

**Action Project Details**  
**Institution: Northern New Mexico Community College**  
**Submitted: 2006-07-24**

**Timeline:**

Planned project kickoff date: 2006-07-01

Target completion date: 2007-07-01

Actual completion date:

**A. Give this Action Project a short title in 10 words or fewer:**

***Develop Math Achievement Initiative for Student Success***

**B. Describe this Action Project's goal in 100 words or fewer:**

Northern New Mexico College (NNMC) recently completed its Communication Across the Curriculum Action Project which has proven to be both successful and beneficial to our students. In the same fashion that the CAC Action Project was selected so has the Math Achievement for Student Success. Just as NNMC recognizes students' benefit in developing communication and critical thinking skills, we also understand the need to develop their Math skills. In doing so, Northern is confident that student success will be achieved and that the initiative will expand course and career opportunities for our students.

**C. Identify the single AQIP Category which the Action Project will most affect or impact:**

Primary Category: Helping Students Learn

**D. Describe briefly your institution's reasons for taking on this Action Project now -- why the project and its goals are high among your current priorities:**

Through recent academic program reviews and initial quality improvement exercises, Northern New Mexico College has identified Math deficiencies to be an obstacle for our students' success. A growing number of students (now over 80%) requiring math remediation upon admission and a number of students postponing program Math requirements has raised concerns.

**E. List the organizational areas - institutional departments, programs, divisions, or units -- most affected by or involved in this Action Project:**

The Student Learning Achievement Committee will assign primarily Math and General Education faculty to this action project. The project will require active participation from faculty in these areas to examine the teaching curriculum, tutoring and other learning resources.

**F. Name and describe briefly the key organizational process(es) that you expect this Action Project to change or improve:**

Key organizational processes that will be improved in the area of Math will be the teaching curriculum, learning objectives, program and course delivery, teaching and learning effectiveness, tutoring, instructor collaboration, learning resources and advisement.

**G. Explain the rationale for the length of time planned for this Action Project (from kickoff to target completion):**

In the twelve months that Northern has allocated to the development of the initiative the following activities must take place:

- Charter Committee
- Begin Data Mining
- Develop Process Flow Chart and Determine Metrics

- Conduct Problem Brainstorming and Prioritization
- Conduct Root Cause Analyses
- Conduct Solution Brainstorming and Prioritization
- Make Recommendations to AQIP Council and President for Approval
- Assign responsibilities and implement
- PDCA

**H. Describe how you plan to monitor how successfully your efforts on this Action Project are progressing:**

After the Math Achievement Initiative for Student Success is developed it will be retired as an action project and will be adopted as an Institutional Process with incremental PDCA tracking by the Student Learning Achievement Committee.

**I. Describe the overall "outcome" measures or indicators that will tell you whether this Action Project has been a success or failure in achieving its goals:**

Overall "outcome" measures for the Math Achievement for Student Success Action Project will include but are not limited to:

- Increased Retention
- Increased Program Completion
- Improved Student Performance
- Increased Usage of Supporting Resources
- Increased Job Placement
- Faculty and Student Satisfaction

**J. Other information (e.g., publicity, sponsor or champion, etc.):**

**Last Action Project Update: 2007-08-29**

**A. Describe the past year's accomplishments and the current status of this Action Project.**

A Math Improvement Initiative Committee was formed in 2006 and members were assigned by the President. The purpose of committee is to ensure that Northern students are well-prepared in the areas of math instruction as a foundation for their major courses of study. The committee is charged to review and measure the effectiveness of the College's math curricula, instruction, tutoring support, and make recommendations for improvement to the appropriate entity. Through a series of quality tool exercises the committee determined six areas to focus on, in order to implement the Action Project. (1) Placement testing, (2) Calculators in math curricula, (3) Test problem database, (4) Evaluation of pre-requisites for math/science courses, (5) Transferring "Basic Math" to Developmental Studies with a full time math instructor and (6) Development of criteria and rubrics for math assessment.

This past year, existing assessments were retyped and new Math tests were created thus increasing the variety of problems. The committee is currently creating a Math database of sample tests with varying degrees of difficulty appropriate for each course. In addition, the committee is creating a database of problems to distribute to the instructors to ensure consistent problem solving in all classes. Sets of problems have already been created for College Algebra.

**B. Describe how the institution involved people in work on this Action Project.**

Membership in the Math Improvement Initiative includes: (1) Dean, Math and Sciences Department, (2) Technician, Math Center, (3) Director, Developmental Studies, and (4) Faculty, Math and Science Department. A full time math tutor has also been hired by the developmental studies department and will be encouraged to provide input.

The President appoints members and terms of the office shall be two years. Members can be reassigned after two years. All members are expected to attend each meeting. When a member is absent from two meetings without advance communication, the chairperson may consider recommendations for replacement of the member.

**C. Describe your planned next steps for this Action Project.**

A specific one credit course on the use of calculators is still under development and is expected to be complete by the end of this semester. NNMC curriculum does not encourage the use of calculators in basic math courses because of the importance of developing problem solving. However, after taking basic math courses, the student will take the 1-credit course to learn to use calculators and the use of calculators will then be allowed in subsequence courses. NNMC is also presently in the process of hiring another full time instructor who will be assigned these issues as well.

Finally, NNMC is planning on teaching Distance Ed math courses through ITV and is presently developing a BS curriculum in Applied Mathematics. The purpose of this new program will be to prepare students to work everyday problems using mathematics. Our courses will be designed to use mathematics directly applied to real life problems.

**D. Describe any "effective practice(s)" that resulted from your work on this Action Project.**

Updating our current placement tests will allow instructors to better assess the students' math abilities and ensure proper math placement. Creation of Test Databases and Problem Sets encourage more standardized instruction between math courses. This also ensures that all sections cover the same material thus better preparing all students for the next level of math.

**E. What challenges, if any, are you still facing in regards to this Action Project?**

**F. If you would like to discuss the possibility of AQIP providing you help to stimulate progress on this action project, explain your need(s) here and tell us who to contact and when?**