New Mexico Common Course Assessment Reports Form

Reporting Institution: Central New Mexico Community College

New Mexico Common Core Area: Area II: Mathematics

Competency Number Assessed: (note that *not* all competencies have to be assessed – mark all that apply to this assessment) (link to list of competencies for each area)

State Competency 1 ☑	State Competency 2 ☑	State Competency 3 ☐
State Competency 4 ☑	State Competency 5 ☐	State Competency 6 ☐

Academic Year of Assessment: 2012-13

Submission Date: 5-21-2014

Institution Course Number: MATH 1315, MATH 1330

NM Common Core Number (link to list of NMCC Numbers): MATH1113, MATH2113

Submitted by: Ursula Waln, Director of Student Learning Assessment

Instructions: Fill in the text boxes in the table below for each course, area, or competency on which you are reporting assessment efforts.

Description of Assessment Procedure:

In MATH 1315, a question requiring students to solve a logarithmic/exponential equation (E1) was used to assess CNM Gen Ed outcome 1, "Solve various kinds of equations, simplify expressions, and apply formulas. Also in MATH 1315, questions requiring students to interpret the vertex, domain, and range of a truncated parabola (P1-3) were used to assess CNM Gen Ed outcome 3, "Generate and interpret a variety of graphs and/or data sets." These outcomes correspond to the transfer core outcomes 2 and 1, "Use and solve various kinds of equations" and "Construct and analyze graphs and/or data sets," respectively.

In MATH 1330, students were required to solve a z-score equation (Z1) for assessment of CNM Gen Ed outcome 1 (transfer core outcome 2) and provide the shape description, mean, and median for a histogram (H1-3) for assessment of CNM Gen Ed outcome 3 (transfer core outcome 1).

The questions used were embedded in exams and provided direct, internal assessment of student learning. Faculty considered that an average of 2 points on a scale from 0 to 3 would suggest that their students were appropriately successful. Their main goal was to improve the delivery, submission, and analysis processes for assessing their Student Learning Outcomes.

Report of Assessment Data and Results:

MATH 1330 Assessment Result Fall 2012:

H1: N=229 (N0=10; N1=32; N2=55; N3=132), Avg=2.3, stddev = 0.9
H2: N=229 (N0=6; N1=52; N2=53; N3=118), Avg = 2.2, stddve = 0.9
H3: N=229 (N0=8; N1=59; N2=22; N3=140), avg = 2.27, stddev = 1.0
Z: N=225 (N0=16; N1=33; N2=55; N3=121), avg = 2.23, stddev = 1.0

MATH 1330 Assessment Results Spring 2013:

H1: n= 261 Mean=2.24 Histogram shape
H2: n= 261 Mean= 2.25 Average score
H3: n= 261 Mean = 2.19 median compared to mean
Z:: n= 261 Mean= 2.56 z-score calculation

MATH 1315 Assessment Results:

Fall 2012	Spring 2013	Topic
Q1 Mean = 2.48	Q1 Mean = 2.47	Exp equation
Q2 Mean = 1.97	Q2 Mean = 2.10	domain
Q3 Mean =2.06	Q3 Mean =2.18	range
Q4 Mean =2.69	Q4 Mean =2.79	vertex
Q5 Mean =2.75	Q5 Mean =2.76	F(2) no calculator
Q6a Mean =2.36	Q6a Mean =2.67	Initial population
Q6b Mean =2.25	Q6b Mean =2.51	% growth rate
Q6c Mean =1.79	Q6c Mean =1.95	% population decrease 4hrs
Q6d Mean =1.86	Q6d Mean =1.92	Time for quadruple

Analysis and Interpretation/Reflection on Results or Trends:

Overall, the data suggest that most of the students are meeting the learning objectives. However, class-by-class data suggest that the faculty are teaching to a bi-modal demographic.

Plan for Improving the Assessment Process and/or Student Learning:

Faculty in the math discipline are recognizing that their SLOs need to be re-written to facilitate their ability to conduct useful assessment. The faculty also determined that it would be beneficial to their students' success to figure out a method by which they can better serve the two noticeably different demographics of students representing the bi-modal distribution of skill levels, especially since successful achievement of these learning outcomes could potentially be correlated to the students' ultimate educational path. As an example, MATH 1315 serves two different groups heading into Calculus: the science/engineering path and the business/social sciences path. The faculty suggest that having sections specifically designated for each path might be helpful.