I wanted to improve scores in the mucle practical exam. A normal muscle lab practical requires recognizing/naming 60 muscles, and stating  the action of those muscles. I hypothesized it should be easier for students to learn three rules and 8 joint movements, and reason out the muscle actions,  than it would be to memorize 60 names.  Students received a list of the name, origin, insertion, and action of 60 muscles grouped by joint, a website showing muscle clay images,  flashcards,  and animations.  They build muscles in clay and discuss them with partners.

Fall 2012 I examined the muscle practical grades from three classes in F2012 and compared the grades for the naming and action sections. The scores for the reasoning part were higher than those for naming, although there was no statistical difference between the scores. Students lost an average of 13 points for reasoning and 12 points for naming muscles, with class averages of about 75.  We were encouraged that students seem to use the methods provided to reason through the material.  However, even with videos from which to copy the movements, and computer pronunciation available, students continue to be reticent about saying and doing the names and actions in class apparently due to embarrassment about moving their bodies in front of other students and fear of incorrect pronunciation.

Spring 2113

This semester we continued to refine our classroom technique for teaching muscles. We have integrated the use of small wooden art models that move at the joints. Students can move the models instead of their own bodies to show the actions. This model also links muscle actions with actual movements of the body (kicking, throwing, etc).

We instituted mandatory watching of videos of the muscle action in class, and insisted that students practice the actions of each muscle on the models of themselves with neighbors before building. We also encouraged saying the names out loud by repetition in class, in an effort to improve spelling.

Practical grades were very improved this semester. Grades for reasoning improved by 2x, and grades for spelling improved 3x. Students lost an average of 8 points for critical reasoning, and 5 points for naming muscles Grade averages for the class were 85. This average is a full grade point higher than last semester.