Assessment Data is from what semester? Spring, 2014

Faculty Name(s): Geoffrey Hirsch

1. Course Name and Number:
Algebra II  Math 152

2. List all Course SLOs from the Course Outline of Record:

At the start of Spring, 2014, these were the Math 152 SLOs.
The student will:
1. Solve problems involving the mathematical concepts of function.
2. Demonstrate the ability to graph and algebraically solve systems of linear equations.
3. Show increased skill in setting up and solving word problems.
4. Solve problems involving geometric applications useful for trigonometry.

By the end of the Spring, 2014, semester, these were the Math 152 SLOs.
The student will:
1. Manipulate mathematical expressions, at an intermediate level.
2. Solve mathematical equations, at an intermediate level.
3. Demonstrate the qualitative behavior of graphs, at an intermediate level.
4. Apply mathematical tools and concepts in solving word/situation-based problems, at an intermediate level.
5. Operate a calculator, at an intermediate level.

3. Specific Course SLO(s) assessed as part of this project:

3. Show increased skill in setting up and solving word problems. (semester start SLO)
4. Apply mathematical tools and concepts in solving word/situation-based problems, at an intermediate level. (comparable semester end SLO)

While slightly different, the semester-start SLO 3 is quite similar to the semester-end SLO 4, so in carrying out the former, the latter is also assessed.

4. Is this course on GE Plan A?  x  Yes  ____  No  (See Catalog pages 49-51 & page 55)
If Yes, identify what area. (All GE course assessments count as GE assessments.)

_____  Area I Natural Sciences
_____  Area II Social and Behavioral Sciences
_____  Area III Fine Arts/Humanities
  x  Area IV Language and Rationality
_____  Area V Physical Education/Wellness
_____  Area VI Intercultural/International Studies
_____  Area VII Information Competency
5. How did you assess the SLO(s)? (Attach any related documents at end of form.)

Students were asked to set up and solve a word problem at the start and end of the semester. It was always a mixture problem. Both the pre-test and post-test had standard mixture problems of the $ax+by=c$ variety, but not identical problems.

6. Results and analysis of the data. (Attach any related documents at end of form.)

Of the 36 students at semester-start, none knew how to set up the word problem, let alone solve it. This means that coming in, the group was weaker than the Fall 2013 group. Of the 18 who took the final, six did the problem correctly (for a 33% success rate), though one more set the problem up correctly. While this 33% rate on this item is lower than the 42% from two previous semesters, this difference is not statistically significant. (The p-value is .23). What is statistically significant is the jump for this group of students from 0% to 33% (p-value, .00012) or 0% to 39% if we add in the student with the right set-up (p-value, .00003). The data shows the class definitely showed improvement.

7. What are you going to do based on the results of the data? (Any planned revisions?)

Since well over half of the individuals in the class showed no marked improvement, I am experimenting to see if frequent quizzes help. Also, it would be worthwhile if everyone teaching Math 152 were to do a pre-test and post-test on mixture problems so we could learn about best practices. That is under way this Fall 2014 semester.

Please save your finished document in the following format. (Date should be for the semester in which data was collected; same date should be listed at top of this form.)

`yyyysemester-sloa-courseid.doc`

Example: `2014spring-sloa-engl101c.doc`