATICS TEST

PASSING THE A.A. AND A.S. DEGREE REQUIREMENT

Reedley College currently requires a Mathematics A.C.T. score of 16 or a Mathematics S.A.T. score of 425 to meet the degree requirement. Both the 50th and 60th percentiles on the Mathematics portion of C.G.P. were tested.

Reedley College Students N=25

A.C.T.	5 pass 13 fail	C.G.P. 50%ile	15 pass 10 fail	C.G.P. 60%ile	10 pass 15 fail
S.A.T.	6 pass <u>1 fail</u>				
Totals	11 pass 14 fail		15 pass 10 fail		10 pass 15 fail

Of the 25, 20 maintained the same classification; 4 moved from the fail to pass classification by virtue of 50%ile C.G.P. Three of those moving up took the D test, the other the C test. One moved from pass to fail; that student took the D test.

Based on a 60%ile pass line, 24 retained the same classification they had on ACT-SAT scores. The four who moved up on the 50%ile pass line were all in the 50-59%ile category, and moved back to fail. The one who moved to fail on the 50%ile pass line continued on fail.

Statistical comparisons were made as follows:

- 8. Total ACT/SAT (11) and C.G.P. 50%ile (15) - the Z statistic is 1.14, therefore, the null hypothesis is not rejected.
- 9. Total ACT/SAT (11) and C.G.P. 60%ile (10) - the Z statistic is 0.2857, therefore, the null hypothesis is not rejected.

Reedley High School Seniors

Reedley College Freshmen	N=483	Reedley High Seniors	N=137
A.C.T. 191 pass - 39.5%		C.G.P. 50%ile 67 pass - 49%	60%ile 49 pass, 36%
292 fail - 60.5%		70 fail - 51%	88 fail, 64%

Statistical comparisons were made as follows:

- 10. A.C.T. (191) and C.G.P. 50%ile (67) - the Z statistic is 1.962, therefore, the null hypothesis is rejected.
- 11. A.C.T. (191) and C.G.P. 60th%ile (49) - the Z statistic is 0.800, therefore, the null hypothesis is not rejected.

ANALYSIS OF RHS SCORES BY CGP TEST TAKEN (C, D, or E)

C.G.P. Mathematics section has three levels; level C is for students who have had no Algebra, level D is for students who have had one year of Algebra, and level E is for those who have had more than one year of Algebra. The particular level to be taken is determined by each student; the tests are all the same length so that all students can be tested at the same time in math. This information is of secondary interest and is not critical to the recommendation, hence no statistical tests were made. It is noted that student who don't take advanced math (C test) don't do well on math tests, or students who don't do well on math tests don't take advanced math.

Test	50%ile+	0-49%ile	60%ile+	0-59%ile
C (N=42)	7	35	2	40
D (N=67)	36	31	25	42
E (N=28)	<u>24</u>	<u>4</u>	<u>22</u>	<u>6</u>
Totals	67	70	49	88
Percentages	48.9%	51.1%	35.76%	64.23%



## READING TEST

Reedley College has no firm placement procedure involving reading scores. The information is for comparative study.

### Reedley College Students N=25

A.C.T. Soc. Sci. Reading	C.G.P. Reading	A.C.T. Nat. Sci. Reading
20+ - 4	50%ile - 5	20+ - 3
0 - 19 - 14	0-49%ile - 13	0 - 19 - 15
S.A.T. - no Reading Score - 7		

12. Comparing A.C.T. Social Science Reading with C.G.P., 17 of the 18 remained in the same classification, one moved up by virtue of C.G.P. score. The statistical comparison was made with A.C.T. Soc. Sci. (4) and C.G.P. (5). The Z statistic is 0.799, therefore, the null hypothesis is not rejected.
13. Comparing A.C.T. Natural Science Reading with C.G.P., 16 of the 18 remained in the same classification, two moved up by virtue of C.G.P. score. The statistical comparison was made with A.C.T. Nat. Sci. (3) and C.G.P. (5). The Z statistic is 0.811, therefore, the null hypothesis is not rejected.

### Reedley High School Seniors

Reedley College Freshmen, A.C.T. Social Science Reading N=483	Reedley High Seniors C.G.P. N=137	R.C. Freshmen, A.C.T. Nat. Science Read. N=483
20+ - 149 - 31%	50%ile+ - 50 - 36.5%	20+ - 160 - 33%
0 - 19 - 334 - 69%	0-49%ile - 87 - 63.5%	0-19 - 323 - 67%

Statistical comparisons were made as follows:

14. A.C.T. Social Science Reading (149) and C.G.P. Reading (50) - the Z statistic is 1.25, therefore, the null hypothesis is not rejected.
15. A.C.T. Natural Science Reading (160) and C.G.P. Reading (50) - the Z statistic is 0.735, therefore, the null hypothesis is not rejected.

## CONCLUSIONS AND RECOMMENDATIONS

It is noted that of the fifteen statistical comparisons, only two resulted in rejection of the null hypothesis. Those comparisons were numbers five and ten, both of which are based on the 50%ile of C.G.P. Since neither comparison is critical for Reedley College requirements, and since the C.G.P. percentile cut-off can be adjusted to meet the college requirements, the rejection of the null hypothesis is not significant. For practical purposes, then, there are no significant differences, indicating that C.G.P. can do as good a job screening for placement as can the A.C.T. or S.A.T. The 50%ile and 60%ile lines of demarcation were used for comparison only, and it is not assumed that these lines are the ones to be used for cut-off scores if and when the C.G.P. is put into actual use. The actual cut-off scores should be determined by the divisions and departments concerned.

In actual use, the cost of the achievement tests would be \$2.00 which could be borne by the district, the institution, or the student. There are twelve different plans available in C.G.P., with a cost of from \$1.00 to \$4.50 depending on how many of the different components of the complete battery are desired. Of course, adding components extends the testing time, with the exception of the biographical inventory and interest index which could be done at home prior to testing. If the C.G.P. were to be given at off-duty hours an additional monitoring expense should be provided for. There are no regularly scheduled testing days for C.G.P., hence, every administration of the test would be on a residual basis.

On the basis of the above data and analysis, it is hereby recommended that serious consideration be given to the adoption of C.G.P. for admission and placement at Reedley College for the ensuing school year, 1974-75.

Since the answer sheet for C.G.P. is rather unwieldy, it is suggested that some revision be done on the part of Educational Testing Service. Some difficulty was experienced with the explanation of the math portion in the test booklet. It is suggested that Educational Testing Service examine the possible revision of that explanation.

UNIVERSITY OF CALIF.  
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