

Scholarship of Teaching and Learning: Creating Videos in Foaling Practicum to Enhance the Learning Experience.

PI: Jessica Bedore, Ph.D. jsb071@shsu.edu

Co-PI: Mark Anderson, Ph.D. mjanderson@shsu.edu

Involved STEM Courses:

EQSC 4369 (soon to be 3355): Foaling Practicum

Project Narrative:

Executive summary

During the spring semesters, we offer a foaling practicum course. However, it is difficult for students to witness foaling as mares typically deliver their foals in the evening to avoid the stresses of the daylight hours. In the foaling practicum course, students take turns staying at the barn every night of the week and work in pairs to monitor the mare spending the night in the classroom at the off campus Animal Husbandry Unit. Unfortunately, due to the limitation of the current system many students never get to see the mare foal as it would have to occur on a night they are monitoring the mare. This limitation greatly reduces the learning potential and is a result of the ability of student to connect to current monitoring system. In this proposal we intend to upgrade the internet to high speed internet, and upgrade the current camera system to allow both recording and livestream to a website. This upgrade would allow increased access from 4 people to entire classes. Additionally, the camera would be fitted with a microphone allowing instructors to teach during the foaling process. These changes would allow for a huge increase in student access to observation of a mare foaling and could extend beyond the foaling practicum class to other courses dealing with equine science or reproduction.

Rationale

Mares typically deliver their foals between 10 pm and 6 am, presumably because they naturally seek quieter and calmer moments to give birth and most barns are busy during daylight hours. We offer a foaling practicum course during the spring semesters. During this time, students, in groups of 2-3, are assigned a mare for which they will write a foaling report including data on the mare, changes in bodyweight during the final 30 days of gestation, daily measurements of temperature, pulse, respiration, milk color, milk pH, and timelines of key events around foaling. Although students write reports as a group, the delivery of the foals is very much a class project, as you can never predict when a mare will deliver her foal. Students take turns staying at the barn every night of the week (including weekends) during the semester and work in pairs to monitor the mare while spending the night in the classroom at the off campus Animal Husbandry Unit. These students are allowed to select nights based on their own schedules. As such, they may not be paired with one of their group members nor be present for the delivery of their assigned project mare. All class members are involved in recording data in a class notebook and helping each other by taking pictures and videos, which are currently shared through the GroupMe app. Currently, we have a live stream camera, which enables students to stay in the classroom until the mare starts showing signs of labor. Once the mare goes into labor, the students call the instructors, who assist the students and ensure that the mare and foal are healthy. However, the internet provided at this off site location is a Verizon MiFi, which provides 20 G of high-speed data then slows dramatically, causing delays in the camera image. A further problem is that the camera only allows 4 people to connect to it, limiting the number of students that can view the foal's birth. These delays, connectivity issues, and interruptions due to a non-dedicated line cause problems and change an amazing hands-on experience into something tedious and frustrating for students and instructors. In this proposal we intend to upgrade the internet to high speed internet. SuddenLink has provided off site internet access to other locations for our department and have assured us that this is feasible. We are also requesting that three months of internet cost be covered by this grant, after which the cost will be picked up by the Department of Agricultural Sciences. We also intend to upgrade to a new camera system that will both record and livestream to a website. All class members will have access to the website, which will provide live coverage to all students, even if not physically present. The camera also

includes a microphone, so that the instructors can talk to the class while in the stall with the mare and foal. At the end of the semester, students will have a new assignment, creating an educational video about their assigned mare. They will use the recorded footage of her foal's birth and narrate the process of foaling from beginning signs of labor to delivery of the foal. The key educational principles enabled by this grant are increased class participation, video recording and distribution, and the creation of a video, which requires student to apply knowledge discussed in lecture.

Materials and Methods

The Internet upgrade will occur during January or early February, and with these technologies in place, students will be able to utilize the new technology during the teaching of foaling practicum and then engage in the creation of a foaling video. Groups will use their mare's video to create an edited video with voiceover that describes the main points of the foaling process. We will assess student knowledge of the foaling process through evaluation of student videos. Students will be instructed to include a list of key points in the narration, and a rubric will be used to evaluate the narration. Additionally, student scores will be recorded and compared to previous years' final exam scores in order to evaluate improvement in knowledge retention and comprehension in questions relating to the process of foaling and post-partum care of the neonate.

Expected Results and Dissemination Plan

Due to greater student involvement in the foaling process, we expect an improvement on student final exam scores in questions relating to the process of foaling and post-partum care of the neonate. We also expect that at least 70% of students will score a 70% or greater on all areas of the video narration rubric. We plan to collect and disseminate this data at the North American Colleges and Teachers of Agriculture conference during the summer of 2021, and later publication in the NACTA journal.