DOCUMENT RESUME

ED 267 874 JC 860 178

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TITLE The Role of Developmental Courses in Improving CLAST Performance. Research Report No. 85-04.
INSTITUTION Miami-Dade Community Coll., Fla. Office of Institutional Research.
PUB DATE Feb 85
NOTE 12p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Achievement Tests; Community Colleges; *Minimum Competency Testing; *Program Effectiveness; *Remedial Instruction; Student Evaluation; Testing Programs; Two Year Colleges; Two Year College Students
IDENTIFIERS *College Level Academic Skills Test

ABSTRACT

A study was conducted to assess the role of developmental work in preparing Miami-Dade Community College (MDCC) students for the College Level Academic Skills Test (CLAST). The study sample included all 808 MDCC students who took the CLAST in fall 1984 and had taken the Comparative Guidance and Placement Test (CGP) upon entering the college. Study findings included the following: (1) almost everyone who entered MDCC without the need for remediation in reading and writing skills passed the reading and writing sections of the CLAST; (2) the CLAST passing rates of students whose CGP scores showed the need for remediation in reading and writing were similar regardless of whether the students took remedial courses or not; and (3) in computation, those taking developmental work had passing rates similar to those not needing developmental work, while those needing it without receiving it had lower passing rates. Study findings led to the conclusion that the effect of developmental work on future CLAST performance varied according to the area of basic skills being considered, giving the appearance that developmental coursework has been neither a help nor a hindrance in changing student performance on the CLAST. (EJV)

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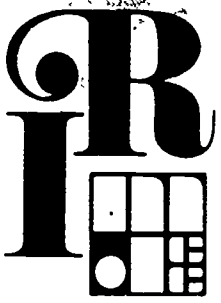

Institutional Research

Miami-Dade Community College

THE ROLE OF DEVELOPMENTAL COURSES IN IMPROVING CLAST PERFORMANCE

Research Report No. 85-04

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The Role of Developmental Courses In Improving CLAST Performance

Much time, effort, and money is expended on the development of basic skills in reading, writing, and computation at Miami-Dade. The group which is the focus of these earnest efforts is not small. Rather, for the years 1980 through 1983, 44 - 50% of the first-time-in-college students at Miami-Dade fell below the cut in reading, 41 - 43% fell below the cut in writing, and 43 - 45% fell below the cut in computation (Davis, Research Report 84-10). About two-thirds of this group subsequently enrolled in developmental course work in reading and writing during their first semester, while about half enrolled in math (Davis, Research Report 84-26).

The development of basic skills at the college level is not only a large task but also an important one. Numerous studies have shown that students who enter college with weaknesses in reading, writing, or mathematics are less likely to remain in school and to attain high grade point averages. Those who do survive now face one final barrier: The College Level Academic Skills Test (CLAST). Students who do not to pass all four sections of this sophomore level test are now denied an A.A. degree. Students who fail to pass at least three of the four parts cannot continue in the state university system.

As a competency based test, the CLAST does not make allowance for entering deficiencies in basic skills. And students at Miami-Dade who scored low on the CGP test of basic skills now are also stumbling over the CLAST. Losak (Research Report 84-04) found that students who enrolled in developmental work had lower passing rates on the CLAST in that area and as a group had fewer who passed all four parts. Belcher (Research Report 84-21) confirmed these findings using a transcript analysis of a sample of those who passed all four sections compared to a sample who failed two or more parts. She found very few of those who passed all four had taken developmental work, but the group who performed poorly had enrolled in developmental reading, writing, and computation at a rate of 45%, 64%, and 36% respectively.

Does the fact that students who score low on basic skills also score low on CLAST while those who score high on basic skills score high on CLAST indicate that developmental work has little impact in preparing students for CLAST? Or is developmental work helpful, but not sufficiently to boost students over the barrier set up by CLAST? The purpose of this study was to begin to assess the role of developmental work in preparing students for the CLAST. Specifically, the questions addressed in this study included:

1) Do those who fall below the cut upon entry to regular course work at Miami-Dade also have lower passing rates on the relevant portions of the CLAST than those who enter Miami-Dade without the need for developmental work in basic skills? Do results differ by campus?
2) Of those who fall below the cut, does enrollment in developmental work produce higher passing rates on the CLAST than for those who do not enroll? Do findings differ by campus?
3) Are there differences in mean scores among the three groups: (a) those who did not need work in basic skills, (b) those who needed help with basic skills and received it, and (c) those who needed help in basic skills but did not receive it? Do findings differ by campus?

Procedures

The analysis included all 808 students who took the CLAST in the Fall of 1984 and had Comparative Guidance and Placement Test (CGP) scores, the test used for placement purposes at Miami-Dade. Because more than 70% of the group entered M-DCC during the 1981 or 1982 academic years, the CGP placement cut scores for these years were used to assign students to developmental/non-developmental categories. Students who received a CGP **Reading** score of less than 19 were assigned to the developmental category in reading. Students receiving a CGP Writing score less than 22 were assigned to the developmental category in writing. Students receiving a CGP Computation

score of less than 21 were assigned to developmental category in computation.

Of the students included in the group who received developmental work in reading, 2% had successfully completed REA 0001, 43% successfully completed REA 0002, and 58% successfully completed REA 0992, 9992, or 1992. Students had taken the coursework fairly recently, with 93% completing REA 0002 during the 1982 academic year, and 86% completing REA 0992, 9992, or 1992 during the 1981 academic year.

The developmental writing group included students who successfully completed ENC 0006 (4%), ENC 0007 (62%) and or ENC 0992, 9992, or 1992 (46%). A total of 84% of the students who took ENC 0007 did so during the 1982 academic year, while 71% of those completing 0992, 9992, or 1992 did so during the 1981 academic year.

All of the developmental computation students enrolled in MAT 0003 (71%) or MAT 0992, 9992, or 1992 (30%). A majority (83%) took MAT 0003 during the 1982 academic year, while 96% enrolled during 1981 in MAT 0992, 9992, or 1992.

Most of the remaining group of students who fell below the developmental cut had never enrolled in developmental work. In reading, only 11% had enrolled but failed to satisfactorily complete the course. In writing, 9% fell into this category, while 8% of the computation students without developmental work had ever enrolled. The few students who had fallen above the cut but still enrolled in developmental work were excluded from this analysis.

Statistical analysis of the first two questions involved the use of Chi Square. The third question was answered using a two-way analysis of variance. The Statistical Analysis System (SAS) and the GLM procedure were used in this process. Significance was assessed using type III sum of squares and a probability level of .05.

Results

Table 1 contains the mean CGP Reading, Writing, and Computation scores for each of the three groups by campus and for the total college. Note that the Medical Center Campus has been excluded from the campus level analysis because so few students on this campus elected to take the CLAST. Statistical analysis showed that there were no differences on the mean CGP scores among the campuses. Among the three developmental groups, it was not surprising to find that in each case those students who had scored above the remedial cut on the CGP had significantly higher CGP scores than either of the other two groups. The two groups who fell below the CGP cut did not have any significant differences in mean scores in reading and in computation. In writing, however, those who fell below the cut but did not receive help had a higher mean score overall than those who fell below the cut and took developmental course work ($F = 216.1$, $df = 2,795$, $p < .0001$).

In reading, almost everyone who entered Miami-Dade without the need for basic skills work in this area passed the CLAST reading section. This group performed significantly higher than either group that scored below the developmental cut ($\chi^2 = 112.9$, $df = 2$, $p<.0001$). Comparison of the two developmental groups on their passing rates on CLAST indicated no significant differences between them. By campus, the results were upheld for North and South Campuses. On Wolfson Campus, however, it appeared that those who did not take developmental work had higher passing rates than those who did. See Table 2 for full results.

Results were similar in the area of writing. Those who scored above the CGP cut in writing had much higher passing rates on both the writing test ($\chi^2 = 55.0$, $df = 2$, $p<.0001$) and the essay ($\chi^2 = 229.5$, $df = 2$, $p<.0001$). The two groups who scored below the cut did not differ significantly from one another on their passing rates. Again, Wolfson Campus results were somewhat different from those found for North and South. On the Wolfson Campus, no significant difference was found among any of the three groups on the multiple-choice writing test. See Table 3 for full results.

Table 1

Basic Skills Scores for Three Groups of
Fall 1984 CLAST Examinees by Campus

	Campus			
	North	South	Wolfson	Total
Reading				
Above Cut				
CGP Mean	25.9	26.2	25.0	26.1
CGP Standard Deviation	4.5	4.5	4.6	4.5
Number	127	331	55	524
Below/Took Course				
Mean	12.6	12.8	12.1	12.6
Standard Deviation	4.3	3.7	3.7	4.0
Number	58	54	21	135
Below/No Course				
Mean	13.1	14.1	12.2	13.4
Standard Deviation	4.0	3.7	4.3	4.0
Number	59	67	20	149
Writing				
Above Cut				
CGP Mean	27.9	28.4	26.9	28.1
CGP Standard Deviation	3.7	3.9	3.6	3.8
Number	152	341	60	562
Below/Took Course				
Mean	15.8	17.0	16.5	16.6
Standard Deviation	3.2	3.5	3.9	3.5
Number	58	95	24	181
Below/No Course				
Mean	18.4	19.4	18.0	18.6
Standard Deviation	2.5	2.3	4.0	2.8
Number	34	16	12	65
Computation				
Above Cut				
CGP Mean	27.4	27.9	26.6	27.6
CGP Standard Deviation	4.5	4.4	4.4	4.4
Number	172	325	64	572
Below/Took Course				
Mean	16.4	16.6	14.6	16.3
Standard Deviation	3.1	3.0	2.7	3.1
Number	31	102	16	152
Below/No Course				
Mean	16.4	17.7	16.9	16.9
Standard Deviation	3.5	2.6	3.1	3.2
Number	41	25	16	84

Table 2

Percent Passing the CLAST Reading Test
Based on Need for Developmental Work And
Enrollment in Developmental Reading Courses

	Campus							
	North		South		Wolfson		Total	
	N	%	N	%	N	%	N	%
Above Cut	127	100.0	328	99.1	54	98.2	520	99.2
Below/Took Course	40	69.0	45	83.3	15	71.4	102	75.6
Below/No Course	42	71.2	56	83.6	19	95.0	119	79.9

Table 3

Percent Passing the CLAST Writing and Essay Tests
Based on Need for Developmental Work And
Enrollment in Developmental Writing Courses

	Campus							
	North		South		Wolfson		Total	
	N	%	N	%	N	%	N	%
Writing								
Above Cut	148	97.4	337	98.8	59	98.3	553	98.4
Below/Took Course	41	70.7	86	90.5	23	95.8	153	84.5
Below/No Course	28	82.4	16	100.0	12	100.0	58	89.2
Essay								
Above Cut	144	94.8	323	94.7	51	85.0	527	93.8
Below/Took Course	24	41.4	46	48.4	10	41.7	83	45.9
Below/No Course	16	47.1	7	43.8	8	66.7	33	50.8

In computation, the pattern of results was somewhat different though still significant (χ^2 = 27.1, df = 2, p<.0001). In this case, the group who took developmental course work had passing rates similar to the group who did not need developmental course work. The group who needed developmental work in computation but did not receive it had lower passing rates. The same pattern of differences was found on each campus, although statistical significance was not reached in each case. See Table 4.

The pattern of mean differences among the groups on the four parts of the CLAST was very similar to that found for the passing rates (see Table 5). In each area, overall significance was found (Reading: F = 44.8, Writing: F = 18.3, Essay: F = 40.8, Computation: F = 14.6, df = 2,795, p< .0001). Among the groups, those who entered Miami-Dade without the need for help in basic skills received significantly higher scores than those who entered below the cut. No differences were found in any area between the groups who did and did not take developmental work. There were differences among the campuses only on the area of computation (F = 12.9, df = 2,795, p<.0001), where South Campus had a significantly higher CLAST Computation score than did North, and North had a significantly higher Computation score than Wolfson. These differences, however, evidently had little to do with differences in developmental course work.

Table 4

Percent Passing the CLAST Computation Test
Based on Need for Developmental Work And
Enrollment in Developmental Math Courses

	Campus							
	North		South		Wolfson		Total	
	N	%	N	%	N	%	N	%
Above Cut	169	98.3	325	100.0	64	100.0	569	99.5
Below/Took Course	31	100.0	99	97.1	16	100.0	148	97.4
Below/No Course	38	92.8	23	92.0	14	87.5	77	91.7

Table 5

Mean Results on the CLAST by Group

	Developmental Groups		
	Above Cut	Below/Took Courses	Below/No Courses
Reading	313.8	278.5	272.6
Writing	314.8	289.3	291.8
Essay	4.9	3.2	3.3
Computation	312.4	289.3	291.9

Discussion

Results of the study indicated that the effect of developmental work on future CLAST performance varied depending upon the area of basic skills being considered. In reading, developmental course work had no obvious effect since neither passing rates nor mean scores varied for the two groups who fell below the entering cut in reading. In computation, taking developmental course work appeared to improve passing rates on the CLAST. However, the effect was not so strong as to also appear in mean differences among groups. In writing, results were more tentative. Clearly, no differences were found between the two groups who were eligible for developmental work in their CLAST performance. Recall, however, that the group that did not receive help in writing had significantly higher CGP scores than the group that received developmental help. It is possible, therefore, that those who took developmental work improved to a point where they were equal with the group which did not receive help in writing. Future research will be needed to clarify this point.

In general, it appeared that developmental course work at Miami-Dade has been neither a help nor a hindrance in changing student performance on the CLAST. This finding was generally true whatever campus the student was housed on. Losak and Morris (Research Report 83-39) have hypothesized that students who did not self-select into developmental work had a different motivation and makeup than those who did, since the attrition rates and grade point averages for those who chose not to take developmental work were higher than for a group who did. This study did not and could not address the differences which may have caused students to self-select into or out of developmental work. Neither did this study look at the effects of developmental work using measures such as attrition and grades. A cohort analysis would come closer to answering some of these questions. Such a study is underway but will be unavailable for some time. Meanwhile, questions on the effects of developmental course work and differences between those who reach the CLAST and those who do not remain only tentatively answered. Indications are, however, that effects have not been strong enough to be found when students must demonstrate their competence in basic skills on the CLAST several years after developmental work.