

PLO #2: Exercise evaluation. *Majors will measure the body's ability to adapt to the stress of exercise.*

In 2015-2016, the Kinesiology Department collaboratively assessed PLO #2 in both KNS 105 Exercise Physiology and KNS 110 Cardiovascular Dynamics. KNS 105 students trained subjects for 10 weeks at 3 times per week. The indirect method of utilizing reflective questions was given at the end of the semester to solicit input from students on the value of the experience. Students were asked to describe what they learned about physiology of exercise, conducting research, and working with people. They were also asked if they would recommend this experience for future classes. In addition, a 7-part question was embedded in the final exam. Discussion regarding the project was ongoing during the semester during class time and labs, reinforcing laboratory techniques, data understanding and research methods.

Finally, students conducted and interpreted four maximal oxygen consumption tests, which are used on the job (real world assessment) when determining exercise prescription.

### **1) What we learned about students' learning**

In KNS 105, 74.5% of all students scored “*well developed*” or “*somewhat developed*” when compiling the cumulative results of all seven assessment questions. This met the minimum percentage of our benchmark value of 75%. However, questions 1-4 averaged 63.3%, which was below the benchmark. A secondary question that emerged was “is it possible to embed a research project in a class and have equal contributions from every student?” This was assessed indirectly and 95% of the students recommended that this experience be continued in future classes. In KNS 110, out of 15 students, the average grade on the exercise stress test was a 93% with scores ranging from 85.5 to 97.5. All 15 students met the benchmark established.

### **2) Changes we have made and plan to make to improve student learning**

What we learned was to start the process at the onset of the semester and thus have time to complete the analysis of all data.

### **3) Effectiveness of our current methods for assessing student achievement**

In KNS 105, direct assessment methods were used. Standardized laboratory procedures for measuring oxygen consumption and protocol adherence for training were used to examine the effect of REHIT (Reduced Endurance High Intensity Interval Training) training on maximal oxygen consumption.

In KNS 110 Cardiovascular Dynamics, assessment of the exercise stress test was embedded in a practical exam. The exercise stress test is a common test done in the medical environment to detect electrical abnormalities of the heart with excellent validity, reliability and objectivity.

We are satisfied that both of these methods were effective methods for assessing student achievement, as well as embedded questions on exams.

#### **4) Potential changes to our assessment work**

This assessment required collaboration and communication between students. In KNS 105, all 30 students took part in this study. 15 students were recruited from the GE class PEA 032 Fitness for Life to participate as subjects. This was a unique opportunity for collaboration between upper class kinesiology students and lower division Fitness for Life students, but was time intensive for both the professors and the students. Next time, we intend to provide a similar experience, but not take the extra step of outside collaboration with Fitness for Life participants.