

Self Assessment as a Criterion for the Selection for Developmental Studies

John R. Scerba
Miami-Dade Community College/North Campus

The "open door" policy adopted by many community colleges of today has brought a new type of student to the threshold of college life. With the new student have come some problems that have to be handled if the educational system is to meet the wide variety of needs presented to it. Many of these new students lack the basic skills in communication and mathematics necessary to function, even minimally, at the college level. At Miami-Dade Community College, North Campus, it was decided that something must be done to identify these deficiencies in students before they register for classes at the North Campus, so that they might be channeled into a program of Developmental Studies where their skills in reading, writing and math could be raised to a standard acceptable for regular college work.

The first consideration was how to separate those incoming students who needed the Developmental Studies program from those who did not, without spending large amounts of time and money in testing procedures before or during the regular registration process. It was the purpose of this pilot study to ascertain the feasibility of using a self-assessment instrument during the registration process as a method of screening students in need of development studies.

Method

A pilot study was conducted in Spring, 1977, at Miami-Dade Community College, North Campus, to serve as a step toward the development of an

appropriate instrument for the identification of basic skill deficiencies, and of an effective procedure for the entire orientation-assessment-advisement process.

Subjects and Instruments

For the purpose of this pilot study, a sample of 336 high school seniors, recruited from the feeder schools in the area of the North Campus, were used. These seniors would be entering the college in Fall, 1977, for the first time and they were designated as "degree seeking" students.

The instrument chosen was the SELF ASSESSMENT AND COURSE SELECTION (designed by Fowler and Horten at El Centro College in Dallas, Texas). The self assessment consisted of a series of questions which the student answered "yes" or "no". The questions were divided into three categories: likes and dislikes, abilities, and high school grades. Specific questions were included for each of the above categories for the areas of reading, language usage and math. In addition to the questionnaire, a short battery of tests was used to assess basic skills: the Nelson-Denny Reading test (Form D) and locally constructed Language Usage and Computational Skill tests.

Norms

For the Nelson-Denny test, the national norms from the 13th grade were used. The minimum competency in reading was set at the ninth grade level. In other words, a student reading below the ninth grade level would be referred to Developmental Studies Advisement. Table 1 contains the norms and cutoff points for each of the three tests. The norm group for the computational skills and for the language usage sections of the basic skills test battery was made up of sections of introductory courses in English and mathematics who were tested during the first week of the spring term at Miami-Dade Community College, North Campus.

There are no available norms for the SELF ASSESSMENT AND COURSE SELECTION questionnaire. The values that appear in Table 2 refer to the total number of affirmative responses (yeses) and were suggested for reference use by Developmental Studies counselors. No referrals were made using the scores on the Self Assessment questionnaire alone.

Table 1
Norms for Basic Skills Assessments

Test	Raw Cutoff Score	Percentile Included
Reading (Nelson-Denny Reading Comprehension, Form D)*	13	11
Language Usage (Grammar) N = 167	20	38
Computational Skills (Arithmetic) N = 137	7	38

*Based on National Norms

Table 2
Scale for Self Concept on Self Assessment Questionnaire

Descriptor	Total Yeses in Reading, Language Usage or Math
High Self Concept	17-24
Average Self Concept	9-16
Low Self Concept	0-8

Procedure

The self assessment form along with a welcome letter and information about registration were sent to all pilot study participants. Participants were instructed to answer the questions by placing an "X" in either the "yes" column or the "no" column beside each question and then add up total number of "yeses" for each category. In the section pertaining to high school grades, they were to multiply the number of "X" responses by two before adding up the total for each section. Finally, the student was instructed to sum the total across categories (likes and dislikes, abilities and high school grades) to obtain a total self report "score" for each of the divisions according to subject matter - one reading, another for language usage and a third for math. The students were to bring the completed form on registration day.

On registration day, the students were welcomed, oriented and then assessed as to their basic skills in Reading, Grammar and Math. The total time allotted to the three tests was 40 minutes: Nelson-Denny, 20 minutes, Language Usage, 10 minutes, and Computational Skills, 10 minutes. Those whose scores fell below the cutoff scores were referred to Developmental Studies advisors. Subsequently, all students were allowed to register and then were asked to evaluate the entire orientation-assessment-advisement process.

Results

Frequencies and measures of central tendency were calculated for the three sections of the test battery and compared with the cutoff scores for basic skills assessment recommended in the section on norms. The percentages of students scoring below the cutoff were 30.1% in Reading, 14.0% in Language Usage, and 23.5% in Math. These percentages along with means, standard deviations, and maximum scores possible are given in Table 3.

Table 3
Means and Standard Deviations of
Basic Skills Assessment

	Number	Mean	SD	Maximum Score
Basic Skill Reading <u>69.9% Above the cutoff (N = 234)</u> 30.1% Below the cutoff (N = 101)	335	16.75	6.86	36
Basic Skills in Grammar <u>86.0% Above the cutoff (N = 288)</u> 14.0% Below the cutoff (N = 47)	335	25.42	5.87	40
Basic Skills in Math <u>76.5% Above the cutoff (N = 256)</u> 23.5% Below the cutoff (N = 79)	335	9.14	2.59	12

Results of "scores" on the self assessment blank are summarized in Table 4. In general, students rated themselves higher in Language Usage and in Reading than in Math. The mean scores were 15.74 (based on 24) in Language Usage, 15.11 (based on 23) in Reading and 13.15 (based on a maximum of 24) in Math. Self-rating for high school grades was higher than self rating of abilities or likes and dislikes in both Reading and Language Usage, but lower than these two categories in Math. The mean for self rating in high school grades in math was the lowest (3.16) of all the partial means.

Table 5 presents a breakdown of students' scores on the self assessment blank according to values given in Table 2. These data were interpreted as the students' prediction of success in the three subject areas. High degrees of success were predicted by 42.3% of the students in Reading, by 45.5% in Grammar and by 28.3% in Math. Average degrees of success were predicted by

Table 4

Summary Results of Self Report by Subject Matter
Means, Standard Deviations and Maximum Possible for Partial and Total Scores.

Section of Self Report Blank	Mean	SD	Maximum Score
Reading (N = 326)	15.11	4.33	23
likes and dislikes	5.00	1.58	8
abilities	4.45	1.67	7
high school grades	5.53	2.61	8
Grammar (N = 325)	15.74	4.10	24
likes and dislikes	4.61	1.72	8
abilities	5.16	1.49	8
high school grades	6.12	2.26	8
Math (N = 325)	13.15	5.22	24
likes and dislikes	4.28	2.31	8
abilities	5.81	1.68	8
high school grades	3.16	2.29	8

Table 5

Students Self Concept of Success
in Basic Skills Areas
(N=344)

Area	Self Concept		
	High (24-17)	Average (16-9)	Low (8-0)
Reading	141 (42.3)	177 (50.0)	26 (7.7)
Grammar	152 (45.5)	150 (44.7)	16 (4.9)
Math	95 (28.3)	173 (51.7)	67 (20.0)

NOTE: Percentages are shown in parentheses.

only 7.7% in Reading, only 4.9% in Grammar and by 20.0% in Math. A total of 71.7% of the students saw themselves as average or below average in Math compared with 49.6% in Grammar and 57.7 in Reading.

The correlations between the various levels of the self assessment and the basic skills testing are presented in Table 6. The highest correlation obtained was .42 between the actual Math score obtained on basic skills tests and the total score on the Self Assessment blank. The same correlations for Reading and Grammar were .33 and .27, respectively. Nine were statistically significant at the .01 level.

Table 6

Selected Interscale Correlations Between Self Assessment and Basic Skills Assessment (N=335)

Self Report		BASIC SKILLS TEST		
		Reading	Grammar	Math
Self Report	Reading (total score)	0.33*		
	Reading (likes and dislikes)	0.13*		
	Reading (abilities)	0.26*		
	Reading (high school grades)	0.29*		
Self Report	Grammar (total score)		0.27*	
	Grammar (likes and dislikes)		0.18*	
	Grammar (abilities)		0.28*	
	Grammar (high School grades)		0.14*	
Self Report	Math (total score)			0.42*
	Math (likes and dislikes)			0.29*
	Math (abilities)			0.35*
	Math (high school grades)			0.38*

*p < .01

Discussion and Recommendations

The results of our study do not enable us to support the use of the Self Assessment blank in place of a basic skills assessment test battery for differentiation and selection of basic skills deficiencies.

An important factor to keep in mind for the interpretation of the percentages of low, medium and high self concept scores and the scores on the Basic Skills Test is that the sample was very different from the cross section of the general student population at Miami-Dade Community College, North. On the whole, the highly motivated high school student who is looking forward to a future education and career and hoping to do well as a college student would be expected to score much higher on all the measures than a counterpart in the general student population. In future studies a random sample of the entire population should be used so that generalizations might be made to North Campus students, in general.

With respect to predictions of college success, there are several possibilities. A follow-up on these same students in the pilot study could be made sometime after they have had a chance to demonstrate their abilities in their college work. The usefulness of the Self Assessment form, as well as the basic skills test used, could be evaluated in this way. A comparison could also be made with high school grades if transcripts could be obtained in a future study. This could serve a double purpose--for concurrent validity with what the students have reported, and also for predictive validity of future GPA. It does seem that a greater percentage of the students were below the cutoff in reading and in math than in grammar. This could reflect the actual level of proficiency in the three areas, but it could also be an indication of a difference in difficulty in the three tests.

The correlations obtained between the basic skills and the self assessment do not serve the purpose of prediction since they, although significant, are based on large numbers. Most authors discourage the use of correlations in these lower ranges between 0.0 and 0.40, even when they are statistically significant. They generally do not prove to be of practical significance. In order for prediction of college success to be made on an individual basis, the Pearson r should be much higher than it was found to be in this case, at least in the .70's and higher, if possible.

It would also seem worthwhile to include a sheet of instructions for the marking and adding of scores on the self assessment form in view of the fact that out of the 336 students who completed the form, there were 180 errors of varying kind and degree in the marking and scoring of the self assessment forms.

The following instructions would accompany the self assessment form:

When you have read the following statements, please make a checkmark in the column at the right which would better apply to you. When you have marked either "yes" or "no" for each statement, add up the number of yeses that you have checked for each section and place this number in the box at the bottom of the "yes" column. **NOTE THAT THE NUMBER OF YESES FOR THE THIRD COLUMN MUST BE MULTIPLIED BY TWO BEFORE FILLING IN THE BOX.** Then add the numbers in the boxes (yeses only) for each row and place the total in the "total yeses" column on the last fold of the form. Please respond to all the statements.

Whether or not it is a good idea to use a self assessment form at all is still a question for many. This method has been used especially in course learning and teaching self assessment. Holen and Newhouse (1976) at Kansas State University maintain that self prediction of academic achievement actually adds a new dimension to the evaluation being done. However, Johnson (1975) reports that the accuracy of the prediction depends on achievement motivation, since subjects high in achievement motivation were more likely to overestimate the degree of their success than low-need achievers. Perhaps with subsequent studies like this one and refinements in the selection of the population and the

instruments, it will be possible to use a self report instrument instead of a test in the future.

References

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