**Executive Summary**

Going through this process has led to the conclusion that our current CLOs and methods for assessment need revision. A particular issue is that the chosen GELO for mathematics has nothing to do with problem solving but rather communication. Our current assessment process has no provision for assessing the mathematical communication that takes place in the problem solving process.

With this in mind, the decision was made to modify both the current CLOs and the assessment process. By incorporating a CLO dedicated to communication and developing a rubric to assess it, we hope that an accurate and useful description of the effectiveness of student communication in mathematics problem solving will result.

**Faculty Included in the Preparation and Sharing of this Report:**

(Please replace this area with the names of all faculty that helped to prepare and provide input on this report. This includes faculty who were parts of draft discussions and conversations. Ideally, it is all faculty representing the core disciplines making up the degree or certificate.)

David Boley

Hardev Dhillon

Michael Adams

Elzbieta Jarrett

Heidi Meyer

Sarah Curl

Ross McKenzie

Dan Alcantra

**Please provide a brief and cogent narrative in response to each of the following questions.**

1. Are the course learning outcomes (CLOs) on your spreadsheet accurate (as of right now), and do they represent the overall purpose(s) of the course(s)? *Please explain why or why not.*

Yes, they are accurate. Yes, they do represent the overall purpose of the course. The key ideas mentioned are indeed essential, central ideas, and success in a subsequent course is indeed an important purpose of a prerequisite course.

1. Are the general education learning outcomes (GELOs) on your spreadsheet accurate (as of right now), and do they represent the overall purpose(s) of the program? *Please explain why or why not.*

It appears that these are indeed the GELOs for area D of the college general education requirements. There much too general to be considered to represent the overall purpose of the math program, but the math program does indeed lead to these outcomes.

1. How well do the course learning outcomes (CLOs) fulfill, support and align with the general education learning outcomes (GELOs)? Additionally, just in terms of the structure, do you think the assessment data from the CLOs can tell a qualitative *and* quantitative story about the GELOs? *Please explain, and take some time to think through and write about what kinds of GELO analysis your CLO assessments will foster.*

For the most part, the CLOs do fulfill, support and align with the GELOs. In particular, the Math CLOs address quite well the second and third GELOs. The exceptions are the CLOs that refer to success in future classes. Those don’t seem to align very well. The CLOs appear to have the ability to tell both a qualitative and quantitative story about the PLOs.

1. You’ve mapped your CLOs to GELOs. You’ve also been provided CLO assessment data in your packet. Now, take some time to reflect on, consider and analyze the data you have. This is not an easy section to complete, and the purpose of this pilot is to generate thoughtful reflection on—and assessment of—GELOs in relationship to our CLO assessment data.

Please look at every CLO data sheet included. Then, analyze, engage and write as much as you can, addressing the following question: ***what does your CLO data tell you about each of your GELOs?*** *Be detailed, descriptive and analytical.*

*As you consider this question…*

* + Discuss what kinds of trends you see in the data provided, and provide a qualitative assessment of each GELO.
  + Try to fill in the CLO data from each sheet on your spreadsheet, and attempt to come up with an aggregate percentage for your GELOs. Can you give a GELO quantitative assessment based only on your discipline/department courses?
  + **Please be thorough and provide as much reflection and analysis as possible. The more analysis, the better. Feel free to write beyond this page.**

The method we are currently using to assess our CLOs makes it difficult to relate our results to the first GELO. The second and third GELO have a much closer association, and for these we seem to be doing well at meeting a reasonable standard. In some cases the data was incomplete or innumerous. Some of our CLOs were unrelated to the GELOs. Overall it was determined that there is considerable room for improvement in the procedures in use to assess our CLOs, and that a significant increase in utility is possible.

1. *PRE-TRANSFER/BASIC SKILLS COURSEWORK.* Your discipline also includes pre-transfer and basic skills courses that are not part of the GELO matrix.

Please look at every CLO data sheet included for these courses. Then, analyze, engage and write as much as you can, addressing the following question: ***what does your CLO data tell you about each of your pre-transfer/basic skills courses?*** *Be detailed, descriptive and analytical.*

*As you consider this question…*

* + Discuss what kinds of trends you see in the data provided, and provide a qualitative assessment of your pre-transfer/basic skills courses.
  + **Please be thorough and provide as much reflection and analysis as possible. The more analysis, the better. Feel free to write beyond this page.**

Little CLO data was available for these courses and none of the assessment addressed communication. In lieu of this, changes will be made to effectively assess communication throughout the basic skills courses.

1. **Action Plan.** Based on the assessments and analysis you have provided in questions 1-4, please consider what changes or improvements you would like to make, which might include updating your CLO or GELO statements, modifying course outlines, rethinking instruction efforts, using different assessment instruments, etc. ***Based on the analysis you have provided in questions 1-4, provide an action plan for improvement that draws on your assessment results and efforts.***

The Math Department has decided to remove the CLOs involving success in a subsequent course, since it is not possible to measure that inside the course itself. Similarly, we are removing the first PLO involving success at another institution. We are also evaluating an overall change of how each CLO is assessed, to improve the ability to align with higher-level SLOs. We are also considering the possibility of a wholesale change of our CLOs to make them more uniform, meaningful, and easier to assess.

1. The college should be making improvements based on student learning outcomes assessment, and we need to continue to document and share the improvements and progress you have already made. *This is extremely important.*
   * Did you make any changes in your CLO statements during the last 4-year cycle that ended in 2012, or any changes this year? *Please explain what you accomplished.*
   * Did you make any improvements in the areas of teaching and instruction processes, your courses, or your program? *Please explain and provide details about your efforts!*

We improved our CLOs and made them much more uniform and measureable approximately 2 years ago. We are also in the process of creating a new Intermediate Algebra course for non-STEM majors as a result of review of student learning outcome results.

1. Please reflect on the process of learning outcomes assessment in your division and at Modesto Junior College. What do you think would make it more meaningful? How could it be improved? What would help you?

Student learning assessment needs to have a portion that isn’t tightly categorized into narrow definitions to allow faculty to report any creative method of measuring and improving student success, even if it doesn’t properly fit class or program or institution.