

Assessment Impact by Assessment Methods
 Seward County Community College/Area Tech School
 Program - Mathematics

Direct

Program - Mathematics

Give all students a graphing calculator exercise demonstrating the ability to set up a graphing window for a function, find the extreme values, determine intervals of increasing and decreasing and find zeros. This will be given to all students enrolled in on-campus College Algebra classes.

Outcome: Mathematics with technology - Mathematics with technology - The student solves mathematical problems using a variety of technologies.

Benchmark: 70% of students will get at least an 70% on this exercise assessed using a common rubric.

Schedule: This will be given in Chapter 4 (4.1) which occurs in the middle of the semester.

Results			
Result	Action	Follow-Up	Action Status
No Results reported.			

Student will think critically in various reflection assignments by analyzing a worked out problem to determine the mistake made, solve the problem correctly from the point of the mistake and show evidence that their solution is correct.

Outcome: Critical Thinking - Demonstrate the ability to think critically by gathering facts, generating insights, and evaluating information.

Benchmark: 70% will meet expectations or exceed expectations using the SCCC/ATS critical thinking rubric.

Schedule: In College Algebra there are two assessments done in the middle of each semester and one done at the end of the semester. In Intermediate Algebra there are two assessments that are done toward the beginning of each semester, one in the middle of the semester and one at the end of the semester.

Results			
Result	Action	Follow-Up	Action Status
05/11/2015 - Intermediate Algebra: In skill set A, 39% met expectations and 61% did not meet expectations. In skill set B, 31% met and 69% did not meet expectations. College Algebra: In skill set A, 59% met expectations and 41% did not meet expectations. In skill set B, 52% met expectations and 48% did not meet expectations. Result Type: Benchmark Not Met	05/11/2015 - Continue to leave first CT assessment out of the data in College Algebra and Intermediate Algebra. That way we can help them with the expectations for the assignment without skewing the data. College Algebra scores stayed the same for skill set A and increased by 7 percentage points in skill set B. Intermediate Algebra went up 16 percentage points in skill set B and went down 2 percentage points in skill set A. We have determined that we need to norm the expectations regarding grading. We also need to get together on when we give the assessments during the semester and how we administer them. There are some inconsistencies.		Action Plan in Progress
05/14/2014 - Intermediate Algebra Gathering information: 41% of the 347 assignments collected met expectations Identifying possible solutions: 15% of the 347 assignments collected met expectations College Algebra Gathering information: 59% of the 169 assignments	05/14/2014 - 1. Rework long division and quadratic problems in Intermediate Algebra to make the problems less overwhelming to the students. Students are having difficulty with these problems in areas other than what we are trying to assess. 2. In spring 2015, we will revisit the strategy of not counting the first	05/14/2014 - College Algebra increased by ten percentage points in each category. Intermediate Algebra stayed the same in skill set 1 but dropped four percentage points in skill set 2. This may or may not be a result of taking out the first critical thinking assessment they do in class. In Intermediate Algebra, students scored	Action Plan in Progress

Results			
Result	Action	Follow-Up	Action Status
collected met expectations Identifying possible solutions: 45% of the 169 assignments collected met expectations Result Type: Benchmark Not Met	assessment in each course in the scoring. It appears the difficulty of the concept has more impact on scores than whether the students are comfortable with the type of assessment tool. We will look at the data again in the spring 2015 semester before making another change.	It better on the assessment that was thrown out in some cases. The math faculty are concerned it has more to do with the difficulty of the concepts addressed on these assessments in Intermediate Algebra.	

The math dept will use common finals in Advanced Arithmetic, Beginning Algebra, Intermediate Algebra, and College Algebra to measure mastery of key concepts for each of those courses. After each final is given results will be tabulated on those problems types that students should have mastered in each course.

Outcome: Basic mathematical skills - Basic Mathematical Skills - Students will perform mathematical skills and operations fundamental to using math in everyday life including:
 Number sense - Perform arithmetic operations as well as reason and draw conclusions from numerical information.
 Algebra - Perform algebraic manipulations and solve equations algebraically. Geometry - Determine particular dimensions, area, perimeter, and volume involving plane and solid figures. This includes measurement and units.
 Function - Demonstrate the concept of function by several means (verbally, numerically, graphically, and symbolically) and incorporate it as a central theme in their use of mathematics.
 Application - Apply mathematical skills to "real world" problems.

Benchmark: 66.7% of students will successfully complete at least 70% of the mastery items in each course.

Schedule: End of each semester.

Results			
Result	Action	Follow-Up	Action Status
05/19/2015 - Advanced Arithmetic: 29% successfully completed at least 70% of the mastery items on the final exam (10/35); Beginning Algebra: 67% (50/75); Intermediate Algebra: 44% (42/96); College Algebra: 26% (25/97) Result Type: Benchmark Not Met	05/19/2015 - Faculty did discuss consistency of grading this year. We had increases in every class for mastery but only met the benchmark in Beginning Algebra. Faculty members still need to evaluate each mastery question for fairness but also mastery items need to be reexamined to determine if items need to be moved to a different class or taken out completely. 05/20/2014 - The department needs to continue to work to establish consistency in grading mastery items. Faculty members also need to evaluate each mastery question to ensure fairness. College Algebra mastery items will be evaluated first, followed by other courses as time permits. We will also compare mastery results from year to year to identify trends.	05/20/2014 - Planned actions from last year did not take place due to time spent on program review.	Action Plan in Progress
05/21/2013 - Assessment 1 for this outcome: We compare pretest scores for students who take sequential math courses from the fall to the spring semester. This only includes students who passed their fall math course. Our benchmark: 90% of students will improve their scores on the pretest from one semester to the next. This year 93.9% (46/49) improved their scores. Assessment 2 for this outcome is described under assessment tool above:	05/21/2013 - Assessment 1 - Benchmark was met so we will continue to monitor this next year. Assessment 2 - The action recommendations from the 2011-12 school year were not entirely implemented this year. More partial credit was given as mastery concepts were graded but this may	05/21/2013 - Assessment 1 - Instructors do a good job of making sure students take the pretest seriously. Students seemed to be a bit stronger in their math skills overall this year than last year (observation only). Also the implementation of the Math Resource Center may be helping to increase student scores.	Action Complete

Results			
Result	Action	Follow-Up	Action Status
<p>This one measures mastery of key concepts on the final exams for courses starting at Advanced Arithmetic and ending with College Algebra. We are measuring what percent of students successfully complete at least 70% of the mastery items on their final exams for each course.</p> <p>Advanced Arithmetic: 18.2% (4/22) Beginning Algebra: 60.0% (39/65) Intermediate Algebra: 29.2% (21/72) College Algebra: 13.6% (11/81) Result Type: Benchmark Met</p>	<p>not have been consistent for every instructor. Instructors may need a norming session at the end of each semester to assume consistency on grading. We also need to look into reevaluating how we grade problems with multiple parts or get rid of the problems with multiple parts by examining what we really want to know. Right now the whole problem is either right or wrong. This is not telling us what parts of the problem they do know. This was an action from last year that was not done.</p>	<p>Assessment 2 - Scores slightly went up for both Beginning Algebra and College Algebra. Hopefully reevaluating our mastery competencies and rewriting the finals for the next school year will help us measure what students are really mastering in these courses.</p>	
<p>05/21/2012 - Advanced Arithmetic will be reported next year. Beginning Algebra - 56.2% of students successfully completed at least 70% of the mastery items on the Beginning Algebra final exam. (41 out of 73) Intermediate Algebra - 39.7% of students successfully completed at least 70% of the mastery items on the Intermediate Algebra final exam. (50 out of 126) College Algebra - 12.3% of students successfully completed at least 70% of the mastery items on the College Algebra final exam. (10 out of 81)</p> <p>Result Type: Benchmark Not Met</p>	<p>05/21/2012 - 1. In College Algebra we have problems that have multiple parts. These problems are not counted correct unless all parts are correct. This may not be a fair representation of what they know. We may need to make a change here. 2. The problems we are using to measure mastery on all finals need to be examined for fairness and consistency from one semester to the next. 3. Still need to incorporate partial credit in reporting scores. This was done more in the spring semester than last fall.</p>	<p>05/21/2012 - Scores improved from last year in College Algebra and we even raised our level of expectation by changing from 60% mastery to 70% mastery. This may be due to partial credit given in the spring semester. The fall scores were still lower than spring.</p>	Action Plan in Progress
<p>05/18/2012 - 85% of the students that took the math placement test at the beginning of fall 2011 and spring 2012 semesters improved their test scores. The math placement test consists of basic skills needed for success in the three developmental math courses. This will be an ongoing measure.</p> <p>Result Type: Benchmark Met</p>			No Action Required
<p>05/23/2011 - Data not available for pre-post yet. Mastery concepts on College Algebra final: 6% of students achieved 60% mastery of the mastery college algebra concepts on the final exam.</p> <p>Result Type: Benchmark Not Met</p>	<p>05/23/2011 - Instead of expecting perfect answers we will incorporate partial credit in reporting scores.</p>	<p>05/23/2011 - The scores are based on perfectly correct answers which may make achieving the benchmark out of reach. We need to reevaluate how we define mastery.</p>	Action Plan in Progress

Pre-post scores from our in house pretest will be computed to determine whether a student has improved from one semester to the next.

Outcome: Basic mathematical skills - Basic Mathematical Skills - Students will perform mathematical skills and operations fundamental to using math in everyday life including:

Number sense - Perform arithmetic operations as well as reason and draw conclusions from numerical information.

Algebra - Perform algebraic manipulations and solve equations algebraically. Geometry - Determine particular dimensions, area, perimeter, and volume involving plane and solid figures. This includes measurement and units.

Function - Demonstrate the concept of function by several means (verbally, numerically, graphically, and symbolically) and incorporate it as a central theme in their use of mathematics.

Application - Apply mathematical skills to "real world" problems.

Benchmark: 80% of our students who are successful in a math course will improve on the pre-test before the next math course.

Schedule: This is done annually (May).

Results

Results			
Result	Action	Follow-Up	Action Status
05/06/2015 - This year 93% (54/58) of the students improved their pretest scores from fall 2014 to spring 2015. Result Type: Benchmark Met	05/06/2015 - Benchmark was met so we will continue to monitor this next year. 05/15/2014 - Benchmark was met so we will continue to monitor this next year.		Action Plan in Progress

Give all students a graphing calculator exercise demonstrating the ability to set up a graphing window for a function, find the extreme values and determine intervals of increasing and decreasing.

This will be given to all students enrolled in on-campus College Algebra classes.

Outcome: Math with Technology - The student solves mathematical problems using technology.

Benchmark: 70% of students will get at least an 80% on this exercise assessed using a common rubric.

Schedule: This will be given in Chapter 2 which occurs in the first half of the semester.

Results			
Result	Action	Follow-Up	Action Status
05/06/2015 - 51% (48/94) of students met the benchmark Result Type: Benchmark Not Met	05/06/2015 - The benchmark was lowered to 70% of students will get at least a 70% on this exercise. This may account for the increase in the number of students that met the benchmark this year. A lot of students are getting stuck setting up the window so we can't assess the other parts of the problem. The problem was not adjusted to make the window easier to find this year. This will be adjusted for the next school year. 05/14/2014 - 1. Instructors need to be sure to give the assessment during the time the concept is covered in class. 2. Instructors felt the benchmark was set too high. It will be adjusted to be 70% of students will receive at least a 70% on this assessment. 3. The assessment itself will be revised so it takes less time to find the graphing window.	05/06/2015 - Comparing the 40% from this year to last years 44% using the original benchmark the change is not statistically significant using a level of significance of 0.05. 05/06/2015 - If we would have kept the original benchmark only 40 % of the students would have met the benchmark this year instead of 51% (48/94). An adjustment to the window part of the assessment will give us a clearer picture of whether they can actually find min's, max's and zero's on the calculator.	Action Plan in Progress

Students write a paper explaining statistical technique used to describe a set of data and what the statistics tell you about the data. The paper is scored using the SCCC/ATS writing rubric.

Outcome: Writing in Mathematics - The student communicates mathematical ideas clearly and proficiently through writing.

Benchmark: 70% of students will meet or exceed expectations on the writing portion of the paper.

Schedule: Each semester after midterm.

Results			
Result	Action	Follow-Up	Action Status
No Results reported.			

Indirect

Program - Mathematics

Using the survey given during performance evaluations for faculty, questions will be added that will determine a student's perception on whether their math classes at SCCC have helped them develop skills on the graphing calculator.

Outcome: Mathematics with technology - Mathematics with technology - The student solves mathematical problems using a variety of technologies.

Benchmark: 70% of our students agreed or strongly agreed with the survey question.

Schedule: At the end of each year that a math faculty member is up for their performance evaluation.

Results			
Result	Action	Follow-Up	Action Status
No Results reported.			

Using the survey given during performance evaluations for faculty, questions will be added that will determine a student's perception on whether their math classes at SCCC have helped their critical thinking skills.

Outcome: Critical Thinking - Demonstrate the ability to think critically by gathering facts, generating insights, and evaluating information.

Benchmark: 70% of our students agreed or strongly agreed with the survey question

Schedule: At the end of each year that a math faculty member is up for their performance evaluation.

Results			
Result	Action	Follow-Up	Action Status
05/08/2015 - Intermediate Algebra: 70% agreed or strongly agreed with the survey question College Algebra: 69% agreed or strongly agreed with the survey question Result Type: Benchmark Not Met	05/08/2015 - We had an increase in Intermediate Algebra and a slight decrease in College Algebra this year. We are hovering around our benchmark. We will keep monitoring this and instructors will continue to emphasize that we are giving "critical thinking" assessments. 05/14/2014 - This should increase due to achieving our benchmarks on the other critical thinking assessments. Students may not realize what assessments are considered critical thinking assessments. This may need to be emphasized by the instructors each semester.		Action Plan in Progress

Course grade in Advanced Arithmetic, Beginning Algebra, Intermediate Algebra, and College Algebra

Outcome: Basic mathematical skills - Basic Mathematical Skills - Students will perform mathematical skills and operations fundamental to using math in everyday life including:

Number sense - Perform arithmetic operations as well as reason and draw conclusions from numerical information.

Algebra - Perform algebraic manipulations and solve equations algebraically. Geometry - Determine particular dimensions, area, perimeter, and volume involving plane and solid figures. This includes measurement and units.

Function - Demonstrate the concept of function by several means (verbally, numerically, graphically, and symbolically) and incorporate it as a central theme in their use of mathematics.

Application - Apply mathematical skills to "real world" problems.

Benchmark: 70% of students who complete the course must pass with a C or better

Schedule: End of each semester

Results			
Result	Action	Follow-Up	Action Status
05/19/2015 - Advanced Arithmetic: 81% completed with a C or better (29/36); Beginning Algebra: 65% completed with a C or better (53/82); Intermediate Algebra: 71% completed with a C or better (77/109);	05/19/2015 - The only class that didn't meet benchmark was Beginning Algebra. We will continue to monitor these classes and look for a trend. 05/20/2014 - We will continue to gather data to monitor for changes.		Action Plan in Progress

Results			
Result	Action	Follow-Up	Action Status
College Algebra: 83% completed with a C or better (82/99)			
Result Type: Benchmark Not Met			

Using the survey given during performance evaluations for faculty, questions will be added that will determine a student's perception on whether their math classes at SCCC have helped their writing skills.

- Outcome:** Writing in Mathematics - The student communicates mathematical ideas clearly and proficiently through writing.
- Benchmark:** 70% of our students agreed or strongly agreed with the survey question.
- Schedule:** At the end of each year that a math faculty member is up for their performance evaluation.

Results			
Result	Action	Follow-Up	Action Status
No Results reported.			

Using the survey given during performance evaluations for faculty, questions will be added that will determine a student's perception on whether their math classes at SCCC have helped them develop skills on the graphing calculator.

- Outcome:** Math with Technology - The student solves mathematical problems using technology.
- Benchmark:** 70% of our students agreed or strongly agreed with the survey question.
- Schedule:** At the end of each year that a math faculty member is up for their performance evaluation.

Results			
Result	Action	Follow-Up	Action Status
05/08/2015 - College Algebra: 85% agreed or strongly agreed with the survey question. Result Type: Benchmark Met	05/08/2015 - We will continue to gather data to monitor for changes. 05/14/2014 - Will continue to gather data to monitor for changes.		Action Plan in Progress

No Assessment Method Category specified.

No Assessment Tools reported for this Assessment Method Category