

The Higher Learning Commission Action Project Directory

Des Moines Area Community College

Project Details			
Title	Math Placement Pilot Study	Status	REVIEWED
Category	3-Understanding Students' and Other Stakeholders' Needs	Updated	09-22-2011
Timeline		Reviewed	10-03-2011
	Planned Project Kickoff 01-11-2010	Created	03-16-2010
	Target Completion 06-30-2011	Version	2

1: Project Goal

A: This action project is focused on student preparedness and enhanced advising for Algebra and Calculus courses. The goal of this project is to study the preparedness of enrolled students, enhance advising support resources, improve appropriate course level instruction, and ultimately improve student retention.

2: Reasons For Project

A: Student retention is at the top of priorities for DMACC. Student retention and success within Math courses is problematic. While DMACC uses Compass to recommend placement many students will self place in these two courses without the appropriate readiness for successful completion. Faculty struggle with teaching to the level of the course.

Over the past several years DMACC's math department's faculty has collaborated on course redesign that integrates instructional technology and Web-based teaching methods into the classroom with tools such as online textbooks, SMART boards and Tablet PCs, allowing instructors to digitize notes and post from class to the Web.

This embracing of technology in the area of Math instruction has created an opportunity to conduct a pilot study in Algebra and Calculus courses that pre-tests students for their readiness in these courses. The findings will be valuable for advisors and math faculty when working with students as part of the department's student retention efforts.

3: Organizational Areas Affected

A: The Office of Institutional Effectiveness, Math Department, Assessment, Advising/Counseling, and Scheduling.

4: Key Organizational Process(es)

A: The findings of the study will provide insight for DMACC into enhancing intake student assessment processes, appropriate placement, and improvement of student course retention in Math courses. It will also provide data driven insight to Math faculty supporting instructional enhancement and student learning.

5: Project Time Frame Rationale

A: The first pre course assessments were offered in Spring semester 2010. DMACC wants to look at a minimum of three semesters in order to study the environment in regards to course retention, student success and student progression.

6: Project Success Monitoring

A: A workgroup of faculty, advisors and administration will be established. Goals and timelines will be established for each of the individual components of the project to ensure that the project continues to progress. Data will be collected and analyzed over the timeline to develop the picture.

7: Project Outcome Measures

A: Multiple data in regards to satisfactory completion (C or better), course retention, and progression will be captured for students participating in the assessment pilot relative to current and historical institutional data. The data will be integral in measuring and studying the outcomes and provide the basis for recommendations from the workgroup.

Project Update

1: Project Accomplishments and Status

A: On-line assessments were developed and implemented starting in Spring 2010. It was repeated in Fall 2010 and again in Spring 2011. Several Faculty participated and students were directed to take the assessment. Pilot parameters were that students should take the diagnostic test on-line prior to the semester and were encouraged but not required to enroll in a lower level course if they scored below 70. A total of 72 students participated in the Algebra course and 150 students participated in the Calculus course. Data matches were conducted on the participants with the following results:

In Algebra, 51.4% assessed below 70 yet passed the course and 41.7% passed the course with a C or better. Only 11.1% achieved the 70, passed the course as predicted and received a B or better. Eight percent assessed below the 70 and failed the course as predicted and 9.7% appeared to have withdrawn as recommended.

In Calculus 51.3% assessed below 70 and yet passed the course. Of this segment 42.6% achieved a C or better. Ten percent assessed at 70+ and passed the course: 8.6% with a B or above and 1.3% earned D's. More significantly, 15.3% assessed below 70 and appeared to withdraw as recommended.

2: Institution Involvement

A: This project involved Math faculty to develop the pilot, the Office of Institutional Effectiveness to collect the data and Senior Administration to work with the Math Department for analysis.

3: Next Steps

A: The data have been provided to the Math faculty for discussion and analysis. Additional institutional data for the Math department offerings have been developed and the Dean, District Chair and Chief Academic Officer are collaborating to develop 'next steps'.

4: Resulting Effective Practices

A: The project was a research based action project that provided faculty and administration the ability to create and test initiatives with solid data analysis from which to understand student needs and improve resources for student learning.

5: Project Challenges

A: There are no challenges.

Update Review

1: Project Accomplishments and Status

A: Des Moines Area Community College (DMACC) completed its action project goal that studied the preparedness of students enrolled in Algebra and Calculus in order to enhance the institution's advising support resources, and improve course level instruction and students' retention. DMACC accomplished this goal by developing online assessments, gathering data and providing the results of the assessment. This action project aligned with AQIP Categories (3) Understanding Students' and Other Stakeholders' Needs, (1) Helping Students Learn, and (8) Planning Continuous Improvement. By seeking more effective ways to enhance students' achievement in Algebra and Calculus through an action project, DMACC has shown commitment to academic improvement. Fact-based information gathering and thinking to support analysis and decision-making give the quality-driven institution and its personnel the ability to assess

current capacities and measure performance in a realistic manner. This would maximize the benefits and value produced for students and other stakeholders. The approach utilized in this action project was consistent with AQP Principles and Categories for Improving Academic Quality.

2: Institution Involvement

A: The project involved the appropriate faculty and staff. The Math faculty, the Office of Institutional Effectiveness and the Senior Administration were involved. A culture of involvement draws on the expertise and practical experience of those people closest to a situation and helps leaders across the organization anticipate the complex implications of decisions. Such involvement often helps initiate and implement improvement in Algebra and Calculus that better meets students' and stakeholders' needs.

3: Next Steps

A: Other than the data made available to the Math faculty for discussion and analysis and the development of additional institutional data for the Math department offering, the next step has not been developed. DMACC acknowledged that collaborative efforts were being made to develop the next steps. A more detailed plan with clear direction of institutional focus, deliverables, milestones, and duration would clarify the institution's plan. A plan of action on how the institution would use the data to accomplish its top priority of retention would be beneficial. While the institution might consider this action project completed, it appeared that this project has not been fully completed.

4: Resulting Effective Practices

A: DMACC developed and implemented online assessment using quantitative data gathering tool to evaluate initiatives. The results of this action project were presented to the Math faculty and the appropriate personnel of the institution.

5: Project Challenges

A: Although the institution stated that there were no challenges, it would be best to anticipate possible areas likely to present some challenges. Getting math faculty and staff motivated to engage in the process, using data gathered to make changes, and improve the institution's assessment on a continuous basis might pose a challenge. Maintaining priority to support improvement requires collective efforts of the faculty, staff and the administration. Anticipating for the future allows institutions to track trends in order to predict how conditions will change, and anticipate how those changes may affect students and other stakeholders, operations and performance. It appeared that the institution could benefit by reviewing the Action Project Directory and the Innovation Exchange which would serve as helpful sources to identify institutions with similar projects. This will enable the institution as it moves from pilot to full implementation of its project.