

**Student Learning Assessment Report**  
**DEPARTMENT OF MATHEMATICAL SCIENCES**  
**Closing the Loop Project II**  
**May 2007**

**SECTION I: Mission and Student Learning Outcomes**

**The Mission of the Mathematical Sciences Department:**

- a) To offer excellent undergraduate and graduate courses in mathematics, statistics, mathematical education and computer sciences.
- b) To promote research development on these fields.
- c) To promote the development of projects for teachers' training and projects to improve mathematical knowledge of high school students in Puerto Rico.
- d) To continue offering service courses to other academic programs at UPR-Mayaguez; and providing consulting in computation, statistics and mathematical modeling to our community.

**Student Learning Outcomes**

Every student of the Department of Mathematical Sciences, when graduate, will be able to:

- 1) Communicate with others effectively.
- 2) Identify and solve problems, think critically and synthesize knowledge related to these subjects.
- 3) Apply effectively mathematical reasoning, methods of scientific research and information technologies.
- 4) Apply ethic standards.

**SECTION II: Student Learning Assessment Project**

<b>Focus of Assessment Project</b>		Assess effectiveness of the math tutoring center at UPRM
<b>Justification</b>		The tutoring center was created to assist students in math. Institutional and math Department resources are invested to sustain the center. We need to measure the effectiveness of the math tutoring center in improving math skills in students to decide if further interventions are needed
<b>POPULATION</b>		254 students
<b>Student</b>		
<b>Faculty</b>		4 faculty
<b>Assessment</b>	<b>Pre-intervention</b>	<ul style="list-style-type: none"> <li>• A questionnaire was administered in math courses requesting student status data, grades in math course, college board math scores, if repeating course and visits to the tutoring center.</li> </ul>
	<b>Intervention</b>	<ul style="list-style-type: none"> <li>• Tutoring center mentoring by math advanced undergraduates and graduate students</li> </ul>

	<i>Post-intervention</i>	<ul style="list-style-type: none"> <li>• Data about grades in each partial exam for each student in the sample were collected. We applied a multiple regression model to grades vs. CEEB Math scores, hours attending tutoring at the Center and other independent variables.</li> </ul>
<i>Results and discussion</i>		<ul style="list-style-type: none"> <li>• Using the math tutoring center helped to improve student scores in their exams. Score improvement was directly related to the hours spent at the center.</li> </ul>
<i>Dissemination of Results</i>		<ul style="list-style-type: none"> <li>• Presented to department colleagues, department directors of A &amp; CC College and coordinators</li> </ul>
<i>Course of Action</i>		<ul style="list-style-type: none"> <li>• Disseminate these results among other departments so more students learn about the benefits of the center.</li> </ul>
<i>Next learning assessment closing the loop project</i>		<ul style="list-style-type: none"> <li>• Improvement oral communication skills</li> </ul>
<i>Appendix</i>		<ul style="list-style-type: none"> <li>•</li> </ul>