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ABSTRACT

A study was conducted at Miami-Dade Community Colleges (MDCC) to investigate whether a combination of freshman and sophomore grades and student scores on the College Level Academic Skills Test (CLAST) would be a better predictor of student academic success at the four-year level than CLAST scores alone. Since there were insufficient data to determine the predictive validity of CLAST, an analogous situation was used to test the premise; i.e., the college performance of students with high grade point averages (GPA's) from high school and low scores on the Comparative Guidance and Placement (CGP) test was analyzed. The study sample was a group of 455 credit students who had been offered the Scholar's Grant award based on their standing in the top 10% of their high school class. Of these students, 326 scored high enough on the CGP to register for college-level course work, and 129 scored low enough on at least one of the sub-tests to be eligible for remedial course work. The performance of these two groups was compared on the basis of whether they earned an associate degree, number of credits earned, and student GPA. There was no significant difference between the groups on the basis of credits earned or degree attainment; however, a larger proportion of students not eligible for remedial course work earned GPA's of 3.0 or higher. Based on study findings, it was concluded that achievement test results are not better predictors of overall success than previous academic performance, and that use of CLAST results alone will probably lead to erroneous admission decisions. (HB)

SHOULD ONE VARIABLE (CLAST) BE USED TO DETERMINE ENTRANCE TO UPPER DIVISION AT THE STATE UNIVERSITY SYSTEM IN FLORIDA?

Research Report No. 83-27

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Should One Variable (CLAST) be Used
to Determine Entrance to Upper Division
at the State University System in Florida

The prediction of future academic success usually requires either an evaluation based on past academic performance or the use of a test which measures a sampling of those skills deemed necessary for successful academic achievement. Predictive validity may be established if either of these measures is found to be related to future performance. In most cases, tests with adequate content validity tend to be predictive of differences between the bottom and top scorers in that success rates are usually significantly higher for the top scoring group.

These findings have been noted for the Comparative Guidance and Placement Test (CGP) which is used at Miami-Dade for placing new students into appropriate level coursework (Miami-Dade Research Reports 82-36, 83-12). If, however, past academic performance has been high but test taking ability is low, it is possible to have a group of students for whom the predictive validity of a test such as the CGP is relatively poor. This situation is not uncommon given the highly structured nature of a standardized achievement test which may measure skills not generally required in the normal classroom setting, such as the ability to read rapidly. When past academic performance is not considered in addition to achievement test performance, decisions regarding admission to academic programs and/or admission to college may result in the exclusion of many high achieving, potentially successful students. Although not the focus of this research paper, the

converse may also be true, i.e., many students perform well on standardized achievement tests but not in the classroom.

In setting passing scores for the state mandated CLAST examination, it could be argued that a combination of freshmen and sophomore G.P.A. plus CLAST scores be used as the most equitable, as well as soundest method from a measurement perspective. To establish the validity of this notion, students with high G.P.A.'s and low CLAST scores should be evaluated for two or three years at the upper-division level. Since there is not yet sufficient experience with the CLAST to permit an analysis of this type, the idea was tested by using an analogous situation with students with high G.P.A.'s from high school, but low CGP scores.

The purpose of this study was to compare the academic success of high achieving high school students, some of whom performed poorly on a standardized achievement test, some of whom performed well. These students had shown prior academic success in high school by graduating in the top ten percent of their class. In some cases, however, scores from the CGP indicated that remediation was necessary according to established course placement criteria at Miami-Dade. This study was not focusing on the predictive validity of the CGP itself since only students with high performance in high school were examined. By comparing the success of these students on the basis of a single examination, however, the study assessed the relative importance of a performance measure reflecting several years of academic achievement (i.e., high school rank) versus a performance measure derived from a three-hour examination. Success measures for the study were defined as graduation, cumulative grade point average (G.P.A.), and cumulative credits earned after three academic years.

Method

In order to examine a cohort of students who had demonstrated previous academic success, the group of students selected for the study consisted of those individuals who were awarded the Scholar's Grant scholarship beginning in the Fall of 1980. This award is available to high school graduates who rank in the top ten percent of their graduating high school class. In almost every case, this requirement indicated that the student had earned a high school G.P.A. of at least 3.00 on a 4.00 scale. In the Fall of 1980, 503 students were offered the Scholar's Grant award. Of this group, 455 students actually registered for and attempted to earn college credit at Miami-Dade. Prior to their enrolling, however, an evaluation was made to facilitate appropriate course placement.

The Comparative Guidance and Placement Battery (CGP) was administered to each of the Scholar's Grant recipients in the study to determine their level of skills in reading, writing, and computation. Of the 455 Scholar's Grant students who wrote the CGP, 326 scored high enough on each subtest to enroll in regular college-level coursework. However, 129 of these Scholar's Grant students earned a score low enough on at least one of the subtests to be eligible for remedial coursework. Thus, the total group of 455 Scholar's Grant recipients was divided into two groups based on this criterion. By separating the students on the basis of their CGP performance, it was possible to compare subsequent academic success in order to determine if differences between the groups were related to the CGP results. Specifically, 56 students were eligible for remedial reading, 46 showed a need for remedial writing, and 83 scored below the cut score in

computation. Since the actual number of students was 129, some students failed on more than one section of the CGP.

Three measures of success were chosen for the study in order to indicate either the level of performance of the students or the amount of academic work completed. Proportions for the two groups were examined for graduates with an associate degree. The degree indicated that the student completed at least two full years of college-level coursework at an acceptable level of performance. Given the fact that many students at Miami-Dade do not pursue the two-year degree, the number of cumulative credits earned for each group was also examined. The third performance measure evaluated for the two groups was cumulative grade point average at Miami-Dade. In this case, the groups were compared at several G.P.A. levels based on the cumulative credits earned. In each of the analyses, a chi square test was performed to determine whether the variables examined (e.g., CGP performance and graduation proportions) were related.

Results

The results of this study indicate that the subsequent academic success of high achieving students enrolling at Miami-Dade is, for the most part, unrelated to their performance on a standardized achievement test. That is, academic performance appears to be more directly related to performance measures taken over several years (i.e., high school rank or grade point average) than to the results of a single three-hour examination such as the CGP. The data presented in Tables 1 through 5 illustrate the relationship between academic success and the eligibility for remedial-level coursework for students having shown previously high levels of academic performance.

Table 1 shows the proportion of A.A. and A.S. Degree graduates among the Scholar's Grant recipients based on their performance on the CGP. These data indicate that a difference of just over two percentage points separated the two groups in favor of those students whose performance on the CGP suggested the need for remedial courses in one or more areas. However, based on the chi square analysis, there was no statistically significant difference between those students eligible for remedial courses in one or more areas and those students who were not eligible for remedial coursework after three academic years.

Table 1

Proportion of Graduates Among Scholar's Grant Recipients

	Eligible for Remedial Courses in one or more areas		Not Eligible for Remedial Coursework		Total	
After Three Years	Number	Percent	Number	Percent	Number	Percent
Awarded A.A. or A.S. Degree	72	55.8	175	53.7	247	54.3
No Degree Awarded	57	44.2	151	46.3	208	45.7
Total	129	100.0	326	100.0	455	100.0

X^2 (1, N=455) = .16, N.S.

The data presented in Table 2 reflect the proportion of Scholar's Grant recipients earning 30 or more credits at Miami-Dade after three years based on their eligibility for remedial courses. For both groups, just over 80% of the students earned 30 credits or more. No significant difference was found in the comparison of the two groups.

Table 2

Proportion of Scholar's Grant Recipients Based on Cumulative Credits Earned

Credits Earned After Three Years	Eligible for Remedial Courses in one or more areas		Not Eligible for Remedial Coursework		Total	
	Number	Percent	Number	Percent	Number	Percent
30 or More	104	80.6	265	81.3	369	81.1
Fewer than 30	25	19.4	61	18.7	86	18.9
Total	129	100.0	326	100.0	455	100.0

X^2 (1, N=455) = .02, N.S.

Tables 3, 4, and 5 present data which indicate the proportion of Scholar's Grant recipients earning grade point averages within specific ranges. In the first two tables, the number of credits earned is also presented as a variable. Due to the small number of students earning a grade point average lower than 2.0, controlling for the number of credits earned was not appropriate in Table 5.

Table 3 shows the proportion of Scholar's Grant students earning a grade point average of 3.00 or higher, and the proportion lower than 3.00 based on credits earned. At this grade point level, significant differences were found between the groups in that a larger proportion of students not eligible for remedial courses earned grade point averages of 3.00 or higher after three academic years.* It should be noted that even among those students not eligible for remedial courses, significant differences did exist ($X^2(1, N=326) = 19.90, p < .01$) with over 80% of the students completing 30 credits or more earning a 3.00 G.P.A. or higher compared to just over half (54.1%) of those students completing fewer than 30 credits. A similar

*Since a student must earn a 3.00 G.P.A. or higher to maintain scholarship status, the differences in CGP scores are both significant and meaningful.

relationship was noted for those students eligible for remedial courses; approximately two-thirds of those with 30 credits or more earned a 3.00 G.P.A. or higher compared to just 28% of those students with fewer than 30 credits (X^2 = (1, N=129) = 12.24, p <.01).

Table 3

Proportion of Scholar's Grant Recipients Earning a Grade Point Average of 3.00 or Higher Based on Cumulative Credits Earned

Grade Point Average After Three Years	Eligible for Remedial Courses, Earned 30 Credits or More		Eligible for Remedial Courses, Earned Fewer Than 30 Credits		Not Eligible for Remedial Courses, Earned 30 Credits or More		Not Eligible for Remedial Courses, Earned Fewer Than 30 Credits		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
3.00 or Higher	69	66.3	7	28.0	215	81.1	33	54.1	324	71.2
Lower than 3.00	35	33.7	18	72.0	50	18.9	28	45.9	131	28.8
Total	104	100.0	25	100.0	265	100.0	61	100.0	455	100.0

X^2(3, N=455) = 45.40, p < .01

A comparison of grade point averages of 2.50 or higher for the Scholar's Grant recipients is presented in Table 4. Although the chi square test revealed significant differences between groups, it must be pointed out that the differences in the proportions of students earning a G.P.A. of 2.50 or higher occurred between the groups earning 30 credits or more and those earning fewer than 30 credits, regardless of CGP performance. In other words, no significant difference was found between those students eligible for remedial courses who earned 30 credits or more and those students not eligible for remedial courses who also earned 30 credits or more (X^2 = (1, N=369) = 2.91, N.S.). In fact, no significant difference

was found even between those students who earned fewer than 30 credits in both groups (X^2 = (1, N=86) = 1.21, N.S.).

Table 4

Proportion of Scholar's Grant Recipients Earning a Grade Pont Average of 2.50 or Higher Based on Cumulative Credits Earned

Grade Pnint Average After Three Years	Eligible for Remedial Courses, Earned 30 Credits or More		Eligible for Remedial Courses, Earned Fewer Than 30 Credits		Not Eligible for Remedial Courses, Earned 30 Credits or More		Not Eligible for Remedial Courses, Earned Fewer Than 30 Credits		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2.50 or Higher	98	94.2	15	60.0	259	97.7	44	72.1	416	91.4
Lower than 2.50	6	5.8	10	40.0	6	2.3	17	27.9	39	8.6
Total	104	100.0	25	100.0	265	100.0	61	100.0	455	100.0

X^2(3, N=455) = 74.99 $p < .01$

In the last table (Table 5), a comparison is made between those students eligible for remedial courses in one or more areas and those students not eligible for remedial coursework with regard to those proportions earning a G.P.A. of 2.00 or higher. Since it was found that only one person in the entire sample earned a G.P.A. lower than 2.00 with 30 credits or more completed, it was not appropriate to compare groups on

Table 5

Proportion of Scholar's Grant Recipients Earning a Grade Point Average of 2.00 or Higher

Grade Point Average After Three Years	Eligible for Remedial Courses in one or more areas		Not Eligible for Remedial Coursework		Total	
	Number	Percent	Number	Percent	Number	Percent
2.00 or Higher	123	95.3	318	97.5	441	96.9
Lower than 2.00	6	4.7	8	2.5	14	3.1
Total	129	100.0	326	100.0	455	100.0

X^2(1, N=455) = 1.49, N.S.

the basis of credits earned. In this case, over 95% of each group had earned a 2.00 G.P.A. or higher. Thus, no significant difference was found between the two groups on this particular measure of success. It should be noted that a 2.00 G.P.A. is required for graduation from Miami-Dade.

Discussion

The findings of this study clearly support the hypothesis that performance measures based on several years of behavior tend to be more valid than a single measurement based on the outcome of a three-hour standardized achievement test. The results of this research may also pertain to the CLAST issue since access to upper division studies in the State University System may hinge upon the outcome of a single standardized examination. The findings would seem to be consistent with Commissioner Turlington's astute (but seemingly forgotten) observation that the CLAST results should be supplemented by the use of other criteria.* To the extent that black students may be among the top achievers at Miami-Dade, and given the tendency of blacks to perform less well on standardized tests than non-minority members, it is reasonable to expect that on the basis of the CLAST itself, many of these students would ultimately be excluded from the educational program as would have been the case had the Scholar's Grant students been required to "pass" the CGP at Miami-Dade so as to be awarded the scholarship.

*Don't let basic skills test exclude poor, chancellor warns. The Miami Herald, May 7, 1981, 18D.

Admittedly, this study examined only selected indicators of success- G.P.A., credits earned, and graduation proportions. However, the intention of the study was to examine the performance of selected students in terms of overall academic success and these measures would seem adequate for that purpose. By taking this approach, it was possible to show the implications of using insufficient data in the academic decision making process. Achievement test results may be a good predictor of the potential to earn high grade point averages, but are not better predictors of overall success than previous academic performance. In other words, using only one performance measure (an achievement test battery) will most certainly lead to erroneous decisions for many students, i.e., many will be denied admission to the State University System based on CLAST results who, if admitted, would perform satisfactorily.