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The Value of Extending the Honors Contract Beyond One Semester: A Case Study with Smithsonian Dinosaurs

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INTRODUCTION

Most honors programs offer multiple options for scholars to complete their honors credits each semester. Students may, for instance, take honors courses on campus or abroad, participate in honors independent study, or take upper-division courses as freshmen or sophomores. In some cases, especially if a scholar has a scheduling conflict between courses required for the major and honors courses, he or she may select to develop an honors contract, allowing the student to take a non-honors course and work with the faculty instructor to develop an honors experience in the course.

At our institution, honors students must complete a minimum of six honors credits per academic year. Of the fifty honors students enrolled in our honors program, approximately ten each semester satisfy honors requirements through honors contracts (called "honors options" on our campus). We communicate that the honors contract is not supposed to be an add-on to the routine assignments but should provide alternatives to some or all of the assignments. The honors contract should not simply require more work but should go more deeply into methodology, structure, and theory; attack more sophisticated questions; and satisfy more rigorous standards than are generally expected for the non-honors students. Honors contract advisers, who are the instructors for the course, commonly design the contract as an inquiry- or community-based project. Such projects are typically rigorous enough to then qualify for presentation at a conference.

Although the honors contract may be the only opportunity for a student to satisfy the honors credit requirements in a semester, several challenges may occur with the execution of an honors contract project. Some projects may not get started until well after the semester has begun if, for instance, a student needs to learn appropriate content knowledge before knowing how to proceed

or if there is a delay in getting institutional review board (IRB) approval to work with human subjects. Unanticipated changes may occur in access to necessary resources; a scheduled interview with a distinguished speaker may become impossible, for instance, because of a cancelled campus visit. Most often, we see that there is not enough time in the semester to complete the honors contract project. Everything from lab work to the construction of an art installation can take longer than anticipated. As a semester draws to a close, a scholar may become frustrated in not being able to complete the honors contract or may not produce the quality work of which he/she is capable because of a firm deadline to earn a grade in the course.

No motivation or incentive usually exists for a scholar and the supervising faculty member to continue an honors contract project beyond the end of a semester. Once the course concludes, students receive a grade for their honors contract work that is averaged into their overall course grade. Students cannot earn any additional honors contract credits for the same project since it was tied into a specific course. However, there may be an opportunity for students to continue the project in a future semester as an honors independent study if the student is not graduating and if the faculty member is available.

Great value to the scholar and the project outcome can result when an honors contract project is voluntarily extended and refined. This paper describes an example of one honors contract that expanded into a much larger project, benefitting two honors scholars in the growth of their content knowledge and skills sets in addition to producing a higher-quality product.

CASE STUDY: SMITHSONIAN DINOSAURS

In fall 2007, co-author Laura Guertin taught a general education course for non-science majors titled "Dinosaur Extinction and Other Controversies." Enrolled in the course and with Guertin's permission, sophomore honors scholars and student co-authors Alyce DiLauro and Teron Meyers decided to engage in a challenging dinosaur-themed project as an honors contract. Note that the remainder of this essay is written by the honors scholars DiLauro and Meyers.

The goal of the honors contract project was to apply what we learned about dinosaur type specimens in and out of the classroom to our additional research conducted at the Smithsonian Intuition's National Museum of Natural History. Ultimately, we were to create an enhanced podcast, viewable on an iPod and the Internet, to convey dinosaur type specimen information effectively through digital media.

Audio has served as a medium for communicating earth-science content since the 1960s, including delivery of physical geology material as an audio tutorial (Robertson and Marshall) and a radio series (McKee). Undergraduate students have also engaged in creating audio earth-science products by, for instance, conducting interviews with geoscientists, creating public service announcements for National Public Radio (Conway and Croxen), and producing an audio walking tour of tree biodiversity in a state park (Woodruff).

Audio presented on portable MP3 players has become popular with people of all ages. More than 22 million American adults own iPods or MP3 players, and 29% of them have downloaded podcasts from the web so that they can listen to audio files at a time of their choosing (Rainie and Madden). Faculty members have been turning to iPods for content delivery because podcasting allows education to be more portable and to meet students where they spend their time, on the Internet (EDUCAUSE Learning Initiative). Not only do students report a higher satisfaction with learning through audio (Miller and Piller), but the general public appreciates having audio to listen to and learn from anywhere and at any time (Pownell; Briggs).

We decided to create an enhanced podcast, an audio file with embedded photos, as the medium to showcase the dinosaur type specimens from the Smithsonian. Using podcasts for museum tours is relatively recent, and do-it-yourself versions as an alternative to an official museum audio tour started in 2005 (Kennedy). The value of our podcast is that it not only shows parts of the exhibit hall but also provides additional scientific information not on display for enhanced educational value.

DINOSAURS: PHASE I

We began the fall 2007 semester by conducting online research to see which dinosaur type specimens the National Museum of Natural History had on display within its dinosaur hall. In October 2007, we journeyed to Washington D.C. to explore the dinosaur hall at the Smithsonian Institution (the trip to D.C. was just for honors students, not for the other students enrolled in the course). We took extensive notes regarding each of the type specimens on display. With a Nikon Coolpix L1 digital camera, we tried to take as many good-quality photographs of the dinosaur type specimens as possible. Poor lighting in the dinosaur hall, however, made it a bit difficult to take clear photos with decent resolution.

We developed a script for the podcast consisting of historical background on how these type specimens were discovered and facts about each specimen. In order to record this information, we used external microphones and Apple's GarageBand, a music project and podcasting program available for the Macintosh computer**.** We reserved time in the Digital Commons, the campus's audio-video recording studio to use the digital equipment. Once the script came to life with audio recordings, we selected photographs of the type specimens and placed them to match the different sections of the audio tracks. We chose a jingle to play during the introduction and conclusion of the podcast as well as classical music to play throughout most of the visual displays and audio segments. We finished the project at the end of the fall 2007 semester, the end of our course and the end of the honors contract project. Our project can be viewed online at <http://tinyurl.com/dinohonorsoptionA>.

In the following semester (April 2008), we presented our enhanced podcast at Sigma Xi (the Scientific Research Society) Eastern Colleges Conference at

Saint Joseph's University, where we received feedback from our scholarly peers. Some students felt that our photographs within the podcast could have had higher resolution and greater clarity. Some students thought the audio level was inconsistent, a bit louder in some areas than others. Others noted that the classical music in the background of the entire podcast was a distraction from the information being provided about the dinosaur type specimens. One peer suggested that adding dinosaur noises would add to its scientific value. Discussing how to improve the podcast with others at the conference was intellectually inspiring. Some suggestions mirrored our own post-project ideas, such as connecting our video with the Smithsonian Institution's website.

After receiving feedback from our peers and faculty from other universities, we thought about improvements we could make to the podcast. Because of technological difficulties and limitations, we knew that GarageBand would not allow us to make the podcast we envisioned. The three co-authors sat down to discuss desired changes and how to improve the podcast during the summer.

DINOSAURS: PHASE II

We contacted one of Penn State's Digital Commons Campus Consultants to assist us in deciding what technology we would need to use to make the desired changes to the podcast. We concluded that we wanted a more interactive product with green-screen technology and better audio and visual quality. We decided to make a Quicktime video using Final Cut Pro.

In order to have better visuals, we needed better-quality photographs. We scheduled another trip to the Smithsonian Institution in June 2008, and this time we were prepared with digital single-reflex cameras, Canon Powershot S5IS models that were able to take quality photos in low-light environments. In addition to documenting the tour with photos, we used two Sony video camcorders to record a guided tour and an interview with Dr. Michael Brett-Surman, paleontologist and museum specialist for dinosaurs and other reptiles. A student assistant accompanied us to take extensive notes during the interview, which was scheduled an hour before the dinosaur hall of the National Museum of Natural History opened to the public, thus enabling us to have unobstructed and tight photographs of the type specimens. Dr. Brett-Surman shared stories of the dinosaurs that are not displayed in text throughout the museum and took us behind the scenes to see where and how the fossils are stored. Dr. Brett-Surman also explained that the dinosaur hall soon will be under an expected four-year renovation, which further motivated us to capture as much detail of the dinosaur hall as possible through our notes, photographs, and videos.

Previous notes taken during the first trip, supplemented with extensive new notes, allowed the development of a more focused yet detailed script for our new video. Though we used much of the content from the previous podcast, virtually all visual components were new. We were basically starting from scratch. Our new set of content and multimedia materials resulted in an

improved product, especially because Final Cut Pro 6 has more advanced technology to handle audio and visual enhancements.

The Digital Commons Campus Consultant helped to guide us in working the equipment and Final Cut program. We began recording each other detailing the dinosaur type specimen information multiple times until we conveyed the script naturally. At first, we attempted to write parts of our script across the chalkboard positioned behind the video camera and opposite the green screen, but after viewing the recorded videotape, our eyes could be seen shifting from left to right as if we were reading the script. To hide our reading eyes and to make it look more personal, we wrote the script on sections of poster board, which one of us held under the video camera lens so that we could still read the script while appearing to look straight at the camera during recordings.

We used the helpful comments and criticisms from our peers at the Sigma Xi Conference by ensuring that our voices and musical jingles were consistent. Though we took video during the Smithsonian tour, we decided that working with brighter, better-quality photographs with green-screen technology would be more feasible and more on target with our goals than trying to incorporate video as well. To eliminate any audio distraction during the video, we used transitions between background photographs instead of having any music play as we presented the information. After completing our new video in early August 2008, we posted it on YouTube.com, TeacherTube.com and the Penn State iTunes U channel for K–12 outreach for all to see. Our updated project can be viewed online at <http://tinyurl.com/dinohonorsoptionB>.

IMPACT OF EXTENDING THE HONORS CONTRACT

Learning how to effectively create and improve upon a podcast made us better able to communicate ideas through technology. Instead of simply writing an essay about what we had learned at the dinosaur hall, we created a visual product that informs viewers about dinosaur type specimens without their having to visit the museum. As communication majors, we developed skills in the context of another discipline while strengthening our communication skills through digital media. In creating an interactive video, we became more aware of how to communicate effectively as well as how to use improvements in the scientific field to entice scientists and non-scientists to learn more about dinosaur type specimens.

The opportunity to revise and expand a project at the undergraduate level is rare. We learned that analyzing our original project for potential improvements and then making those changes can help prevent future project mistakes and have a more efficient workflow. For example, we used copyrighted photographs from the Internet for the original podcast, and in making corrections for the enhanced video, we learned what photographs we were allowed to use. We ultimately chose to use only the photographs that we took ourselves at the Smithsonian Institution to avoid any copyright infringement.

We would never have realized how far we could take the project or realized our potential as student researchers if we had ended our honors contract project at the conclusion of one semester. By taking the extended time to enhance the project, we were able to improve our communication and technical skills and create a better project for both the Smithsonian Institution and the broader online audience. As student researchers, we learned the value of feedback. Direct comments for improvement, like those we received at Sigma Xi, helped us discover better ways to reach the target audience. When we applied those comments and suggestions, we created a more efficient and focused workflow toward a polished product.

The value of continuing an honors contract project until it is completed, not when the semester ends, extends across all disciplines. In science experiments, results can be tested and retested before producing a final report. Humanities writing projects can be reviewed and revised several times. Projects with community partners can be carried out more often and in greater depth to assist a targeted population with an identified need. Although learning to adhere to project deadlines is important, students also need to realize that the timeline for research and creative activity sometimes needs to be adjusted to yield more significant and complete results.

It is also important to note that we took the initiative to continue the project beyond the end of the semester. We received a grade in the fall semester, but we continued to work on the project through the following spring and summer. We did the work without receiving any additional academic/honors credits or any new grades. We were very fortunate to have a project adviser who believed in our work and encouraged us to explore the topic further. Co-author Laura Guertin continued to work with us without receiving any compensation or workload credit. Although it is possible to continue an honors contract beyond one semester, it clearly requires dedication, commitment, donated time, and enthusiasm from the students and faculty mentors to see these projects through to completion. Dr. Guertin suggested at the outset of this essay that, through honors independent study, credit might be provided for projects that extend beyond the contract semester; the implementation of this suggestion would enable and encourage the kind of enriching experience we had with our extended honors contract project.

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