

BERGEN COMMUNITY COLLEGE
Student Learning Outcomes Assessment Report

Assessment Report for (Department or Program): College Mathematics

Academic Chair: Randy Forsstrom

Assessment Period: 2012-2014

Submitted by: Lenore Lerer

1. Intended Outcome (Goal): In the fall of 2012, a diagnostic test was given to students enrolled in MAT 160 (Intermediate Algebra) at the beginning of the semester in order to ascertain their level of preparedness for the coursework that lay ahead of them.

2. a) Program goal(s) to which the intended outcome relates: Students will compute accurately, correctly apply mathematical concepts and reasoning, and will correctly interpret, analyze, organize, and display numerical data.

b) General Education Requirement(s) to which the intended outcome relates: The core competency this study addresses is quantitative reasoning.

c) Section(s) of the Strategic Plan to which the intended outcome relates: N/A

3. a) Means of assessment: In the fall of 2012, a diagnostic test was given to students enrolled in MAT 160 (Intermediate Algebra) at the beginning of the semester in order to ascertain their level of preparedness for the coursework that lay ahead of them. The results of the spring diagnostic test were used to perform this assessment. Most of the faculty teaching MAT 160 participated in the study. They are: Prof. Kaat Higham, Course coordinator, Prof. Emel Demirel, Prof. Dorothy Giglietta, Prof. Mince John, Prof. Daniela Kitanska, Prof. Lenore Lerer, Prof. Tracy Saltwick, Prof. Kaveh Saminejad, Prof. Bran Van Hise, Prof. Chad Williams

b) Sources of data: With 14 sections of the class participating, 252 students were identified as having taken the diagnostic test and completing the course. Students with grades of W and E were not included.

c) Desired result: To see if the scores on the diagnostic test were useful in predicting the students' ultimate grades in the course. A linear relationship would be established by a minimum of 50% of final grades in the course being predicted by the final test.

4. Summary of Results: A regression analysis was utilized, and the results are as follows:

$$(\text{average}) = 57 + 1.34x (\text{test})$$

$$T = 4.62$$

$$P = 0$$

r-squared = .078 (r = .282)

The results suggest that while a significant linear relationship exists between the scores on the diagnostic test and the students' grade for the course, only 28.8% of the variation in the final grades for the course are explained by the linear relationship between the diagnostic test and the final grades.

The mean of the distribution was 8.13 (with a standard deviation of 4.07) and the median was 8. This suggests that the distribution was approximately normally distributed. However, it should be noted that the average of 8.13 represents a grade of 41%. The minimum grade in MAT 035 (Algebra B) that is required for admission into MAT 160 (Intermediate Algebra) is 70%. Only 11% of these students scored a 14 (70%) or higher on the assessment test, suggesting a deficiency in prerequisite skills.

5. Recommendations for modifications: It should be noted that non-linear analyses produced similar results. As a result of this analysis, it has been determined that the use of the diagnostic test does not have value in helping students succeed in the course, so it will not be used in the future.

6. Actions taken based on recommendations: Other methods for improving student success in MAT 160 will be discussed during the 2014-2015 academic year.

The results of the assessment test were as follows:

Assessment Score	Frequency
0	4
1	6
2	7
3	20
4	21
5	13
6	16
7	32
8	22
9	21
10	15
11	18
12	15
13	15
14	10
15	8
16	5
17	2
18	0
19	2

