

A Collaboration Between Math and P.E. Class

by Andrea Chiarelli

We as Penn State students traveled to Pittsburgh, Pennsylvania to participate in the annual meeting for the Pennsylvania Council of Teachers of Mathematics. There we presented various projects for teachers to incorporate into their math classrooms. My project, which was presented on March 16th was focused on offering an activity using statistics for any grade level teacher to use in their classrooms. Discovery learning was a main focus of my presentation, in an attempt to show teachers that students really can learn themselves and understand where the answers come from rather than just using the direct instruction method for teaching. The idea behind this lesson was to present a multi-purpose project in that it can be altered depending on the age of the students and the curriculum being taught.

A popular question that many students ask in class is, "Why is that true?" This lesson will allow the students to answer this question for themselves. The project that I demonstrated was integrating physical education class and math class. Physical education is a fun activity for many, and math for many isn't fun. The hope is that by having the combination of the two it will be an all around fun activity for the students. The example that I used for this project was making math correlations with track and field events. Some examples of "events" that the students could perform would be running, throwing, or jumping. There are many correlations that can be drawn, and some examples are height vs. speed, height vs. distance jumped, weight vs. distance jumped, shoe size vs. height, precision vs. distance (throwing a ball). The students can draw these conclusions by using stem and leaf plots, line graphs, data tables, and other forms of comparisons. The idea behind this project is to allow the students to do everything for this project including writing a procedure down, recording the results in data tables, graphing the data collected, and answering questions regarding the information gathered. Allowing students to work in small groups will allow them to not only learn for themselves, but also learn through each other.

Teachers can alter this project so that it applies to the curriculum being covered. If the teachers are working with mean, median, mode and range they can use this project, or if they are working with graphing or percentages they also use this project. It can be adapted to the material that is being taught in the classroom. Depending on the resources at your school, the students can act as scientists and go to a gym class to conduct the studies using the gym class as their subjects. This might increase the student's interest in the project and allow them to see the correlations more easily by observing others performing the intended tasks. The hope is that this project will be fun for the students and give them an activity outside of the normal classroom setting. The tasks and concepts can be taught prior to the activity, but then allow the students to find the answers for themselves and answer to the question "Why is this true?" for themselves.