

Title: Mathematics in the Real World

Project Member(s): Katherine Villarreal

Describe the problem, issue, or area of interest and the context. (For example, what concepts were students having trouble with? What has not worked well in the past? What needed to be improved? In other words, explain why you chose this project.) Every semester I get students that ask the question, “When are we ever going to use this?” We would go over the word problems from the text, but it just seemed like the students couldn’t relate to the situations. I decided to create several projects using the material from the college algebra course that related directly to their fields of interest. I wanted them to become more interested in the math they were learning and to see that what they were learning could very easily be applied to their fields of interest.

Define your desired goals, or “outcomes.” (List 1-3 goals that you wanted to accomplish. For example, what did you want students to be able to do, or what did you want to improve about your teaching?)

1. I wanted them to see how useful math (college algebra in particular) is in the world around them.
2. I wanted them to get more interested in class and in math and possibly even go beyond what they originally planned to do with math.
3. I wanted to give them an opportunity for group work, in particular, I wanted them to increase their skills when it comes to working on a team.

Describe your “indicators” of success. (What *measures* did you use to determine the outcome of your project? You should have at least one measure for each goal.)

I took a survey at the beginning and end of the course. I asked questions that addressed each goal and in a way so that I could see if I accomplished my goals. I even asked questions about each individual project to see if it contributed to my goals, didn’t affect my goals, or took away from my goals.

Describe your project. (What new teaching, classroom management, or assessment technique did you introduce?)

I developed three specific projects that put to use what the students were learning in college algebra. The first project showed them how piece-wise defined functions could be used to compare different cell phone plans. Since everyone had a cell phone, they really got into this project. The second project dealt with mortgages. The third project involved using functions to model real world situations. Once they found the function that modeled their particular situation, they used the function to make predictions for the future. The students were required to work in groups and to find a topic of interest. They really enjoyed this last project and it really opened their eyes to the uses of math in the world around them and in their field of studies.

Describe your results. (Did you accomplish your goals? Was your project successful? Was their measurable improvement? What did you learn? Will you do your project again?)

After evaluating the post surveys, I found that for the most part I accomplished my goals. Eighty percent of the students suggested that I do the projects again with later classes. They also gave me suggestions about how to improve the projects so I plan to apply these suggestions at a later time. I learned that it is important to make mathematics real to them at all levels.

Describe your evaluation methods. (How did you determine whether your project was successful or not? Did you revise your project as you went along? If you plan to implement your project again, what, if any, changes will you make?)

I did a survey before class began and at the end. I asked specific questions about each project. I did not revise the project as I went along but plan to make some changes in the future. For example, I will make the Curve Fitting Project available as a group project or for individuals. The project needs to be done at the end of the course so it was very difficult for them to get together as a team that late into the semester.