

Road to Reaccreditation
Miami Dade College's *Quality Enhancement Plan*
Renewed, Refreshed, and Revitalized

Submitted by

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BACKGROUND

Miami Dade College (MDC; Miami, FL) has a rich history of formal activities, faculty-driven and/or with high levels of faculty involvement, that focus on the process of institutional effectiveness. The Mathematics Roundtables (2001-2002) and the first annual College-wide Mathematics Retreat (February 2003) provided the fertile soil in which the seeds of the *Quality Enhancement Plan* (QEP) were planted and have since begun to germinate, take root, mature, and bear fruit.

The actual framework for the development of the QEP was provided as the College developed and reviewed its expanded 21st century Learning Agenda. As the College prepared to submit its application to the Southern Association of Colleges and Universities Commission on Colleges (SACS) for continued accreditation, the traditional process for reaccreditation was transformed into not only a significant component of the Agenda, but was the first discipline-based QEP submitted to the SACS.

Previous institutional initiatives, processes, and research had already revealed that student success in mathematics was an area of concern. Institutional data indicated that eight of fifteen high-risk courses were in mathematics¹. In addition, it was observed that the high-risk mathematics courses were obstacles to student graduation and program completion. Typically, four of these eight courses

1. have a total enrollment that is larger than that of the remaining eleven high-risk courses.

¹A high-risk course has a semester enrollment of at least three hundred students and a pass rate below sixty percent. It was decided that pass rate is equal to the number of A, B, and C grades divided by the total number of all grades (including withdrawals).

1. are needed to meet general education requirements.
2. are prerequisites for more advanced mathematics (and science) courses.

These four courses – College-Prep Mathematics (MAT 0020), College-Prep Algebra (MAT 0024), Intermediate Algebra (MAT 1033), and College Algebra (MAC 1105) – naturally became the focus of attention. In focus groups, students who had successfully completed these college-prep mathematics courses were asked to identify elements of student success and to recommend study and teaching strategies. The Learning Innovations Program was initiated to encourage a learning-centered work environment. Learning Innovations Golden Apple Grants are made available on a competitive basis to support projects that focus on student learning and success.

The QEP is a unique and innovative College-wide course of action for institutional improvement. With its focus on the success and retention of mathematics students, it fulfills campus and departmental goals for enhancing overall educational quality with special attention to student learning. The title of the QEP, **Student Success at Miami Dade College: The Mathematics Connection**, emerged from the aforementioned activities, initiatives, and persuasive institutional data.

PLANNING AND IMPLEMENTATION

The QEP Team comprised thirty-eight members of the MDC family nominated by the six Campus Presidents, the United Faculty of Miami Dade, and the College's Student Government Associations. The team included faculty from mathematics and other disciplines, personnel from student services, administrators, students, and a member of the Board of Trustees. Under the direction of Dr. Patrick Bibby (Faculty, Mathematics and QEP Chairperson), the QEP Team began the work the extents of which lie somewhat

hidden in its succinct purpose – to enhance student learning in the four high-risk courses through the development of a wide variety of innovative strategies

Meetings began in October 2003. At the first meeting, the ten members of the QEP Team who were mathematics faculty explored the strategies that would not only address the issue of low student success and but, that could also be institutionalized. The ideas that emerged from this meeting, e.g., frequent assessment (challenges and possible solutions), were presented at the initial meeting of the entire QEP Team later that month. These ideas served as a starting point for discussion by the entire team. Presentations were made on the accreditation and QEP processes, the circumstances under which the four aforementioned high-risk mathematics courses were selected, and a proposed program of frequent assessment. In addition to endorsing the assessment program, members recommended other strategies,

1. The development of a supplemental instruction component.
2. The creation of a program to incorporate mathematics into other disciplines.
3. The enhancement of mathematics support laboratories.
4. The improvement of mathematics advisement.
5. The investigation of best practices in programs, facilities, and strategies.
6. The delivery of student interim progress reports via electronic mail.
7. The dissemination of learning prescriptions for students experiencing difficulty.
8. The implementation of a tutor training program.

Nine committees were established that corresponded with the approved strategies – Best Practices, Literature Research, Software Evaluation, System Requirements, Facilities,

Student Support and Advisement, Supplemental Instruction, Mathematics in Other Disciplines, and Mathematics (comprising mathematics faculty only). Each committee conducted its own meetings to determine its charges which were reviewed and revised periodically by a Steering Committee consisting of the committee chairs.

As charges were assigned, the full team found it advisable to define student learning, as it relates to student success in mathematics, in terms of improved mastery of course competencies of the four high-risk mathematics courses and a more positive attitude towards learning mathematics. Simultaneously, the full team engaged in the planning and implementation of start-up QEP-related activities, i.e., visits to other institutions, plan dissemination, interviews with mathematics faculty, surveys of mathematics facilities, an experiment with frequent testing, and multi-discipline faculty participation in the Mathematics-Across-the-Curriculum Summer Institute (WA). By late April 2004, a report (including a list of recommendations) was submitted to the QEP Chairperson by each committee. Countless hours of hard work, extensive travel, and diligent collection and analysis of pertinent data resulted in two learning goals and ten strategies to achieve these goals. In general, Goal #1 - mastery of competencies will be achieved via programs of early intervention, frequent testing, focused and personalized advisement, and supplemental instruction. The incorporation of mathematics into other disciplines, tutor training, success skills training, interim reports, acquisition of new teaching techniques and strategies, and the improvement of the mathematics support laboratories will be used to foster a positive student attitude towards mathematics (Goal #2).

In August 2004 a very comprehensive and detailed plan of implementation, assessment, evaluation, and documentation of the QEP was submitted to the SACS Commission. It included a complete summary of projected costs. The schedule/timeline for the implementation of the QEP strategies is summer 2004 - summer 2008.

For three days in October 2004 leadership from the QEP Team, MDC faculty, staff, administrators and students welcomed a visit by the SACS Accreditation committee. By engaging in dialogues, conversations, and interviews, they were active participants in this phase of the continued accreditation process. The committee recognized the QEP for the model and unique document that it is. It is a celebration – the end-result of continued, forward, and innovative thinking on the part of a unified educational community.

WHERE WE ARE NOW...

The Frequent Testing Experiment – During the spring semester 2004, four mathematics faculty at the Kendall campus of MDC participated in this experiment having a quasi-experimental two-group design. Each faculty member taught at least two sections of the course, Intermediate Algebra (MAT 1033). The course content, grading scale, and final examination were identical in the ten sections involved. Five of the sections were randomly selected as the experimental group ($n = 205$), and the other five were designated as the control group ($n = 200$). Each faculty participant taught at least one section from each group.

In the experimental group, fifteen pre-constructed half-hour quizzes were administered and the only review that was scheduled was for the final exam. In the control group, four pre-constructed hour-long tests were administered and reviews were

scheduled for each test and the final exam. Data analyses yielded results in favor of the experimental group in measurements of pass rates, success rates, withdrawal ratios, and College student feedback results. It is of particular interest to note that at the end of the experiment, the control group remained in the high-risk category. It is not unreasonable to assume that these results are attributable to frequent testing.

Continued Committee Work - There is now a 25-member QEP Oversight Committee and five impact committees charged with the responsibilities of implementing the various QEP strategies. The Oversight Committee is subdivided into smaller committees for curriculum, instruction, advisement, assessment, support, and research. The impact committees are tutor training and support lab, software/textbook evaluation, mathematics faculty supervisors, advisement, and mathematics in numerous disciplines (MIND).

CLOSING

The QEP is an exciting “road” that the College has chosen to travel. It is a “road” of our own creation. We intend to “enjoy the scenery along the way” as we learn more about our students, our institution, and ourselves. Our desired “destination” – enhancing student learning in mathematics by improving student mastery and fostering a positive student attitude - is now but three short years away. We are confident that as a result of the QEP, MDC will grow as a whole and will be renewed, refreshed, and revitalized.

For further information, visit the QEP Website:

http://www.mdc.edu/eppa/documents_and_popups/QEP%20final.pdf