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MATE 4001

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Artifact 3—Reflection

For Artifact 3, I chose to work on the lesson I used to do a detailed review of the Pythagorean theorem I taught to my Math III students. My students had previously heard about the Pythagorean theorem, but they did not remember much about it. So I decided I would use the dynamic software, Geometer Sketchpad (GSP), to help enhance this for my students.

Geometer Sketchpad has a lot of different features on it. With Geometer as part of the name, it is generally obvious that this software is heavy in the geometry domain of mathematics. GSP allows the user to great all sorts of geometric shapes, the means to measure these shape's area, side lengths of shapes, distances between points or objects, as well as ratios of different figures. By having all these different features, it allows the students to collect more precise measurements and constructions. This can enhance the student's calculations.

Since the students, provided there is a one to one ratio of students to access of the software, can create the constructions the students are able to alter them and edit them as needed. Like with many types of software, GSP also has a feature that allows you to change colors, and sizes of anything created in GSP. The many features allow the students to gather a wider range of observations than the observations from hand drawn and mentally calculated things.

Although, with great freedoms of this software, comes great responsibility. If the students are not already familiar with GSP, it may be best to have pre-constructed drawings for the students to explore. You could also, time permitting, allow the students time to play with the software so they can come more familiar with it's features. Another downfall to GSP is the fact

that most things are automatic. For example, to find the measure of something, all the user has to do is select the object(s), then click on the measure menu option, then select the measurement. This can take away from the basics of measurement and calculations of mathematics. The students spend so much time when they are younger learning these tools, that it is almost useless when they have this software to help them. Very much so like a calculator. The calculator can help you with major calculations, but it can also hinder your ability to do simple calculations on your own.

Overall, this lesson went really well with my students. I believe that they are old enough to know that you still need to know how to do the calculations on their own, and that technology should not be used as a crutch. I was able to demonstrate the proof of the Pythagorean theorem by using the action features through GSP. Visually showing my students why this works helped them in the long run. The work they turned in for the lesson showed that they understood the Pythagorean theorem and that they are able to apply it themselves.