

This is the link to my reflection on my blog: <http://dcrewes.blogspot.com/2011/12/cep-800-reflection.html>

Description

My lesson plan consisted of using a program called The West Point Bridge Building Program in an effort to explore forces and basically to build a bridge that could handle the most weight. It was constructivist in nature and the students utilized prior knowledge and experimentation to achieve the learning. Some notable changes in the original draft were with the time spent on the program. We spent more time after each learning experience in the computer lab, experimenting with our virtual bridges, than I first related. I believe this helped my students with their learning processes, and it also allowed for more freedom in individual groups with respect to changes made mid-design.

Implementation

My target group was my High School Physics Class. They are a group of 15 boys, ranging from 11th to 12th grade. Yup, we have a lot of fun. The lesson took longer than I thought it would, mostly due to the drying time of the bridges themselves. During those times I took the opportunity to engage in conversations covering possible design changes and at several instances I sent groups back over to the computer lab to look into the design changes and investigate the utility of certain design changes. To be honest, we still have about three more days before we can test our bridges. I originally planned for a week and a half, and it will probably be closer to 3 weeks. It's all good, anything in the name of science.

Reflection

One thing I would like to try to implement in the future is to bring other sources of technology into the project. It is quite extensive, and I think it is an overall rewarding experience for my students. Some ideas might be other Physics simulations and I could even evaluate the cost effectiveness of experimenting with different materials. Students could look at not only the design of their bridge but the cost to implement it in the real world. I think that the technology we utilized for this project allowed the students to be able to put different ideas out on the table, and then to be able to change those as the program tested the simulated bridge. This would have been very hard without the program and I think that the students might not have learned much just throwing pieces together and testing them. The technology allowed for reflection and analysis that would not have been there before.

The other aspect that I had not taken into account was the actual ability of the students to be able to create a working accurate model with straight pieces and adequate folds and joints. It turns out that there is a very wide degree of abilities in my class. I think that even if a group has an excellent plan and has analyzed all the aspects of the physics involved with the bridge supporting weight, but are terrible craftsmen, their bridge will suffer. I have seen a lot of shoddy joints and gluing over the week, not to mention some serious design shortcuts. We will see how it all develops.