



Barb Hurtt

Biological Sciences

Utilizing Student Interests to Develop Project Based Assessments in a Large Lecture Course

The Challenge

The challenge I was attempting to improve and/or address was: How to create an end of quarter summative assessment for a large non-major course that was not exam based, but that required the students to integrate the various topics they were learning, and apply them to a broader societal need, challenge or opportunity of interest.

The Approach

I approached this challenge first by asking the students what type of project they would like to do as a “final project.” Small groups of students first came up with different ideas; all proposals were presented to the entire class for a vote. After a few rounds of voting, the final project strategy was determined:

Create either videos, apps, or a TED-style talk that addressed a human health-environmental health interaction of interest (topics had to be approved by the instructor early in the quarter). In addition, the students voted to include a requirement that whatever style of presentation they used, one component must be to propose a specific actionable item that could raise awareness and be acted upon by college-age students. The requirement that I, as the instructor, implemented was that the presentations must focus on the biological aspects of human-environment interaction (since this was a biology course). Alex Martinez and Rich Path from the OTL presented on “best practices” of website and app design, and were instrumental in the quality of final projects the students produced.

How it Went

Overall, I thought the projects were quite impressive and the students met the requirements of the assignment very well. As is true of any course project, there were varying levels of quality, but the majority of the students showed their understanding of basic biological principles as applied to an aspect of personal interest. Only two student groups (maximum of 3 students per team) chose to produce apps; the remainder were approximately evenly split between the videos and the TED-style talks. My general feeling is that the TED-style talks and videos are more familiar to students, and thus potentially easier for them to conceive of, develop, and bring to fruition. With app development, there are many factors such as the user interface, flow and engagement that can influence how the material is presented and the audience engagement. All resources

for the students were free access (i.e. free app development website) or were provided by checking out equipment from OTL if needed (i.e. video equipment).

This project was implemented in the final quarter of a 3-quarter course sequence. The previous two quarters also had final projects which were assigned by the instructor - one was a PowerPoint presentation and the other an infographic.; all three quarter final projects allowed students to choose their topic of interest, with final approval from the instructor. Overall student feedback was that students like the infographic project best and this project second best. They liked the freedom to choose the type of final project this offered, but felt that it was harder to choose which direction to go – talk, video or app. However, they liked having a say in the final project design and requirements.

Advice for Others

The opportunities with this “final project” idea are that they are another way for students to demonstrate understanding and mastery of a topic, albeit within a smaller, more detailed view of biology, and it allows students to apply what they’re learning to a question/idea of personal interest. I implemented 3 due dates throughout the quarter to help students progressively develop this, so that it (ideally) wasn’t all crammed in at the last minute – it worked for most students, but not all.

Challenges include the time it takes to allow all student groups to present – I used the last week of classes and the finals period to allow students enough time to present. I could not have done it all in one class period or even only the final exam period. The biggest challenge I think I have with these final projects is having the

students find reputable scientific resources that are written to their level of understanding. I require students to provide three legitimate resources (we work with the science librarians throughout the academic year, and one lab activity students must complete is a CRAAP evaluation of different resources). Another major challenge is trying to design rubrics that are independent of the method of delivery and that stay focused on the students demonstrating the biological knowledge that I’m trying to get at with these types of assignments.



UNIVERSITY of
DENVER

OFFICE OF
TEACHING & LEARNING